

THE NATURE OF PREDICATION

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I articulate and defend a necessary and sufficient condition for an occurrence of a term to function semantically as a predicate. The condition is that the term occurrence stands in the relation of *ascription* to its denotation, ascription being a fundamental semantic relation that differs from reference. This view on predication has dramatically different semantic consequences from its alternatives. After outlining the alternatives, I draw out these consequences and show how they favor the ascription view. I then develop the ascription view and elicit a number of its virtues.

BIOGRAPHICAL SKETCH

David Liebesman received his B.A. in philosophy from Brandeis University in 2002, and his M.A. from University of Colorado in 2005. His primary areas of philosophical interest are philosophy of language and metaphysics. He begins his assistant professorship at Boston University in the fall of 2009.

To my parents.

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CHAPTER 1

INTRODUCTION

1.1 Preliminaries

Our simplest sentences come in two parts. One part, the subject, picks out the sentence's topic. The other part, the predicate, characterizes that topic. For example, in "Homer drinks", "Homer" is the subject and "drinks" is the predicate. Dividing simple sentences into these parts is easy, but complexity brings complications. The sentence "Dave cooked dinner and Karen ate it" contains more than two significant parts, and which is picked as the subject could have as much to do with the reader's hunger as the sentence's structure. We can still pick out predicates, though: "cooked dinner" is a predicate of "Dave" and "ate it" is a predicate of "Karen". As quantifiers, adjuncts, relative clauses and other sorts of complexity are introduced, decomposing a sentence into its significant parts becomes steadily harder. We will still likely find predicates, though, as well as an intuitive contrast with their arguments.

My aim in this dissertation is to advance a theory of what the meanings of *all* predicates have in common. This aim is ambitious, though it is not without precedent. On my view, what predicates have in common is a way of denoting. Just as proper names denote by referring: "Dave" refers to Dave, predicates denote by ascribing: "cooked dinner" ascribes the property of cooking dinner to Dave. This view is certainly not the only possible one: I will soon sketch three others. It also has not been frequently defended, despite some recent notable adherents: Wright (1998) and Burge (2007).

More precisely, my aim is to give a necessary and sufficient condition for a term or an occurrence of a term to function semantically as a predicate. This aim should be distinguished from distinct, though related, issues involving predication, e.g. the problem of the unity of the proposition, Bradley's regress, the concept *horse* problem, and the third man argument. In the Chapters to follow, I will consider several of these issues, sometimes in great detail. For now, though, I'll stick to considering the conditions that give rise to predication. Since this particular topic is not one with an extensive literature nor one that many contemporary philosophers, even philosophers of language, have seriously considered, preliminaries are needed.

When I write about predicates I have in mind a category of terms and their occurrences that is familiar to just about every competent speaker. For instance, in sentence (1), "Frege" is the subject while "wise" is the predicate.¹

(1) Frege is wise.

At least when it comes to simple sentences such as (1), ordinary speakers are competent at distinguishing predicates from non-predicates. There are certainly harder cases, but the uncontroversial examples are plentiful enough to fix a topic. That the category of predicates is familiar does not entail that it is semantically interesting. A skeptic may maintain that there is nothing that semantically distinguishes predicates. I will argue against such skepticism in

¹Throughout this dissertation I'll assume that the copula "is" is semantically vacuous. This assumption is common, though I do not see that it is essential to my discussion. If the predicate in (1) is "is wise" rather than "wise" then most of what I say could easily be adjusted to apply to "is wise" rather than "wise". Salmon (2005) and Wiggins (1984) give views on which the copula is a predicate-forming operator that takes a referential term, e.g. "wise", and produces a predicate, e.g. "is wise". I reject this view for a number of reasons, not the least of which is the fact that general terms such as "wise" have predicative occurrences in the absence of the copula, e.g. "I consider Frege wise". Nonetheless, the view is consistent with all of the substantial claims in this dissertation.

Chapter 2.

In (1) “Frege” is distinguished from “wise” in a number of ways. Syntactically, the former constitutes a noun phrase while the latter is part of a verb phrase. Pragmatically, the former picks out the topic of the sentence while the latter characterizes the topic. Model-theoretically, “Frege” is usually assigned a single entity while “wise” is assigned a function from entities to truth-values.

My aim is largely independent of what syntactic, pragmatic, and model-theoretic features we attribute to predicates.² I will not be concerned with syntax by, for instance, correlating predicates with syntactic categories or features.³ I will not be concerned with pragmatics by, for instance, explaining the role of predication in communicative intentions and discourse structure.⁴ I will not be concerned with model theory by, for instance, by providing set-theoretic structures that allow us to make cross-linguistic and compositional predictions.⁵ Rather, I will be concerned with the semantic properties of predicates. Predicates, I claim, form a natural semantic class in virtue of the contribution they make to the semantic structure of sentences. Examples of predicates, especially in atomic sentences such as (1), are easy to come by. According to some se-

²I say “largely independent” because, though I will not be concerned with syntax, pragmatics, and model theory, we may expect that satisfaction of my aim will have implications in all three areas.

³There is a substantial literature on the syntax of predication, see, Bowers (2004) for an overview and references.

⁴This can be seen as one of the main goals of Strawson’s (1959 & 1961) work on predication.

⁵I am attempting to capture the meanings of predicates, rather than simply modeling these meanings. To see the distinction, consider a physical model of a building. On this model, the roof of the building may be represented by a tiny piece of painted wood. However, this piece of the wood is not *identical* to the roof, it merely represents it. This representation may help us learn all sorts of things about the roof but it is not itself the roof. Similarly for semantic models. A set of ordered pairs may represent the meaning of “dog”, but it is not obligatorily identified with the meaning. Rather, the ordered pair may simply help us understand the meaning of “dog” without itself being that meaning. (One may go ahead and make the additional claim that the set *is identical* with the meaning, but this is independent of the claim that the set models the meaning.)

semantic theories, semantic argument structure is often quite different than surface structure,⁶ and, *ipso facto*, our pre-theoretical impressions about which of the sentence's constituents are predicates can be misleading. I take it that even theories which reject some of our initial impressions about the distribution of predicates agree on enough core cases to fix a common topic of discussion.

Historically, there has been doubt about whether the predicate in a sentence can be identified with any quotable part of the sentence.⁷ In Frege, one source of this doubt is the intuition that predicates are incomplete and identifying them with quotable sub-sentential expressions would betray their incomplete nature. As has already been clear, I assume that predicates can be identified with quotable parts of sentences. There are two reasons I feel warranted in making this assumption. First, as I will make clear in Chapter 6, my identification of predicates with quotable parts of expressions in no way undermines my ability to make good on the intuition that predicates are incomplete. Second, as I'll now argue, the arguments against taking predicates to be quotable parts of a sentence are unconvincing.

Dummett (1973) gives the classic argument against taking predicates to be quotable parts of sentences. The idea is that if predicates are quotable parts then our account of predicates will not be sufficiently fine-grained because there are distinct predicates that correspond to the same quotable parts. Here is Dummett's example:

There is no part in common to the sentences "Brutus killed Brutus"
and "Cassius killed Cassius" which is not also part of the sentence

⁶I have in mind neo-Davidsonian theories, e.g. Parsons (1990), Landman (2001), and Pietroski (2005a).

⁷See, e.g. Dummett (1973) for a defense of this claim.

“Brutus killed Caesar”: yet the predicate “ ξ killed ξ ” is said to occur in the first and not the third. (1977: 31)

Dummett’s claim is that the sentences “Brutus killed Brutus” and “Brutus killed Caesar” contain different primary predicates, but those who identify predicates with quotable parts of sentences will not be able to recognize this distinction; the only relevant quotable part is “killed”, which is shared by the sentences. Dummett’s argument fails for (at least) two reasons. The first is that he does not motivate the claim that the two sentences genuinely contain different predicates. Without supplementation, the move from the fact that a sentence contains two identical arguments to the claim that it contains a distinguished predicate is a non-sequitur. Second, even if we grant Dummett the claim that the two sentences contain different predicates, his conclusion that predicates are not quotable parts of sentences doesn’t follow. Words are not individuated solely by their orthographic (or phonographic) properties. There are two words that correspond to “bank” and which one we use “bank” to refer to depends on contextual disambiguation. We can say the same thing about “killed” on the supposition that Dummett is correct about its ambiguity. Ambiguity, however, does not lead to non-quotability; we can still refer to “killed”, we just need to disambiguate.

Unfortunately, there is no English term that is a natural complement of “predicate”. “Subject” does not work because there can be non-predicates that are intuitively not subjects. For instance, in (2), “Ben” is a non-predicate and also a non-subject. In (2), the primary predicate is “is next to” which denotes a two place relation.⁸

⁸There may be other, more complex, predicates such as “is next to Ben”.

(2) Sam is next to Ben.

Similarly, the term “argument” is not a natural analog to “predicate” because predicates can themselves be arguments for other (higher-order) predicates. For instance, on a standard theory of quantification, quantifiers denote two-place relations between properties. Thus, determiners which act as quantifiers combine with two property-denoting expressions. So, in (3), “most” is a higher-order predicate which has its arguments provided by two lower-order predicates: “linguists” and “clever”.

(3) Most linguists are clever.

Since “argument” and “subject” don’t clearly do the job of denoting all and only non-predicates, I will use the term “non-predicate”. Paradigmatic non-predicates are proper names and demonstratives, though, for now, I will leave the extension of “non-predicate” to our pre-theoretical intuitions just as I left the extension of “predicate” to them.⁹

In formulating my aim I have sometimes taken care to relativize to occurrences of terms. This is due to the fact that many English terms have both predicative and non-predicative occurrences. Plural count nouns and mass nouns¹⁰ are most frequently placed in this class though definite and indefinite descriptions also plausibly have both types of occurrences.¹¹ My occasional relativization to occurrences does not signify a commitment to the fundamentality of term occurrences relative to the terms that they are occurrences of (henceforth

⁹Unsurprisingly, one can find philosophers who question even the paradigmatic cases. Burge (1972), for example, argues that proper names are predicates.

¹⁰See, e.g. Chierchia (1998) for a recent defense of this view. In my “Mass Nouns as Kind Referring” I defend the view that mass nouns only have non-predicate occurrences.

¹¹Fara (2001) defends the view that all descriptions are predicates.

“terms”). Whether terms or term occurrences are fundamental is a substantial question about the foundation of semantics, and one that I will not weigh in on here.¹² Whichever is fundamental, if either is at all, it would harm the discussion to focus our attention solely on either. Some terms, as a matter of their lexical semantics, are predicates. Some term occurrences are predicative, even if the terms that they are occurrences of do not standardly occur as predicates. The fact that some terms have both predicative and non-predicative occurrences is important and it is incumbent on any adequate theory of predication to explain this fact. As will become clear in Chapter 5, the ascription view can provide an explanation. Given that my discussion will concern both terms and term occurrences, I will often explicitly relativize to occurrences when I am discussing them. That said, I will omit unnecessary relativization.

One final terminological note: I will use “denote” as a catch-all term for any semantic relation that a term bears to the world. (Kripke (1972) used “designate” in a similar way.) Using the term in this way, referring is a way of denoting. If, as I claim, there are other ways of denoting, the denotation relation will be gerrymandered. If, as others claim, there is only one way to denote—perhaps by referring—then the denotation relation will be simpler.

1.2 Reference, Ascription, Mapping, and Skepticism

Following Wright (1998) we can distinguish three views about the semantics of predicates. View 1: predicates denote, and *what* they denote makes them predicates: there is some special class of incomplete/unsaturated entities such

¹²See Salmon (2007) and King (2008) for opposing views.

that denotation of one of these entities is necessary and sufficient for a term to function as a predicate. View 2: predicates denote, and *how* they denote is what makes them predicates; there is some special denotation relation, distinct from reference, such that is necessary and sufficient for a term to function as a predicate that it bears this relation to its denotation. View 3: predicates don't denote, their characteristic contribution to the meaning of complex expressions is accounted for in some other way. A fourth view that Wright doesn't consider should also be added to the mix. View 4: there is no semantic feature characteristic of predicates. In this section I will present more detailed positions that correspond to each one of these views.

1.2.1 The Entity View

Famously, Frege claimed that predicates and non-predicates denote disjoint classes of entities. In Frege's terms, predicates denote concepts, which are incomplete and unsaturated, while non-predicates denote objects, which are complete and saturated.¹³ Frege's views on predication are rich and complicated, so I will set aside Frege interpretation and focus on the view of predication suggested by his concept/object distinction.¹⁴ The suggested view, which I'll call "the entity view" is that what's special about predicates is the type of entity that they denote. On the entity view, there is a certain type of entity such that it is

¹³Throughout, I'll consider the predicate/non-predicate distinction rather than related distinctions like the subject/predicate distinction and the predicate/argument distinction. My reason for setting aside the subject/predicate distinction is that there are non-subjects that are non-predicates, e.g. "Sam" in "John is next to Sam". My reason for setting aside the predicate/argument distinction is that predicates can sometimes themselves be arguments (of higher-order predicates), e.g. "dogs" in "Many dogs are smelly".

¹⁴The main complication is that, as noted by Furth (1968), Dummett (1973), Wright (1998), Oliver (2005) and Burge (2007), Frege's views commit him to the claim that predicates bear a different relation to their denotations than non-predicates. In this way, Frege's view is a combination of (the positive parts) of what I call the entity view and the ascription view.

necessary and sufficient for a term or term occurrence to be a predicate, that that term, or term occurrence, denotes an entity of the proper type. Following Frege, we'll label this type "concepts" though the label should be understood as a mere placeholder, rather than carrying any of Frege's specific ontological commitments. The positive portion of the entity view is that concept denotation is necessary and sufficient for predication. The negative portion is that nothing else is. In particular there is no special relation that suffices for predication. This is included to distinguish the entity view from its competitors. Here, then, is the official statement of the view:

The entity view: it is necessary and sufficient for a term or a term occurrence to be a semantic predicate that the term or term occurrence denotes a concept. There doesn't exist any relation such that a term's or term occurrence's standing in that relation suffices for it to be a predicate.¹⁵

The entity view may seem relatively unmotivated, especially in the absence of a metaphysical theory about the nature of concepts. This appearance is deceiving as the entity view follows from three natural assumptions. The first assumption is optimism about characterizing predicates: the claim that there is a semantic feature shared by all and only predicates. While not a foregone conclusion, optimism is plausible and almost universally assumed. The second assumption is that predicates denote. There are a multitude of ways to

¹⁵This is not quite precise enough. After all, given the class of concepts, we can define a relation call it "concept-denotation" such that a term stands in that relation to its denotation just in case the denotation is a concept. Standing in the concept-denotation relation will then, on the entity view, be necessary and sufficient for predication. I mean to exclude concept denotation by considering only objects and relations that are semantically crucial in the sense that any adequate semantic theory must utilize them. I take it that, on the entity view, concepts are semantically crucial and concept-denotation is derivative.

defend this view and I won't yet linger on any particular one. Among them are the desire to account for predicate quantification, as well as to account for natural language constructions such as nominalization and anaphora. The third assumption is that a meaningful term's semantics is fully captured in the extra-semantic entities that it is correlated with. On a non-Fregean view, there will be only one such entity: the term's denotation. On a Fregean view, there will be both sense and denotation. The number doesn't matter, what matters is that a term's semantic association with these entities provides an exhaustive account of that term's semantic properties. I'll set aside complications due to sense and focus solely on denotation.¹⁶ The third assumption has quite a bit of intuitive pull. Our standard method of constructing a semantic theory is to identify a denotation for each term and then specify some general rules of composition. On such a picture, it is hard to see how a term's semantics could go beyond its denotation. I will argue that this simple picture is inadequate. According to the view I defend—the ascription view—a term's semantic contribution consists of what it denotes as well as *how* it denotes. Specification of the denotation of a term does not count as a complete meaning specification for that term: one also has to specify that term's way of denoting. Though I argue that the third assumption is false, I admit that it is *prima facie* appealing. These three assumptions jointly entail the entity view: if denotation exhausts meaning, and predicates differ in meaning from non-predicates, then we must appeal to types of denotation to distinguish predicates.

Aside from being motivated by natural semantic assumptions, the view has been motivated by its purportedly unique ability to account for the unity of the

¹⁶This is a fair assumption because, for Frege, any ontological facts at the level of denotation are mirrored at the level of sense. Thus the additional complexity of a sense theory will not carry with it any advantages for dealing with the constructions considered in Chapter 5.

proposition. Roughly, and I will be more precise in Chapter 6, the challenge is to identify the feature that unifies the parts of a proposition. Just as some pieces of wood fail to compose a table if improperly arranged or of the wrong character, some entities fail to compose a proposition if they are improperly arranged or of the wrong character. For instance, there is no proposition that is solely constituted by George W. Bush and Barack Obama. Frege (1892) claims that a view which recognizes a distinctive class of predicate denotations, such as the entity view, gives us the tools to meet the challenge. Here is a classic quotation: “not all parts of a thought can be complete; at least one must be unsaturated or predicative; otherwise they would not hold together.” The idea is that the distinctive ontological status of a predicate’s denotation (or in Frege’s case, its sense) explains how it is that that propositions (or in Frege’s case, thoughts) can be unified.¹⁷

1.2.2 The Ascription View

According to the entity view, what’s special about predication is the type of denotation that a predicate has. The view that I will defend differs in that the conditions which give rise to predication lie not in the *type of entity* denoted by a predicate but, rather, in the *nature of the relation* between a predicate and its denotation.¹⁸ Following Wright (1998), I’ll call this view “the ascription view”.¹⁹

¹⁷Davidson (2004), King (2007), Burge (2007) and Soames (forthcoming) all discuss the issue in some detail.

¹⁸Most prominently, this view has been suggested by Furth (1968), Wright (1998), and Burge (2007) on behalf of Frege, though relatively congenial remarks are found in in Russell (1903), Dummett (1973), and Strawson (1959 and 1974).

¹⁹Much of the discussion of the ascription view has occurred in the context of discussing Frege’s views. This is because Frege was actually committed to holding the view that there must be different relations that obtain between singular terms and their referents than obtain between predicates and their referents. This commitment arises from the fact that a singular term bears

The ascription view: There is a relation, ascription, such that it is both necessary and sufficient for a term or a term occurrence to be a semantic predicate that it bears the ascription relation to its denotation. There doesn't exist any type entity such that denotation of that type of entity suffices for a term or term occurrence to be a semantic predicate.

The ascription view has not had many defenders. This dissertation will be dedicated to motivating and developing the view. At the very least I hope to show that the ascription view is promising and that it has several advantages over the other views. At the most I hope to win some converts.

1.2.3 The Mapping View

Those with a fondness for desert landscapes will notice that both the entity and the ascription views require predicate denotation.²⁰ However, there are theorists who think that we need not countenance a class of predicate denotations in order to give an account of predication.

One of Davidson's primary motivations for pursuing a nominalist view is that he thinks that any view on which predicates denote will lead to an vicious regress.²¹ Here is one of many representative passages:

an object/object relation to its referent while a predicate bears a object/concept relation to its referent. Since these relations relate different types, they must be distinct. Discussing the entity and ascription view in the context of Frege is, then, much more complicated than I have made it seem. Since, with the exception of one section of Chapter 4, my aim is not to discuss Frege's actual views, I will ignore these issues.

²⁰Note, though, that both views are silent about the nature of predicate denotations: they are both compatible with full-blooded Platonism and idealist Conceptualism.

²¹Davidson repeats this type of reasoning a number of times in his (2004). For some recent

...we might assign Theaetetus to 'Theaetetus' and the property of flying to 'flies' in the sentence 'Theaetetus flies'. The problem then arises how the meaning of the sentence is generated from these meanings. Viewing concatenation as a significant piece of syntax, we may assign to it the relation of participating in or instantiating; however, it is obvious that we then have the start of an infinite regress. Frege sought to avoid the regress by saying that entities corresponding to predicates (for example) are 'unsaturated' or 'incomplete' in contrast to the entities that correspond to names, but this doctrine seems to label a difficulty rather than solve it. (1967a: 17)

Roughly, and, as with the unity of the proposition, I will later be more precise, the alleged regress proceeds as follows. Any assignment of denotations to predicates will force on us the problem of linking predicate denotations with argument denotations. The obvious solution is to introduce another entity, the instantiation relation, to do the trick. The problem is that we now must link the instantiation relation with the predicate and non-predicate denotations. The solution, it is thought, is to introduce another entity, and so on *ad infinitum*. I will criticize Davidson's reasoning in Chapter 3.

Davidson's particular nominalist theory is tied to his views about the proper form of a semantic theory. For a given language L, a truth theory that meets proper constraints, according to Davidson, can serve as a meaning theory for L. Furthermore, we need not give a truth theory for a language by assigning denotations to the predicates of that language. Rather, we can give axioms which allow us to derive the truth-conditions of the sentences of the language, and these

critical comments, see Burge (2007), for some recent sympathetic comments see Lepore and Ludwig (2005 and 2007).

axioms need not make any reference to predicate denotations. For instance we can give the following axiom for the predicate “wise”: $\lceil x \text{ is wise} \rceil$ is true just in case the referent of x is wise.

This is barely a sketch. Things get much more complicated when we try to account for quantification, context sensitivity, and all sorts of other phenomena.²² The idea, though, is that the contribution of a predicate is completely captured by describing its role in determining the truth-value of the sentences in which it occurs. That role, in turn, is captured by the axioms which match sentences with their truth-conditions. For each type of semantic contribution there will be a corresponding class of axioms. For instance, all axioms that specify the contribution of monadic predicates will be similar to the one that I gave above for “wise”. To capture what all predicates have in common, we will identify the feature that all predicate axioms have in common. I suggest that we do this by identifying the common relation that all predicate occurrences, on the theory, bear to their arguments. In particular every predicate occurrence “P” is true of its argument “R” just in case R is P. I’ll use the term “mapping” to name this particular relation.²³ For an occurrence of a term to be a predicate, it must bear the mapping relation to its argument. For a *term* to be a predicate, its relevant occurrences must bear the mapping to their syntactic argument. The name is appropriate because we may think of the axioms for a particular predicate as specifying the way in which that predicate’s occurrences map their arguments to truth-values. It should be stressed that, for the envisioned Davidsonian theorist, the mapping relation is *merely* the relation that a predicate stands in to its

²²Larson and Segal (1995) and Lepore and Ludwig (2007) give Davidsonian meaning theories for large fragments of English. There are substantial differences between the theories, see Lepore and Ludwig (2007) for a comparison.

²³I suspect that Davidson, or at least Lepore and Ludwig, will regard “the mapping relation” as a mere *façon de parler*, derivative on the existence of an equivalence class of axioms. They make a similar move with logical forms in their (2002) and (2007).

arguments, as determined by the relevant axioms. This relation is *not* the meaning or denotation of any component of the sentence, lest the Davidsonian be forced back into a regress. Here is the official statement of the mapping view:²⁴

The mapping view: there is a relation, truth-value mapping, such that it is both a necessary and sufficient condition for a term or a term occurrence to be a semantic predicate that it contributes to meaning of sentences by bearing the mapping relation to its argument.

1.2.4 The Skeptical View

Views 1-3 share a common assumption. Proponents of each agree that informative necessary and sufficient conditions for predication can be given. This is controversial. Our aforementioned skeptic thinks that the best we can do is make some syntactic generalizations about which terms function as predicates but such syntactic generalizations are semantically unimportant. Similarly, a skeptic may insist that a specification of the truth-conditional contribution of each *particular* predicate is the most that we can informatively say about predication: there is no single informative generalization about terms that function as predicates.

²⁴There is a related view worth mentioning: the view on which predicates are assigned multiple denotations. Boolos (1985) called this theory “nominalist platonism” because it is Platonistic in the sense that predicates are assigned denotations, but nominalistic in the sense that those denotations are exactly those entities that the predicates are true of, rather than being anything additional. Since such a view assigns denotations to predicates, it will not escape regress worries. This view does not fit neatly into our logical landscape and exactly where it fits would be determined by the way in which it is developed. On one development of the view, predicates bear the same relation their denotations that non-predicates bear to theirs. Since non-predicates can also refer to multiple things, this would amount to a skeptical view on which there is no semantic feature unique to predicates. On another development of the view, predicates bear a different relation to their denotations than non-predicates bear to theirs. This would amount to a version of the ascription view.

There are two reasons to be a skeptic. First, one may think that predicates are semantically gerrymandered. On this view, they form a non-natural, disparate class of semantic items and this is why no substantial semantic account can be given. An argument for this position may proceed with a list of examples. Consider (4)-(7):

(4) That is a dog.

(5) That is red.

(6) Many happy things are not red

(7) Mary is swimming, while John is sunbathing, sleeping, and dreaming about dogs.

(4) contains an occurrence of a singular count noun as a predicate. (5) contains a predicative adjective. (6) contains both a singular count noun and a predicative adjective, functioning as predicative values for the quantifier "Many" which, itself, is often analyzed as a higher-order predicate. (7) contains gerunds in predicate position and a complex predicate formed from multiple predicative gerunds. To make matters worse, (4)-(7) only begin to scrape the surface of the diverse syntax and semantics of predicates.

Such diversity may naturally lead one to the view that there is no fully general semantic characterization of predicates. Since this position is motivated merely by examples and not by direct argument, it is hard to rebut. Ultimately the best way to rebut such a deflationary view is to provide a promising substantive view. I aim to accomplish this. Until I try, I will have nothing more to say about skepticism that is motivated by pessimism.

There is a second way to motivate skepticism. Instead of claiming that predicates are gerrymandered semantically, one could claim that they have, at root, the same type of semantics as another class of expressions. This position is motivated by the observation that, crudely put, we sometimes seem to be able to shift from a predicate to a non-predicate, and vice-versa, without change in meaning. The observation goes back at least to Ramsey (1925) and can be illustrated with the following pair.

(8) Socrates is wise.

(9) Wisdom is a characteristic of Socrates.

Ramsey claimed that (8) and (9) express the same proposition. A skeptic may think that the best explanation of this is that “wise” in (8) and “wisdom” in (9) are semantically identical: they each refer to the property of being wise. As I will show in Chapter 2, giving a more precise argument for skepticism from pairs like (8) and (9) is challenging. At this point, though, we can at least see what the envisioned skeptic’s semantics for predicates looks like: it is the exact same semantics they give for non-predicates such as proper names. Predicates refer to their denotations just as proper names refer to theirs.

1.3 The Plan

My aim is to argue for the ascription view over the other three. I’ll begin by arguing against the skeptic’s view Chapter 2. As with many forms of skepticism, decisive victory is impossible. I plan to argue, rather, that the skeptic’s position is ill-motivated and that we have some good reasons to be optimists.

In Chapter 3, I move on to the nominalistic mapping view. I undermine two general motivations for a nominalist position. I also consider the most familiar objection to a nominalist position—that it fails to make sense of higher-order quantification—and argue that the objection is inconclusive. In Chapter 4 I consider the classic problem with the entity view: concept *horse* style expressibility problems. I claim that such problems have been misunderstood, though proper understanding of them does reveal that they present strong reason to favor the ascription view over the entity view. In Chapter 5 I move to what I take to be my primary arguments against the mapping and entity views. The claim is that such views do not allow us to give a plausible semantics for several types of natural language constructions, while the ascription view does. With the ascription view motivated I develop it in Chapter 6.

CHAPTER 2

SKEPTICISM

2.1 The Sources of Skepticism

The skeptic doubts that there is anything that unifies predicates semantically. On her view, the distinction between predicates and non-predicates is purely syntactic and/or pragmatic.¹ I will defend a non-skeptical view of predication (henceforth “an optimistic view”) so, in this Chapter, I will attempt to undermine the appeal of skepticism. A word about burden of proof is in order. As is generally the case with various forms of skepticism, skepticism about predication should not be our default position. Predicates, *qua* predicates, seem to mean something different from non-predicates, and this gives us reason to adopt optimism as a working hypothesis. Taking optimism as our default, I will consider arguments that can be given for skepticism. If optimism can be defended against these, as I will soon claim, it should remain our default. Once my defense is completed, I will provide offense in the form of independent arguments in favor of optimism.

Skepticism is motivated by the observation that sentences that are intimately related in meaning can differ in their distribution of predicates. The following examples come from Ramsey (1925); I’ll consider them at length in sections 2.2 and 2.3.

(1) Socrates is wise.

(2) Wisdom is a characteristic of Socrates.

¹I take it that everyone agrees that there *is* a distinction, though some think that it is semantically inert.

In (1) “wise” is a predicate, while in (2) “wisdom” is a non-predicate. Yet, at least to the skeptic, the difference between the two sentences seems merely stylistic. If the sentences differ only in style and not in meaning then, the skeptic concludes, the difference in predicate structure does not track semantic significance.

We must be careful to avoid a red-herring: what’s at issue is not the subject/predicate distinction but, rather, the predicate/non-predicate distinction.² One may be a skeptic about the semantics of subjecthood without being a skeptic about the semantics of predication.

The chapter plan is as follows: after articulating the skeptic’s semantic theses (section 2) I will give what I take to be the best arguments for skepticism (sections 3) and for its analog: optimism (section 4). I conclude (section 5) that optimism is better-motivated though the skeptic’s arguments bring to light some clear constraints on a successful account of the semantics of predicates. In Chapters 5 and 6, I will show how the ascription view can satisfy these constraints.

2.2 The Skeptic’s Semantics

It is uncontroversial that predicates make *some* semantic contribution to the sentences they occur in. What the skeptic denies is not this; rather, the skeptic denies that there is some semantic contribution that is *characteristic* of predicates, in

²Rothstein (2001: Chapter 1), I think, makes a mistake here. Her arguments, if correct, establish that the *subject*/predicate distinction can’t be given in entirely semantic terms but she takes them to show that the *predicate*/non-predicate distinction can’t be given in entirely semantic terms. Ramsey (1925: 405) thinks that in the case of some complex sentences the subject/predicate distinction is wholly inapplicable. This may be correct consistently with the predicate/non-predicate distinction being applicable.

the sense of being the contribution of all and only predicates. Given that predicates are semantically significant, the skeptic must either (a) assimilate them semantically to another type of term, or (b) assign them a disjunctive semantics. It will soon become clear that the best argument for skepticism relies on (a). The only way that I know to motivate skepticism of type (b) is to appeal to the diversity of natural language predicates. As I discussed in Chapter 1, such an appeal may provide a challenge for the optimist, but it does not provide a substantial argument for skepticism. If the optimist can meet the challenge of providing a unified semantics for predicates, then this motivation for (b) will be inert. For this reason I will not discuss (b) type skepticism.

If, as the (a) type skeptic (henceforth “the skeptic”) would have us believe, the semantics of predicates is to be assimilated to the semantics of another type of term, a natural question arises: which type? The answer is clear: referential expressions.³ To see why, consider the following pairs:

- (1) Socrates is wise.
- (2) Wisdom is a property of Socrates.

- (3) That dude is the best-dressed philosopher.
- (4) The best-dressed philosopher is in the elevator.

- (5) Those animals are dogs.

- (6) Dogs are widespread.

³I take paradigmatic referential expressions to be proper names, pure indexicals, and (non-complex) demonstrative pronouns. Unsurprisingly, there is some disagreement about even these cases.

The first sentence of each pair contains a predicative occurrence of a term T, while T (or a close cousin) appears non-predicatively in the second. The non-predicative occurrences are assumed to have a standard referential semantics. Since the skeptic claims that the two sentences are intimately related, as are the occurrences of T (or of T and its cousin), her natural hypothesis is that the predicative occurrences of T (or T and its cousin) have the same standard referential semantics. Non-predicates refer to their denotations and, on the skeptic's view, predicates refer to their denotations as well; "wise" and "wisdom" are semantically identical: they both refer to wisdom. More generally, the idea is that each of the above pairs of sentences illustrates the intimate semantic relationship that predicates can have to non-predicates. The skeptic makes a natural hypothesis: the intimate relationship is identity. The two terms seem close in meaning precisely because they are identical in meaning.

There are three salient features of the skeptic's view. The first is that predicates, much like singular terms, denote. If predicates were non-denoting, than this would set them apart semantically. The second is that predicates can co-denote with non-predicates. If they could not, then predicates would be set apart by the type of entity that they denote. The third is that predicates bear the same relation to their denotations as non-predicates: reference. If they were to bear a different semantic relation to their denotations, then this would set them apart semantically. Each of the non-skeptical positions diverges on one of these points.⁴

⁴For the record, the proponent of the mapping view diverges on the first, the proponent of the entity view diverges on the second, and the proponent of the ascription view diverges on the third.

2.3 Motivation for Skepticism

Perhaps the philosopher most associated with skepticism is F.P. Ramsey (1925). In his seminal discussion, Ramsey's primary aim is to argue that there is no fundamental distinction between universals and particulars. One of his arguments is that there is no reason to countenance such a distinction based on the subject/predicate distinction. As is clear in his discussion, Ramsey *does* believe that there is a subject/predicate distinction. What he denies is that this distinction is "fundamental" or "essential". He warns his reader as follows:

... let us remind ourselves that the task on which we are engaged is not merely one of English grammar; we are not school children analyzing sentences into subject, extension of the subject, complement and so on, but are interested not so much in sentences themselves, as in what they mean, from which we hope to discover the logical nature of reality. (1925: 416-417)

Giving a precise interpretation of Ramsey gets messy.⁵ Nothing here hinges on having such an interpretation. Whether or not Ramsey was really concerned to deny that the subject/predicate distinction is semantically relevant, in the next three subsections I'll show that the considerations he gives can be used to try and bolster such skepticism. There are two arguments for skepticism that can be straightforwardly extracted from Ramsey's discussion. I'll argue that neither is promising but they do point us the way towards a third argument which does provide some genuine—if ultimately unconvincing—motivation for skepticism.

⁵See Hale (2006) and MacBride (2005a & 2005b) for recent Ramsey interpretation.

2.3.1 The Argument from Sameness of Proposition

While criticizing the accounts of the subject/predicate distinction given by Russell and Johnson, Ramsey writes the following:

Both the disputed views make an important assumption, which, to my mind, has only to be questioned to be doubted. They assume a fundamental antithesis between subject and predicate, that if a proposition consists of two terms copulated, these two terms must be functioning in different ways, one as subject, the other as predicate. Thus in "Socrates is wise", Socrates is the subject, wisdom the predicate. But suppose we turn the proposition round and say, "wisdom is a characteristic of Socrates," then wisdom formerly the predicate is now the subject. Now it seems to me as clear as anything can be in philosophy, that the two sentences "Socrates is wise" and "wisdom is a characteristic of Socrates" assert the same fact and express the same proposition. (404)

Ramsey considers sentences (1) and (2):

- (1) Socrates is wise.
- (2) Wisdom is a characteristic of Socrates.

He thinks that that (1) and (2) express the same proposition. Their shared propositional content, Ramsey argues, reveals that the subject/predicate distinction is not fundamental. The skeptic will wish to argue that the fact that

the two sentences express the same proposition reveals that the predicate/non-predicate distinction is semantically inert.

The question is whether the skeptic can use the purported observation that (1) and (2) express the same proposition to develop an argument for skepticism. The first major hurdle in giving such an argument is that the claim that (1) and (2) express the same proposition is controversial. Given an antecedent understanding of propositions as coarse-grained, e.g. sets of possible worlds, the claim is plausible. However, on any more fine-grained conception of propositions, e.g. an account on which they are structured entities consisting of objects, properties, and relations, the claim is less plausible. This worry becomes especially pressing once we note that (2) contains “is a characteristic of” which seems to express a two-place relation, while (1) lacks any sub-sentential constituent that expresses this relation.⁶ I’ll temporarily set this worry aside and give the skeptic a foot in the door by granting her the claim that (1) and (2) express the same proposition.

Even with this foot in the door, the skeptic is in trouble: there is no direct path from the claim that (1) and (2) express the same proposition to the claim that their sub-sentential constituents have the same semantic values. This is easiest to see if propositions don’t have constituents at all. In this case, simple necessary equivalence will be sufficient for sameness of proposition. In such a framework, sentences built from widely varying sub-sentential expressions could express the same proposition, after all “Dave is self-identical” and “ $2+2=4$ ” will express the same proposition though they clearly consist of semantically distinct sub-sentential expressions. However, even on a more fine-grained view of propositions, it remains possible for two sentences to differ

⁶Again, I assume that the copula is semantically vacuous.

in the semantics of their sub-sentential expressions while expressing the same proposition. For example, if “bachelor” and “unmarried adult male” express the same property, then it is plausible that (7) and (8) express the same proposition, despite the fact that the latter possesses richer sub-sentential semantics than the former.⁷

(7) John is a bachelor.

(8) John is an unmarried adult male.

Thus, it is clear that the observation that (1) and (2) express the same proposition doesn't *force* on us the view that “wise” and “wisdom” are semantically identical. However, the skeptic may now reply that even though the observation does not *force* us to skepticism, it does *strongly support* skepticism. The reason is that the skeptic seems to have the beginning of an elegant explanation for the purported fact that (1) and (2) express the same proposition: their sub-sentential constituents have the same semantics. In fact, at first glance it is hard to see how other accounts could do *better*: any other account would introduce semantic differences. To honor the skeptic's intuition, it will then have to be argued that these differences are not reflected at the propositional level.

Unfortunately for the skeptic, the impression that she has an elegant way to honor the sameness of proposition intuition is illusory: (2) contains constituents that (1) doesn't. Therefore, it is too quick to move from the claim that (1) and (2) express the same proposition to the claim that their sub-sentential expressions have the same meanings. Such an attempted move leaves us either with the claim that “is a characteristic of” is meaningless, which is implausible, or the

⁷This claim is plausible, but not uncontroversial. On some views of propositions, propositional structure is isomorphic to linguistic structure, and *ipso facto*, (7) and (8) express different propositions. King (2007) defends such a view.

claim that it means the same thing as “is” in (1). This latter claim, however, is false. After all, (1) cannot be glossed as “Socrates is a characteristic of wise”!

In short, the skeptic’s argument from sameness of proposition falters because (1) and (2) *do* contain differing sub-sentential expressions, and the differences seem semantically relevant. This presents a dilemma. On the one hand, we can claim that (1) and (2) don’t express the same proposition. In this case the skeptic’s argument can’t get off the ground. On the other hand, we can claim that (1) and (2) do express the same proposition. In that case, it seems as if sentences with differing sub-sentential expressions can express the same proposition and, *ipso facto* there is no route from sameness of proposition expressed to sameness of meaning for sub-sentential expressions.

2.3.2 The Argument from The Incomprehensible Trinity

Ramsey gives another argument that the subject/predicate distinction is not fundamental (in Ramsey’s sense): that it is entirely inapplicable in some cases. Again, these considerations can be slightly modified to produce an argument for skepticism.

Ramsey has us consider a complex sentence:

(9) Either Socrates is wise or Plato is foolish (405).

He then assumes, for *reductio*, that the subject/predicate distinction applies to (9). We’ll make the analogous assumption about the predicate/non-predicate distinction. From that assumption, Ramsey concludes that the proponent of the distinction is responsible for “an incomprehensible trinity”: an extant trio of

propositions where there should only be one. The modified version of Ramsey's argument proceeds as follows (though again I stress that I am not interested in Ramsey interpretation):

1. The predicate/non-predicate distinction applies to the proposition expressed by (9). (assumption for reductio)
2. (9) only expresses one proposition. (assumption)
3. There are three ways of applying the predicate/non-predicate distinction to (9).
4. The three ways correspond to three different propositions. (from 3 and optimism)
5. The sentence expresses three different propositions. (from 1, 3, 4)
6. 5 contradicts 2.
7. Therefore, 1 is false.

Premise 2 is purportedly supported by our intuitions. Premise 3 is supported by the fact that (9) admits to multiple decompositions, as non-atomic sentences do generally. On the first decomposition we can analyze (9) as consisting of the non-predicate "Socrates", and the predicate "Either ϕ is wise or Plato is foolish", which expresses the property possessed by things such that either they're wise or Plato is foolish. Similarly, we could analyze the sentence as containing the predicate "Either Socrates is wise or ϕ is foolish", and the non-predicate "Plato". Finally we could analyze the sentence as containing the (2-place) predicate "Either ϕ is wise or ψ is foolish" and the non-predicates "Socrates" and Plato". Of course, there may be many more decompositions than Ramsey considers if we take the occurrence of "or" in (9) to be a predicate that expresses a

relation between propositions. This will hardly bother the skeptic, if the trinity is incomprehensible then surely the multiplicity is as well.

The argument most clearly falters at premise 4, though other premises are doubtable. Ramsey's thinks that premise 4 follows from premise 3 and the optimist's claim that the predicate/non-predicate distinction is semantically significant. However, optimism and 3 don't entail 4. Here's why: the optimist can claim that the ways of making the distinction simply correspond to different levels of decomposition. Compare the following analogous case. There are multiple ways of analyzing the mereological structure of my desk. From this it does not follow that there are multiple desks or that the notion of parthood is wholly inapplicable to my desk. Rather, we conclude merely that there are different ways to analyze the desk's mereological structure. We can say an analogous thing about the argument structure of complex sentences.⁸ Sentences with complex argument structures may admit of multiple analyses. However, we need not conclude either that these sentences have multiple meanings (i.e. express multiple propositions) nor that analysis in terms of argument structure is misguided. We can simply conclude that, like most complex things, there are multiple analyses their structure. Furthermore, the view that a complex sentence admits to multiple analyses is compatible with the view that one of these is fundamental. (Perhaps fundamental in the following sense: it gives us information enough to derive all other analyses.)

A little more precisely, we can analyze (9) as containing at least two semantically non-complex predicates: "wise", "foolish", and perhaps a third: "or". By semantically non-complex, I merely mean that these predicates are expressed

⁸A suggested disanalogy is that my desk doesn't have a privileged decomposition while propositions do. To combat this, we can switch examples to things that do seem to have privileged decompositions: watches or people.

by single lexical items that are contained in the sentence, I do not mean to suggest that the properties these predicates expressed are metaphysically simple or even that their meanings are non-complex. The sentence also contains two semantically non-complex non-predicates: “Socrates” and “Plato”. These terms and predicates can combine to form complex predicates and complex terms that are also constituents of the sentence. For instance, “Socrates” and “wise” combine to form the complex term “Socrates is wise” which serves as the argument for the non-complex predicate “ ϕ or Plato is foolish”. On this view there is no reason to think that the optimist is committed to the view that (9) expresses multiple propositions.

Macbride (2005a) gives a two alternate interpretations of Ramsey’s argument. One relies on an application of Ockham’s razor to conclude that the trinity is incomprehensible, and the other relies on an appeal to Humean modal principles.⁹ Both of these alternate interpretations depend on the claim that the sentence does, in fact, express three different propositions. Since we’ve seen that there is no reason to accept this, it seems that no argument modeled on Ramsey’s incomprehensible trinity argument can aid the skeptic.

2.3.3 The Argument from Intimate Connections

The first two arguments for skepticism traded on the fact that the skeptic can avoid semantic distinctions where the optimist must make them. The idea is that there are sentences, and analyses of sentences, that are intimately connected and that the optimist will have trouble with accounting for these intimate con-

⁹An appeal to Humean prohibition on necessary connections between *distinct* existences would be quite weak here due to the fact that the members of the alleged trio of propositions are likely to be intimately related to one another and *ipso facto* non-distinct.

nections. The problem with these two arguments was that they relied on controversial claims about the metaphysics of propositions. Luckily for the skeptic, there is an alternative argument for skepticism which relies on no such assumptions.

We observed in (1) and (2) that English predicate expressions have what we think of as counterparts that can appear in non-predicate position. The simplest example is a property name, such as “wisdom”, which seems to refer to the very property that its corresponding predicate, in this case “wise”, denotes. I call these counterparts “predicate nominalizations.” There are some intimate connections between predicates and their corresponding predicate nominalizations. In Chapter 5, I’ll return to this issue and discuss the nature of these connections while arguing that the ascription view can nicely account for them. Even at the outset, it is intuitively clear that (1) and (2) are mutually entailing.¹⁰ It seems that part of the explanation of this mutual entailment is that (1) contains the predicate “wise” while (2) contains its corresponding predicate nominalization, “wisdom”. In order to explain the mutual entailment, then, we will wish to identify a semantic commonality between “wise” and “wisdom”. The skeptic will have no trouble, she thinks that the two are semantically identical: they each refer to the property of being wise.

The optimist has two goals, which are in *prima facie* tension with each other. On the one hand, she wants to give differing semantic accounts of predicates and non-predicates. On the other hand, she wants to account for the intimate connections between predicates and predicate nominalizations. This is no easy task. To see how hard it is, consider the entity view, on which it is necessary

¹⁰For now, I am setting aside the nominalist-inspired worry that “wisdom” is non-denoting and therefore (1) and (2) diverge in truth-value. I’ll discuss this worry in Chapter 5.

and sufficient for a term T to function as a predicate that T denotes a concept. On this view, concepts are a class of entities disjoint from objects such that their denotation ensures predication. The entity theorist will analyze the occurrence of “wise” in (1) as a predicate that denotes a concept. Assuming that the occurrence of “wisdom” in (2) is a non-predicate, the Fregean cannot give it the same semantics. If, though, the terms are semantically distinct then how can we account for the intimate connections between the sentences that contain them? The entity theorist will have to tell a more complicated story.¹¹ Generalizing from the entity view, the skeptic will claim that the optimist is faced with an impossible task. No successful semantics, they claim, will be able to divorce predicates from non-predicates, while maintaining the intimate connections between predicates and their corresponding nominalizations.

This consideration is powerful, and it is the best that can be drawn from the skeptic’s original motivating observation: that there are sentences that differ in their predicate structure and yet seem intimately connected. However, the consideration does not obliterate optimism. Rather, it provides the optimist with a challenge: account for intimacy while simultaneously divorcing the semantics of predicates and non-predicates. If an optimistic view can meet the challenge, then the motivation for skepticism is deflated. In Chapter 5, I argue that the ascription view meets this challenge. To preview, on the ascription view, “wisdom” and “wise” co-denote. In this way they are intimately related. However, they are also clearly distinguished: “wisdom” denotes by referring while “wise” denotes by ascribing. “Wise” and “wisdom” differ not in *what* they denote but in *how* they denote.

¹¹The beginning of a more complicated story may identify a close link between objects and concepts, such that one “goes proxy” for the other. I argue against this strategy in chapters 4 and 5.

2.4 Motivation for Optimism

Just as Ramsey is most associated with skepticism, his critics are most associated with optimism. Geach, Dummett, and Strawson argue that predicates are distinguished from non-predicates by virtue of their interaction with negation. I'll begin this section by getting straight on exactly what the argument is supposed to be. Once I've done this, I'll argue that it doesn't genuinely motivate optimism. I'll then move on to my own motivations for optimism.

2.4.1 Negation

Historically, the optimist's most influential argument is that, to a first approximation, predicates can be negated while names cannot. This argument finds its origin in Aristotle and has been given by Geach (1962, 1975 and 1980), Dummett (1973), and Strawson (1974).¹² Geach formulates the point as follows:

For predicables always occur in contradictory pair, and by attaching the members of such a pair to a common subject we get a contradictory pair of propositions. But no name pairs off with another expression (whether we are to call this a name or not) so that by attaching the same predicable to both we always get a contradictory pair of propositions. (1980: 58)

Contrary pairhood for predicates is understood by Geach as follows: P and Q are a contrary pair just in case substitution in a sentence S of P for Q results in

¹²There are a number of other arguments in Dummett (1973). Most prominently, Dummett argues that our understanding of non-predicates differs in kind from understanding of predicates. I set aside this more complicated consideration here.

toggling the truth-value of S.¹³ Geach understands contrary pairhood for names analogously: n and m are a contrary pair just in case substitution of n for m in a sentence S toggles the truth-value of S. The above passage admits to multiple interpretations of Geach's argument. I'll list three, with the first two being irrelevant to combating skepticism.

First, there may be appeal to a metaphysical thesis suggested by the Aristotelian claim that qualities have contraries while objects do not.¹⁴ Two qualities (or properties) are said to be contrary just in case they apply to mutually exclusive and jointly exhaustive classes. Geach's claim that predicables occur in contrary pairs would then be fleshed out as follows: for every predicate P there is (or could be) a predicate that denotes the contrary of the quality that P denotes. By itself, this claim does nothing to combat the skeptic. To see this, compare it to another claim: that names for twins are different in kind than other names. This could be supported by the fact that for each twin's name "N" there exists another name that refers to the twin of N.

I take it that this observation does not establish that names for twins have an interestingly different semantics than non-twin names. The reason is that the property invoked is grounded in a metaphysical property of twins, rather than a lexically interesting property of their names. Similarly, mere appeal to the metaphysics of qualities does not, by itself, show that predicates are semantically different from non-predicates unless there is a supplementary argument that shows that these differences ground natural semantic classes.

¹³It is not uncontroversial that this is the best interpretation of Geach on contrary pairhood for predicates (see his 1980: 58). However, since he clearly does think of contrary pairhood for names in just this way—his arguments depend on it—it seems fair to evaluate his arguments with the foregoing interpretation.

¹⁴Dummett (1973: 66) invokes this.

Second, it could be that Geach is making an existence claim about actual predicates. This is suggested by Geach's phrasing: "predicates always occur in contrary pairs." The idea would be that, as a matter of fact, all English predicates have contraries, while it is not the case that all English names have contraries. Given Geach's understanding of contrary pairhood, the existence claim about actual predicates is false. Consider the following pairs of sentences.

(10) Those guys are bald.

(11) Those guys are not-bald.

(12) Sam eats bagels.

(13) Sam doesn't eat bagels.

(10) contains the vague predicate "bald". There are objects such that it is not determinate whether they are in its extension, e.g. men with thinning hair. (11) contains the vague predicate "non-bald" with similar properties. If we imagine that the demonstrated guys in (10) and (11) are indeterminate case of baldness, then both sentences will be indeterminate. Thus, the predicates "bald" and "not-bald" will fail to be complementary. Similar points could be made with partially defined predicates, predicates that are introduced stipulatively without the stipulations completely determining their extension.¹⁵

(12) contains the predicate "eats bagels", and the most natural reading of the sentence is the generic reading on which it is true just in case Sam has a habit of eating bagels. The occurrence of "eats bagels" in (12), then, denotes habitual bagel-eaters. On its most natural reading, (13) is also a generic: it expresses that

¹⁵See Fine (1975) and Soames (1999) for examples of partially defined predicates and arguments that vague predicates are semantically on par with partially defined predicates.

Sam has a habit of not eating bagels, thus the occurrence of “doesn’t eat bagels” denotes those who, as a matter of habit, do not eat bagels. Imagine that Sam will very occasionally eat a bagel, though he doesn’t make a habit out of it. In this case, both (12) and (13) are false and, *ipso facto* “eats bagels” and “doesn’t eat bagels” fail to be complementary. The predicates are not each other’s complements because there is a class of eaters—those who eat bagels only occasionally but not out of either a habit or non-habit—that fail to be in the denotation of both.

Of course, demonstrating non-complementary pairs of predicates such that they are each other’s superficial negations does not decisively undermine the existence claim in question. It remains a possibility that in some contexts there are genuine contraries to each of these predicates. However, demonstrating these pairs does make the existence claim exceedingly implausible.

There is another reason that the existence claim is implausible. Throughout the discussion we have been focusing on fairly paradigmatic predicates: e.g. adjectives. However, it is common to recognize other types of predicates in natural language. Quantifiers, for example, are standardly analyzed as higher-order predicates that denote relations between properties. However, it is implausible that English contains quantifiers in contradictory pairs. Quantifiers do not uniformly combine with devices of negation, and some quantifiers, e.g. “many” seem not to have complements.¹⁶

With minimal reflection it becomes clear that Geach, Dummett, and Strawson would not want their anti-skeptical arguments to depend on contingencies of natural language. Rather, they are concerned to argue that predicates are, of their nature, semantically distinct from non-predicates. The third interpre-

¹⁶“Few” is not the complement of many because there are true sentences of the following form “Neither many nor few philosophers love music.”

tation of the argument from negation focuses the essences of predicates and non-predicates. The claim is that every predicate has a possible contrary, while no name does. Again, contrary pairhood for names is defined as follows: n and m are a contrary pair just in case substitution of n for m in a sentence S toggles the truth-value of S . Geach gives an argument for the claim that names do not have contraries, assuming that n and m are a contrary pair, o is an unrelated name, and P and Q are arbitrarily chosen predicates (1980: 58).¹⁷

From the fact that n and m are a contrary pair, we can conclude C1 and C2.

(C1) " $P(n) \ \& \ Q(o)$ " contradicts " $P(m) \ \& \ Q(o)$ "

(C2) " $P(n) \ \vee \ Q(o)$ " contradicts " $P(m) \ \vee \ Q(o)$ "

C1 and C2 follow from our assumption because, in each case, the left-hand sentence differs from the right-hand sentence only in substitution of an occurrence of n for an occurrence of m . Since n and m are a contrary pair (by assumption) and a contrary pair of names are such that any substitution of one for another toggles the truth-value of the entire sentence (by definition), the members of each pair of sentences contradict one another.

From C1 and C2 a contradiction can be derived as follows. Suppose that $Q(o)$ is true. From this we can conclude that $P(n) \ \vee \ Q(o)$ is true, by disjunction introduction. Then, from C2, we can conclude that $P(m) \ \vee \ Q(o)$ is false. From disjunction elimination it follows that $Q(o)$ is false. So supposing $Q(o)$ led to a contradiction and we can conclude that $Q(o)$ is false. From this it follows that $P(n) \ \& \ Q(o)$ is false. From C1 we can conclude that $P(m) \ \& \ Q(o)$ is true. From

¹⁷This is just one of several closely related arguments that Geach gives for the same conclusion. See his (1962) and (1975). The criticisms I give work equally well against any version.

conjunction elimination we can conclude that $Q(o)$ is true and, *voilà*, we have deduced another contradiction, this time outside of the scope of the assumption that $Q(o)$. Geach claims that the only plausible source of this contradiction is the assumption that a contrary pair of names exists. Thus, he concludes that there could be no such pair.

Geach's move away from natural language signifies his interest in the nature of predicates, rather than the contingent properties of actual predicates. However, his argument, if successful, would generalize to actual natural language predicates.¹⁸ This can be shown if we introduce a name, say "Noncrates" that, stipulatively, is the contrary of "Socrates". From that assumption we can conclude CN1 and CN2, then construct a natural language analog of Geach's argument.

(CN1) "Socrates is wise and Frege is smart" contradicts "Noncrates is wise and Frege is smart".

(CN2) "Socrates is wise or Frege is smart" contradicts "Noncrates is wise or Frege is smart".

That we can construct an English analog of Geach's argument seems to show that his argument is of some interest with regard to the semantics of English. That an analog of Geach's argument can be constructed for any language with predicates, disjunction, and conjunction, seems to show that his argument is of some interest with regard to the nature of predication.

¹⁸An assumption has to be made that the natural language in question has classical conjunction, disjunction, and negation. This can, of course, be doubted: see MacBride (2005a) for an objection to Geach based on these doubts. I agree with general skepticism about the existence of such well behaved logical operations in natural language, but objecting on such grounds does not strike at the heart of the problem.

With greater scrutiny, this latter seeming is undermined. The basic problem is that an argument precisely analagous to Geach's can be given against the existence of contrary predicates, as noted by Grimm (1966). I'll relegate the gory details to a footnote.¹⁹ Grimm's observation leaves Geach in a bind. On the one hand, we have Geach's argument, which purports to show that contrary names can't exist. On the other hand, we have a precisely analogous argument against the existence of contrary predicates. For Geach to show that names and predicates are semantically distinct, he must break the analogy between the arguments. However, he does not have the resources to do this.

Aware of the problem, Geach tried to generate a disanalogy between the arguments. The disanalogy, Geach (1975) claims, comes from the fact that contrary predicates are obviously possible, as evidenced by natural language. If, as Geach claims, contrary predicates are obviously possible, then the argument against contrary predicates must fail at some other point. Geach's appeal to natural language relies on the fact that our intuitive understanding of natural language contraries is adequately captured by his definition. If Geach's definition does not track the intuitive distinction, then he has no way to rebut Grimm.

The real problem with Geach's argument, then, is that his reconstruction of Aristotle's dictum fails to adequately capture the dictum. Again, Geach characterizes contrary pairhood for predicates in the following way: P and Q are

¹⁹Here they are. Assume that P and Q are contrary predicates, as defined by Geach. From this we can conclude P1 and P2.

- (P1) "Q(o) & Q(m)" contradicts "Q(o) & P(m)"
(P2) "Q(o) v Q(m)" contradicts "Q(o) v P(m)"

Now assume Q(o). From disjunction introduction we can conclude Q(o) v Q(m). From P2 we can infer that Q(o) or P(m) is false, and from this we can conclude that Q(o) is false. Our assumption Q(o) lead to a contradiction, so we can conclude that Q(o) is false. From this it follows that Q(o) & P(m) is false. From P1, we can conclude that Q(o) & Q(m) is true, and by conjunction elimination that Q(o) is true. Thus, we now have a contradiction outside of the scope of Q(o).

contrary predicates just in case attaching the same subject to each yields contradictory propositions (1980: 58). Contrary pairhood for names is defined similarly. Geach's definitions of contrary pairhood are meta-linguistic insofar as they define the notion in terms of the truth-values of sentences with relevant substitutions. The intuitive definition of contrary pairhood for predicates, however, does not proceed in terms of sentence truth-values. Rather, the idea is simply that two predicates are contraries if they have complementary denotations. We may wish to proceed similarly for names: two names are complements just in case their referents instantiate disjoint sets of properties.²⁰

Once we've construed contrary pairhood for names in this way, Geach's argument falters. It falters because our new definition of contrary pairhood for names *does not* entail the truth of the old one. In fact, given the existence of logically complex contexts—exactly the type that Geach needs for his argument—we would predict that even contrary names (construed in our way) would fail to be contrary names (construed in Geach's way). Two names that denote things with complementary properties can be substituted into, say, a disjunction without toggling the truth-value of the entire disjunction, as long as the constant disjunct is true. To see this, take "Noncrates" to be the complement of "Socrates", construing complementation in the new way. If it is true that Frege is wise then substituting "Noncrates" into "Socrates is wise or Frege is wise" will fail to toggle the truth-value of the entire sentence.

Now that it is clear that Geach's definition of contrary pairhood for names is flawed, it is easy to see that his definition of contrary pairhood for predicates is equally flawed. Given the claim that two predicates have complementary

²⁰In order for this to be coherent, there must be some limitation on the types of properties that are considered. Logically complex properties, for instance, as well as properties that are necessarily instantiated by all objects must be set aside.

denotations, we wouldn't predict that any substitution of one for another toggle the truth-value of the entire sentence. We only predict that this would be so when the sentence is atomic and the predicate's argument is singular.

Since Geach's definitions of contrary pairhood don't track the natural understanding, he is left with no way to break the symmetry observed by Grimm. Since the arguments stand and fall together it becomes clear that they can't be used to support a distinction between names and predicates.

Once we jettison Geach's argument, is there anything left to salvage? That is, is there any way that we can use negation to divorce predicates from non-predicates? There is an intuition that we can negate predicates but not names. However, if we are to use this intuition to try and support semantic conclusions, there will be substantial challenges. First, we would have to show, in a more precise way, exactly what the intuition amounts to. Second, we would have to show—without begging the question—that the distribution of negation tracks something semantically significant rather than something of mere grammatical significance. I am not sure how to meet either of these challenges or even if they can be met. Thus, we will have to invoke other considerations in order to support optimism.

2.4.2 Concatenation

According to the skeptic's semantics, the sub-sentential expressions of (1) and (14) are semantically identical. Each contains a term that refers to Socrates and another that refers to wisdom. Focusing solely on the sub-sentential properties of (1) and (14) obscures an important fact: at the sentential level (1) and (14)

have very different semantic properties. (1) expresses the true proposition that Socrates is wise while (14) is a mere list.

(1) Socrates is wise.

(14) Socrates wisdom.

Accounting for the difference between (1), a meaningful sentence, and (14), a list, has been discussed under the heading “the unity of the proposition.” I will not yet advance a general solution to the problem. Rather, I merely wish to suggest that—whatever the solution may be—we have good reason to think that it will partially consist in rejecting the skeptic’s semantics.

One reason that (1) and (14) have such different sentence-level semantics is that syntactic considerations rule out (14) as a clausal structure by failing to provide an syntactic clause-type input for semantic computation. The only input that (14) provides is a mere list, as is seen when (14) occurs in a larger structure such as (15).

(15) There are three things I want to know: Socrates, wisdom, and how to make money.

Observing that (1) and (14) are syntactically distinct is surely useful. However, the difference between the two is not merely syntactic, there is also a clear semantic difference: (1) expresses a proposition while (14) is a mere list. Our goal is to identify what gives rise to this semantic difference at the complex level. There seem to be only three possibilities. The first is that there is something about the semantics of “Socrates” that accounts for the difference. The second is that there is some difference between “wise” and “wisdom” that accounts for

the difference. The third is that there is some feature of the structure itself that explains the difference.²¹

The first option is a non-starter. “Socrates” remains constant in (1) and (14), therefore there will be nothing in the semantics of “Socrates” that explains the difference between the two. The second option is motivated by the following two observations:

First, notice that there is a very clear apparent difference between “wise” and “wisdom”. This observation, by itself, gives us some *prima facie* motivation for locating the semantic difference between (1) and (14) in a semantic difference between “wise” and “wisdom”. Any other hypothesis will introduce an additional difference between (1) and (14), the aim for the simplest explanation of the phenomena at hand suggests that we should disfavor such a hypothesis. Insofar as the simplest position available belongs to the optimist, their view is motivated by considerations of simplicity.

Second, consider the hypothesis that the third option is correct. On this view, the difference between (1) and (14) lies, somehow, in the semantic significance of their structural differences. Here is a way to flesh out the suggestion. (1), being a clausal structure, encodes the function application relation between the semantic values of its constituents. (14), on the other hand, encodes some other relation, perhaps something like conjunction. This allows the building of a list. The problem for this suggestion can be seen when we reflect on the nature of function application. Function application is asymmetric. A function *F* is applied to a value *v*, in order to produce some result, in this case a truth-value.

²¹A complication is that several of these may obtain at once: e.g. perhaps there is some difference between “wise” and “wisdom” as well as some feature of the structure, and these both help to explain the difference between (1) and (14). I’ll set such a possibility aside and assume that there is some fundamental explanation and that it invokes only one of these things.

On this picture there *are* significant semantic differences between the predicate “wise” and the non-predicate “Frege”: the former is *applied* to the latter, and not vice-versa. It is just this sort of difference that the optimist is after!

It is clear, then, that vindication of the view that there is no difference between the semantics of predicates and non-predicates requires (a) placing the semantics of concatenation in the structure of a clause, and not in the semantics of the predicate, and (b) giving a semantics for concatenation that is wholly symmetric. This will ensure that the semantics of concatenation does not lead to any semantic differences between predicates and non-predicates. Giving a view on which (a) holds is fairly easy. What’s harder is giving a view on which (b) holds. I’ve brought this out by showing that, on our standard view of concatenation: functional application, (b) does not hold.

This argument brings out the depth with which our conception of predicates and non-predicates as semantically distinct is entrenched. Predicates, it seems, compose with non-predicates by being applied to them. Non-predicates, on the other hand, are the arguments of predicates. The skeptic could insist that this conception is somehow misguided and composition is genuinely symmetric. It is impossible to evaluate this claim in the absence of a more concrete proposal. However, there is one more reason to think that skepticism is implausible, and, therefore, no such proposal is forthcoming. I turn to it now.

2.4.3 Interpretability

According to the skeptic, “wise” and “wisdom” are semantically identical. The main difference between them is grammatical. There are some cases in which

it seems that two semantically identical terms have clear grammatical differences. The clearest cases in English come from the case-marking of indexical pronouns.²² For example, “me” and “I” are plausibly semantically identical—they each refer to their utterer—despite being grammatically distinct. Their distinct grammar accounts for the difference between (16) and (17).

(16) I am hungry.

(17) #Me am hungry.

(16) is *grammatical*: the rules of grammar allow for the concatenation of its sub-sentential expressions. (16) is also *interpretable*: the rules of semantic interpretation allows concatenation of the meanings of its sub-sentential expressions in order to produce a truth-value. (17), on the other hand, is ungrammatical: it is ruled out grammatically because “me” is improperly case-marked. (17) is *interpretable*, though. Since its sub-sentential expressions have the same meanings as those of (16), there is nothing prohibiting them from being interpreted semantically.

With a little reflection, our intuitions become sensitive to the distinction between grammaticality and interpretability. When sentences are ungrammatical but interpretable, we can tell that they are “bad”, but we, nonetheless, can tell what they mean and often successfully use them to communicate. This happens when children utter interpretable but ungrammatical sentences (“Him is mean!”) and when dialects contain seem to grammatically contain sen-

²²This is not wholly uncontroversial. Case marking could, for example, give rise to thematic role assignment that is semantically relevant. Whether or not case marking of pronouns is really semantically inert, there is reason to think that at least *some* grammatical features are semantically inert. Consider, for example, plural marking of the copula. On the assumption that the copula, in both its singular and plural form, is semantically vacuous, then “is” and “are” differ grammatically without differing semantically. I’ll stick to case marking because it provides us with the least controversial examples.

tences that, in standard English, are interpretable but ungrammatical (“They be happy.”)²³

Since, according to the skeptic, “wise” and “wisdom” are semantically identical, she seems committed to a prediction about the relationship between sentences (1) and (14). The skeptic’s claim is that (1) and (14) are semantically identical, at least at the sub-sentential level, but grammatically distinct, just as (16) and (17) are. (14) is interpretable (just as (1) is) but ungrammatical. This puts (14), for the skeptic, in the same class as (17). However, this prediction seems bad. Unlike (17), (14) *seems* uninterpretable as a clause (though it is, perhaps, interpretable as a list). I certainly know of no dialect in which sentences like (14) are grammatical sentences and it is hard even to imagine one. Furthermore, insofar as we seem to be able to generally track interpretability, (14) seems uninterpretable. The skeptic’s semantics, then, seems to contradict our intuitions about interpretability.

This is hardly a knockout blow to the skeptic. There is no immediate reason to think that all cases of interpretability without grammaticality will be as clear as (8). There is also no reason to put complete faith in our intuitions about interpretability. The considerations do present a challenge to the skeptic, though. She needs to address them somehow. They also give an opportunity to the optimist. If she can account for them better than the skeptic, then her view would have a leg up.

If fact, there is good reason to think that the optimist *can* account for these intuitions. At the core of the optimist’s view is the claim that predicates semantically differ from all other types of terms. Whatever property underlies this

²³I’m referring to ungrammatical strings such as (8) as “sentences”. It may be that a necessary condition on sentencehood is grammaticality, but I am sliding over that here.

semantic difference, “wise” has that property while “wisdom” does not. Since “wise” and “wisdom” are, for the optimist, semantically distinct, she can use that distinctness to explain how (14) is uninterpretable while (1) is not.

2.5 The State of Play

The arguments from concatenation and interpretability give us reason to pursue an optimistic account of predication. Of course, an optimistic account of predication is in tension with the skeptic’s argument from intimacy. The conclusion of this argument was that any successful account of predication must somehow account for the intimate connections that some predicates have with non-predicates. The skeptic, it seems, may be able to do this. It is not obvious that the optimist can. For instance, on the entity view, predicates and non-predicates must have different denotations. It will be a challenge, then, to account for intimate connections between the two.

In short: intimacy suggests a uniform semantics of predicates and non-predicates, while facts about grammar and concatenation suggest a non-uniform semantic account of predicates and non-predicates. The challenge for the optimist, then, is to somehow account for the intimate connections between predicates and non-predicates, while making good on the claim that they are semantically distinct. Any semantics of predicates which completely divorces them semantically from non-predicates will fail to meet this challenge. In Chapters 5 and 6 I will argue that the ascription view allows us to meet the challenge.

CHAPTER 3
NOMINALISM AND QUANTIFICATION

3.1 Nominalism

Nominalists deny that predicates denote though they accept that predicates are meaningful. The version of nominalism that I've been considering is the mapping view. On the mapping view, the characteristic semantic contribution of predicates lies in the relation that they bear to their arguments: the relation of truth-value mapping. The most notable feature of the view is that it escapes commitment to universals, concepts, or whatever other entities have been traditionally taken to be the denotations of predicates, while still giving a unified semantics of predicates.¹ The official statement of the mapping view is repeated here:

The mapping view: there is a relation, truth-value mapping, such that it is both a necessary and sufficient condition for a term or a term occurrence to be a semantic predicate that it contributes to meaning of sentences by bearing the mapping relation to its argument.

In this chapter, I will consider the prospects for the mapping view, *qua* nominalist view. Of course, the mapping view is not the only possible nominalist view. Van Cleve (1994), for example, defends 'Ostrich Nominalism', (as introduced in Armstrong 1978) a quietist position on which there is nothing infor-

¹More precisely: it escapes commitment on basis of the semantics of predication. The proponent of the mapping view may still admit universals into her ontology, see Davidson (2005). However, one may think that it is strange to admit that universals exist and deny that they have any role in predication, see Burge (2007).

mative to say concerning the semantics of predicates. Surely, other versions of nominalism could be conjured. As far as I can tell, the considerations for and against nominalism that I consider are fully general: they count for or against any form of nominalism.

I will discuss two arguments that motivate nominalism and one argument against it. The two motivating arguments purport to demonstrate the inadequacy of any non-nominalist view. I will claim that these arguments fail. The anti-nominalist argument consists of the claim that nominalism does not allow us to make sense of quantification into predicate position, which seems allowed in natural language. There have been a number of views of predicate quantification that attempt to dispel commitment to predicate denotation. There is much to be discussed about the details of these proposals, but I'll steer clear of such detailed discussion. Instead, I'll argue that the best way to settle the issue of whether natural language phenomena demand recognizing predicate denotations is by considering non-quantificational constructions.

A quick note about terminology: for the rest of the chapter, I will use the label "realist" to pick out any view on which predicates denote. Realism in this sense is compatible with some form of conceptualism (or other form of anti-realism) about the nature of the denoted entities. Realism, here, is realism about predicate denotation, not realism about what is denoted.

3.2 Two Arguments for Nominalism

On the simplest version of realism, predicates denote universals and atomic sentences are true just in case the referent of the subject instantiates the universal

denoted by the predicate. On such a view, “Homer is yellow” is true just in case Homer instantiates the property of being yellow. The first argument against realism that I consider attacks this account of property instantiation.²

The second argument against realism is also metaphysical in nature. The idea is that any realist view leads to a vicious regress. The regress may take place at the sentential, propositional, or factual level; critics have made each allegation. Regress arguments are simple and familiar: they go back to Plato and, more recently, Bradley. The general idea is that complex entities, such as facts, propositions, and sentences, have a certain type of unity that demands explanation. Invoking a universal, it is alleged, does nothing to explain this unity. Rather, the invoked universal gives rise to another question: what explains the unity of the universal and the entities that it was meant to unify? A natural move is to then invoke another universal, which leads to another question about unity, and so on *ad infinitum*. I’ll argue that regress arguments are unconvincing.

3.2.1 Van Cleve’s argument from Intrinsicity

To a first approximation, an object’s intrinsic properties depend on that object and nothing else. A classic example is an object’s shape, which seems to depend

²A realist could attempt to sidestep this argument by divorcing her semantics of predicates from her metaphysics of property instantiation. I am not sure how such a divorce would go, and I will not pursue it here. Note that there is fairly strong reason to think that no such divorce is possible. Consider the t-schema instance: “Homer is yellow” is true iff Homer is yellow. Whatever one wants to say about the t-schema generally, I take it that this particular instance is true. If our semantics of predicates includes the claim that predicates, such as “yellow”, denote, then it seems that such denotations must play a crucial role in determining the truth-value of sentence like “Homer is yellow”. Since the sentence has the same truth conditions as the proposition, it seems to follow that the denotation of the predicate also plays an important role in the truth of the proposition. In this way, a realist view leads to a relational view of property instantiation.

on features of the object's matter and nothing else.³ If an object is circular, that's due to the arrangement of its matter, nothing more and nothing less. Intrinsic properties such as *being circular* are contrasted with extrinsic properties such as *sitting behind someone tall at the movies*. Whether I am sitting behind someone tall at the movies is determined by facts external to myself.

According to Van Cleve, this intuitive account of intrinsicity is in tension with the realist's relational account of property instantiation. Van Cleve argues that any relational view of property instantiation will run amuck of some fundamental metaphysical principles about intrinsicity. In slogan form: any realist view "...tries to make possession of qualities into a relation, whereas the relation in question would have to derive from the possession of qualities" (580). Van Cleve's argument nicely brings out some commitments of the realist but, as I'll now argue, it does not give us reason to reject realism.

A version of Van Cleve's argument, one that targets realism directly, proceeds as follows. First, he assumes (for *reductio*), that predicates denote. Van Cleve takes it as a corollary that an ordinary atomic sentence "Fo" is true just in case the instantiation relation holds between o and F. Second, Van Cleve claims that, should it exist, the instantiation relation would have to be an intrinsic relation: one that is grounded on the intrinsic character of the relata. If instantiation were not intrinsic, Van Cleve argues, then we would allow the bizarre possibility that an object could cease to instantiate, say, redness, despite the absence of any change in that object's intrinsic nature. Third, he claims that facts about instantiation must be grounded in facts about instantiators, taken separately from the universals they instantiate. To support this, Van Cleve asks what facts could make a difference with regard to instantiation. Since universals have their prop-

³Even here there are doubts. See Skow (2007) for a defense of the view that shape is extrinsic.

erties essentially, while many facts about instantiation can be temporary and contingent, he concludes that the facts about instantiation must be grounded in independent facts about instantiators. Fourth, Van Cleve claims that these facts about instantiators must be non-relational. He asks what intrinsic facts could be relevant to *o*'s instantiating *F*. According to Van Cleve, the only relevant intrinsic candidate seems to be the fact that *o* is *F*. Instantiation, therefore, must be grounded in non-relational facts. Fifth, and finally, if we assume that these non-relational facts are expressible in English, then we have contradicted the assumption that predicates denote. The contradiction arises because it seems as if the candidates to express these non-relational facts—ordinary atomic sentences—are, by the first assumption, analyzed as expressing relational facts.⁴

In formulating his argument, Van Cleve relies on a intuitive understanding of intrinsicity, according to which claiming that instantiation is intrinsic is the same as holding the following principle, which we'll call "Grounding of Instantiation".⁵

Grounding of Instantiation: If instantiation holds between two items, it holds *in virtue* of facts about them taken separately.

The reason that Van Cleve needs Grounding of Instantiation can be seen by considering premise 3. If a relation's being intrinsic is the same as its holding in virtue of its relata taken separately, then a change with regard to the relation will have to be accompanied by an independent change in one of the relata, rather than a change in their relation. Of course, if we have a different understanding

⁴This presentation of of Van Cleve's argument departs from his own. This departure is undertaken solely to produce an explicit contradiction, I think this was Van Cleve's intent.

⁵Van Cleve uses "exemplification" where I use "instantiation", and he calls the principle "Grounding of Exemplification". As far as I can tell, this terminological difference is irrelevant.

of intrinsic relations, then a change in the holding of the relation will not require any change in the character of either of the relata taken separately. I'll now argue that the realist can, and should, reject Grounding of Instantiation and the understanding of intrinsicity that goes with it. Without the principle, Van Cleve's argument fails.

According to Grounding of Instantiation, my car's being blue must depend on features of my car that are independent of its relation to the property of being blue. However, for the realist, property instantiation is identified with relation to a property. Therefore, if we consider my car independent of its relation to blueness, we should not be surprised at all that there aren't enough facts to make it true that my car instantiates blueness. The only relevant fact is the one that we are abstracting away from! It is a basic feature of the realist's view that property instantiation is relational. Once we recognize this, it becomes clear that asserting Grounding of Instantiation amounts to nothing more than question begging.

There are two considerations that Van Cleve gives by way of an independent defense of Grounding of Instantiation. The first, already mentioned, is that the denier of the principle seems to endorse the bizarre possibility that apparently intrinsic features of an object can change without that object undergoing actual intrinsic change. This consideration relies on the principle that no relations to universals can be intrinsic. However, it is antecedently obvious that a realist about universals—who thinks that all property instantiation consists in relations to universals—should reject this conception of intrinsicity. The realist does have the option of giving a substantive account of intrinsicity which allows some relational facts to be intrinsic. One such account is given by Langton

and Lewis (1998), on their account (which is a modified version of the account given in Kim 1982) a property P is intrinsic just in case its instantiation is not dependent on the existence of any *contingent* objects other than its instantiator. This is cashed out in the following way: P is an intrinsic property of O just in case P can be possessed by O in a world in which O is the only contingently existing thing (or there are none), P can also fail to be possessed by O in such a world, P can be possessed by O if there are other contingent things, and P can fail to be possessed by O in a world with other contingent things. In other words, O's instantiation or non-instantiation of P is independent of the existence of contingent entities besides O. As argued by Langton and Lewis, this definition seems to yield the correct results. Fortunately for the realist, it can be added to her view fairly easily. For the realist, (monadic) property instantiation consists of relation to universals. P is an intrinsic property of O, i.e. O's instantiation of P-ness is an intrinsic instantiation, just in case O's instantiation of P is not dependent on any other contingent objects. Since properties do not exist contingently, relations to properties can be taken to be equivalent to intrinsic property instantiation. The addition of this definition of intrinsicity to the realist's view shows exactly how the realist can, in a principled way, deny the claims about intrinsicity that Van Cleve was trying to use against her.

The second consideration Van Cleve gives in favor of Grounding of Instantiation is that, when pressed to explain what conditions are required in order for O to instantiate P, the realist seems to be able to do no better than specify the condition that O is P. The idea is that if instantiation were truly relational, we shouldn't have to resort to non-relational sentences in order to explain the conditions under which instantiation holds. There are a number of problems with this reasoning. First, which type of sentence we use to articulate facts does

not seem directly relevant to identifying which facts or features of facts are fundamental. To take one example, we likely need to resort to facts about middle-sized objects in order to grasp facts about ordinary cases of causation. When asked what caused the window to break, we may likely invoke the thrown ball. This, of course, does not entail that facts about middle-sized objects are more fundamental than facts about their microphysical parts. It may be that the fundamental facts that ground the window breaking are simply beyond our ordinary cognitive capacities, and this is why we don't invoke them. Second, the realist *does* claim that the sentence "O is P" expresses a relational fact. This sentence does not uncontroversially express a relational fact, as "O instantiates P" does, but, according to the realist, it does express such a fact. As such, it is dialectically unwarranted for the nominalist to take the realist's invocation of "O is P" to signify their reliance on non-relational facts. The use of such a sentence would only constitute reliance on non-relational facts if the nominalist is correct, and this is exactly what is at issue!

So we can see that the realist has every reason to reject Grounding of Instantiation and no reason to accept it. With its rejection, premise 3 of Van Cleve's argument fails. Intrinsic property instantiation, for the realist, plausibly depends on relation to universals.⁶

3.2.2 Regress Arguments

Davidson's defense of nominalism (1967a & 2004) is motivated by the thought that countenancing a class of predicate denotations will, invariably, lead to a

⁶An interesting aside: the observation that a relational account of intrinsicity is both plausible and widespread may undermine Lewis' (1986) famous argument from temporary intrinsics. Hawthorne (2006) makes this observation.

vicious regress. Regress arguments related to predication and instantiation are historically familiar. Consider the fact that my car is blue. This fact consists of my car and the property of being blue. However, the mere co-existence of my car and the property of being blue is certainly not enough to generate the fact. After all, my car co-exists with plenty of color universals besides blue. To explain why my car and blueness compose a fact while my car and red do not, we need to invoke something beyond co-existence. The natural explanation is that my car bears the instantiation relation to the property of being blue, while it does not bear the instantiation relation to the property of being red. In familiar rhetoric, the instantiation relation is what *binds* my car to blueness. However, this explanation leads to another question: what binds the instantiation relation to my car and blueness? It seems that in order to answer this question we will need to invoke another relation, and, of course, we need not stop asking questions there. The reasoning can be repeated *ad infinitum*.

Though the reasoning is fairly straightforward, the nature of the regress is not. Much of the unclarity is due to the “binding” rhetoric. Distinguish two ways which the instantiation relation may bind my car to blueness. On the first way, it binds them together by itself being a constituent of the fact that my car is blue. The thought is that the fact that my car is blue can’t simply consist of my car and blueness because they are not unified, therefore the instantiation relation must also be a constituent of the fact, however the fact can’t simply consist of those three because they are not unified, and so on. Here the regress is a regress of *constituents*. Each constituent demands a further constituent, *ad infinitum*.

On the second way of understanding binding, the instantiation relation

binds in virtue of the existence of a further fact. The first fact consists solely of my car and blueness. They are bound into a fact by virtue of the existence of another fact, which consists of my car, blueness, and instantiation. This fact is, in turn, grounded by the existence of another, and so on. Here the regress is a regress of *facts*. Each fact holds in virtue of a more complex fact, *ad infinitum*.

At first blush, both types of regress seem vicious. Here's why: according to the first regress there is an infinite number of constituents in each individual fact. Furthermore, for each group of constituents, there is a further constituent that unifies the group. Unification of the objects into a fact, since it always seems to rely on more objects, is never achieved. On the second regress, each fact is grounded by a further fact. Since grounding always requires an additional fact, it seems that we never hit bottom and no fact is truly grounded.

Before I linger on the details of the arguments, note that analogous arguments can be run in the case of propositions and sentences. In the case of sentences, we wish to explain why "Socrates is wise" is a complete and meaningful sentence while "Socrates wisdom" is not. If some relation between words is invoked, we may then ask how the words are bound to this relation. In the case of propositions, we wish to explain what binds the constituents of a complex proposition together and differentiates that proposition from the corresponding sum of the same constituents. If we invoke some relation to explain the unity of the proposition, we will face the challenge of explaining how the relation is bound to those constituents.

Davidson claims that any realist view will, at some level or other, face a vicious regress. Here is one of many representative passages:

To understand the sentence, it is necessary to know under what conditions it would be true. The sentence 'Theaetetus sits' is true if it is uttered when Theaetetus is sitting. What is the role of the words in the sentence that explains this? Well, the name 'Theaetetus' must name someone, and in this case it does name Theaetetus. What is the role of the verb or predicate? If we say it names or is otherwise related to the property of Sitting, we have so far pointed to nothing that could be true or false, for we have simply indicated two entities. Of course what we want to add is that the sentence is true if and only if the entity named *has* the property: Theaetetus has the property of Sitting. The little word 'has' is the missing verb: it is a two-place predicate which should, in turn, be explained by reference to the relation of Instantiation. We are off once more on the regress. (2004: 87)

Davidson's thought here is that merely invoking predicate reference does nothing to explain how a sentence is truth-apt. What is needed, rather, is some way that the name and predicate are related. If we invoke another entity here—the instantiation relation—then we have not met the challenge so much as bringing forth another one. Of course, any relation invoked to solve the new question will just generate another one, and so on.

I'll now criticize regress arguments. My criticism will come in two parts. First, I'll argue that the constituent version of the regress argument is, in and of itself, implausible. The proponent of regress arguments is better off pushing a regress of facts. Second, I'll argue that there are plausible ways for the realist to claim that a regress of facts—even if it exists—is non-vicious.

Consider, again, the fact that my car is blue. This fact consists of my car and blueness. The question is what guarantees that these two things compose a fact. The answer invoked the instantiation relation. The problem is supposed to be that we then need to explain what “binds” the instantiation relation to blueness and my car. The intuition is that invoking the instantiation relation just adds something else to the fact, and doesn’t unify it. This intuition is misguided. One need not claim that the instantiation relation is a *constituent* of the fact in order to claim that it *unifies* the fact. One can merely claim that the reason that my car and blueness compose a fact is that they are related in a particular way: my car instantiates blueness. This way of being related need not correspond to any constituent of the fact. In fact, it would be odd if the realist’s reliance on the instantiation relation was tied to the claim that the relation is itself a constituent of the fact. Generally, when we think that relations unify—a couple unified by love, a group unified by proximity—we don’t think that those relations are themselves *constituents* of the entities that they unify. Love is not a constituent of a happy couple (that would be a little crowded), though it is a relation in which the members of the couple stand.

To make this more vivid it is useful to consider material objects. My table is composed of several pieces of wood. The mere existence of those pieces does not guarantee the existence of the table: the pieces must also be related to each other in a certain way. Crudely, the top piece must be held up by the legs. The spatiotemporal relations that the pieces stand in explain the unity of the table. The explanation does not rely on those relations being parts of the table. Rather, the relations simply arrange the pieces into a table.

In short, not only is there no pressure to claim that the instantiation relation

is itself a constituent of the fact that my car is blue, there is also pressure not to do so. A proponent of regress arguments, then, would be better off focusing on regresses of facts. I turn to those now.

Even if the instantiation relation is not itself a constituent of the fact that my car is blue, it still plays a crucial role: my car and blueness stand in the relation. This gives rise to an additional fact: the fact that my car and blueness stand in the instantiation relation. One may then question what explains this further fact. If we are pushed to another fact, we are started on a regress of facts. The most obvious option for the realist is to embrace the existence of this regress but argue that it is non-vicious. One way this could go is as follows. Distinguish between two kinds of relationship between facts: mere entailment relations and grounding relations. Entailment, for our purposes, can be defined modally: F entails F' just in case necessarily if F then F' (where the conditional expresses material implication).⁷ Grounding can be expressed as a dependence relation: F' grounds F just in case F is dependent on F' . Now, consider the fact that the table is blue. The realist can allow that this entails further facts about instantiation—e.g. the fact that the table instantiates blueness—while denying that it is grounded in those further facts. Perhaps such first level facts about instantiation are simply fundamental: they are not grounded by anything further. On this view, the regress is not vicious. To see why, compare the regress of facts to an obviously non-vicious regress about truth. The fact that P is true clearly entails the fact that P is true is true, and so on *ad infinitum*. However, these further facts about truth do not explain, ground, or otherwise support the initial fact that P is true, they are simply results that follow from the nature of truth. On the envisioned response, we claim the same thing about instantiation: the

⁷I am not claiming that this is truly an adequate account of entailment, I merely claim that it suffices for our purposes.

infinity of facts is due to the nature of instantiation but it does not, in any way, undermine the bottom level of facts. The basic lesson is simple. Mere plenitude of facts (or propositions, or whatever) is not offensive. What's offensive is an infinite series of facts, each of which is grounded by the one that comes after it. One may accept a plenitude while rejecting the claims about grounding.

Embracing the regress is not the only option. Armstrong (1989), for instance, identifies each instantiation fact of any given (purported) regress. On this view, there is only one fact. Without a regress, there can't be a vicious regress. Armstrong's picture looks elegant, but it forces him to shoulder a substantial burden. He must explain why these apparently distinct facts are identical. Doing this requires distinguishing instantiation from other relations. Armstrong attempts to distinguish instantiation by calling it "a non-relational fundamental nexus". Such rhetoric is obscure. It is not clear whether its obscurity could be mitigated and the idea fleshed out, but given that the realist has other options, it is not clear that the rhetoric is worth saving.

The strategies mentioned here in the case of facts can be straightforwardly generalized to sentences and propositions. In the case of propositions, the story would go as follows. The proposition that Frege is wise consists of two entities: Frege and wise. These entities stand in a particular relation, e.g. the represented as instantiating relation, which is not itself a constituent of the proposition. (Though there may be a further proposition of which it is a constituent.) In the case of sentences, we may invoke a relation between the words that compose the sentence. On the view that I will defend, the predicate of an atomic sentence ascribes its denotation to the referent of the subject. The ascription relation can then unify the words in a sentence without, absurdly, being a constituent of the

sentence.

A fully satisfactory dissolution of all regress arguments would require more detail. In particular we wish to know the nature of the relations that structure facts, propositions, and sentences. I will make some headway in the case of sentences when, in Chapter 6, I give a more detailed account of the ascription relation. What should be clear at this stage is that there is a straightforward way to avoid vicious regresses that the realist can utilize.

3.3 Quantification

One may think that it is extraordinarily easy to undermine any nominalist view of predication: simply observe that English seems to allow quantification into predicate position. Consider the following pairs:

- (1) Quine is smart.
- (2) There is something that Quine is, namely: smart.
- (3) Bill loves Hillary, and vice-versa.
- (4) There is some relation between Bill and Hillary, namely: love.

On the standard Quinean conception of ontology, the truth of the quantified sentences (2) and (4) reveals ontological commitment. Since the quantifier seems to bind a term in predicate position, the ontological commitment seems to derive from predicates. I think that the appeal to quantification in order to undermine nominalism is inconclusive. However, its weaknesses point us in

the direction of finding better arguments against nominalism. I'll spend the remainder of this chapter explaining why appeal to quantification is inconclusive and how the realist can do better.

The standard reason to think that (2) and (4) commit us to the claim that the predicates in (1) and (3) denote has to do with the link between quantification and existence. The idea is that "something" in (2) and "some relation" in (4) range over some entities (relations in the latter case). The quantified sentences, in turn, are true just in case one of those entities satisfies the generalization. So, for instance, (4) is true just in case there exists some relation that holds between Bill and Hillary. Since (1) and (3) entail their quantified counterparts, they must also guarantee the existence of such an object. The object that makes (4) true is not the referent of "Bill", or the referent of "Hillary": after all, neither is a relation. The only way, then, that (3) could commit us to an object is if "loves" denotes one. In other words, according to the standard view, the relation denoted by "loves" guarantees the truth of the quantified (4).

The claim that quantification and existence are linked is supported by the standard semantics for generalized quantifiers. On the standard semantics, such quantifiers are functions from properties to truth-values. "Something", when combined with a predicate, yields truth just in case the extension of that predicate is non-empty. (Non-generalized quantifiers such as "some" are standardly analyzed as functions from properties to functions from properties to truth-values.)

If this is the correct view of quantification, and if (1)-(4) are true, then the nominalist's view is false. What's not clear is that either that this is the correct view of quantification or that (1)-(4) are true. That said, it *is* clear is that this is a

strong view of quantification. It is strong in the following ways. First, it assigns fairly clear meanings to English quantificational expressions: meanings that we can understand and employ in powerful compositional semantic theories. Second, it assigns uniform meanings to English quantifiers. One way for the nominalist to dodge the argument from quantification is by claiming that first-order quantification is different in kind from higher-order quantification. It is hard to see how one who makes this move can avoid the claim that English expressions such as “some” and “something” are systematically ambiguous. Third, the view allows us to make excellent predictions in the first-order case. Some dog is happy just in case there exists a happy dog, and false just in case there doesn’t. This speaks to the apparent connection between quantification and existence.

There are two strategies for the nominalist. The first strategy is to accept that quantification is ontologically committing but to reject the claim that (2) and (4) commit us to predicate denotation. This could be because (2) and (4) are false, or simply because the ontological commitment they incur is not commitment to predicate denotation. The second strategy is to sever the link between quantification and ontological commitment. On this strategy, (2) and (4) may contain genuine quantification into predicate position while failing to commit us to predicate denotation. I’ll address these strategies in turn.

3.3.1 The First Strategy

Quine made the first strategy famous, arguing that quantification into predicate position is illegitimate. Quine’s rejection of quantification into predicate

position rests on his allegation that there is a particularly intimate connection between naming and quantification, one that guarantees that we can quantify into name position but prevents us from quantifying into all other positions. In his work, the existence of such a connection is regularly asserted but rarely defended. Here is a representative passage:

The connection between meaning and quantification is implicit in the operation whereby, from 'Socrates is mortal', we infer ' $(\exists x)(x$ is mortal)', that is, 'Something is mortal'. ... The idea behind such inference is that whatever is true of the object named by a given singular term is true of something; and clearly the inference loses its justification when the singular term in question does not happen to name. From:

There is no such thing as Pegasus,

For, example, we do not infer:

$(\exists x)$ (there is no such thing as x),

that is, 'There is something which there is no such thing as', or 'There is something which there is not'. Such inference is of course equally unwarranted in the case of irreferential occurrence of any substantive. From ['Giorgione was so called because of his size'], existential generalization would lead to:

$(\exists x)$ (x was so called because of his size),

that is, 'Something was so-called because of its size.'. This is clearly meaningless, there being no longer any suitable antecedent for 'so-called' (1953: 145)

Quine's attempt to prove that only referential positions can be quantified into proceeds by consideration of positions into which we can't quantify. "Giorgione", in the sentence mentioned, can't simply refer to Giorgione because it must also provide anaphoric support for "so-called". "So-called" denotes (at least partly) the name "Giorgione": a plausible gloss on meaning of "so-called" is "is called x", where x is an anaphoric variable that denotes a name used in prior discourse.⁸ Quine generalizes from such cases and draws the conclusion that we can only quantify into positions occupied by purely referential names.

If there is an argument to be extracted against predicate quantification, it is that apparent quantification into predicate position can only proceed when we "... treat predicate positions suddenly as name positions, and hence to treat predicates as names of entities of some sort" (1970: 67). To see what Quine may have in mind, consider the following sentences.

(5) Madonna is a singer.

(6) Something is a singer.

(7) ?Madonna is something/some way.

(6) follows from (5) without controversy. The inference from (5) to (7) is, however, suspicious. It strikes most as odd or infelicitous. By contrast, inferring (8) and (9) from (5) seems less controversial.

(8) There is some property that Madonna has.

(9) Madonna is some kind of performer.

⁸Tom McKay provided me with this simple and plausible semantic account of "so-called".

Here is where Quine can dig in his heels. To quantify into name position, we need only replace the name "Madonna" with the quantifier "something". However, the analogous replacement in predicate position yields the questionable (7). In order to construct obviously true sentences that contain apparent predicate quantification, we have to resort to (8) and (9) which contain additional changes. Quine may insist that these additional changes reveal the fact that apparent quantification into predicate position is actually quantification in which we somehow "treat predicates as names of entities". Such inferences, he may continue, don't entail that predicates themselves denote. Quine could then go on to give a semantics of sentences like (8) and (9) that exploits the substantial differences they exhibit from (5). Let's call this "the Quinean strategy", keeping in mind that it is an attempt to furnish Quine with reasoning rather than a presentation of his actual reasoning.

This argument is only effective insofar as inferring (7) from (5) is genuinely illegitimate. However, there are reasons to think that it isn't. Our intuition is that (7) is odd, not that it is false. If the oddness is due to non-semantic features of (7), then the Quinean strategy will be undermined. It is plausible that there are such features. Sentences, in addition to containing discourse-invariant information, also, when uttered, encode discourse-specific information. For instance, in the absence of any focal stress or undermining background, an utterance of (5) will likely carry the information that Madonna is the topic of the discourse. If Madonna is the topic, then immediately inferring general propositions based on her would be perfectly normal. Moving, however, to non-topical information, such as the existence of a property, would seem odd. This type of story, as sketchy as it is, does seem to account for the difference between (6) and (7). Notice, also, that switching the discourse topic to properties yields some quite

natural inferences which contain quantification into predicate position. The following passage, adapted from Strawson's influential criticism of Quine, illustrates that point.

Sam is a better player than John. Sam is quick and smart and John too is quick and smart. But Sam is also agile and John is not agile. Surely, it seems, 'quick', 'smart', and 'agile' are here in predicative position. But is their position inaccessible to quantifiers? As a player, Sam is everything that John is (i.e. quick and smart) and something that John isn't (i.e. agile). Or, if you like, there is nothing that Sam is that John isn't. Or, if you like, there is nothing that John is that Sam isn't and something that Sam is that John isn't.⁹

In the above passage, the topic is the properties of two players rather than the players themselves. Given the topic, it is not odd to make generalizations about those properties. This is why the sentence "Sam is something that John isn't" ceases to be odd.

To fully work out this response we would have to do much more theorizing about topic and discourse structure.¹⁰ However, we have seen enough to undermine the Quinean argument. In natural language, quantification into predicate

⁹Here is the original Strawson passage. I've changed it for obvious reasons.

Betty is a better date than Sally. Betty is willing and pretty and Sally too is willing and pretty. But Betty is also witty and Sally is not witty. Surely, it seems, 'willing', 'pretty', and 'witty' are here in predicative position. But is their position inaccessible to quantifiers? As a date, Betty is everything that Sally is (i.e. willing and pretty) and something that Sally isn't (i.e. witty). Or, if you like, there is nothing that Sally is that Betty isn't (i.e. witty). Or, if you like, there is nothing that Sally is that Betty isn't and something that Sally isn't that Betty is. (1961: 404)

¹⁰Discourse structure is notoriously intractable to theorization, though see Asher and Lascarides (2003), Asher (2004), and Erteschik-Shir (2007).

position seems admissible, and with a little background it is not odd at all.

3.3.2 The Second Strategy

There are a number of ways to attempt to sever the link between quantification and existence. One could attempt to cut all ties. Or, rather, one could attempt to sever the link between certain types of quantification and existence. Those who propose to cut all ties will claim that even quantification into referential position is ontologically non-committal. On such a view, (10) does not, in virtue of the quantification present, carry any ontological commitment. This is compatible with (10) carrying ontological commitment for other reasons.

(10) Somebody has been eating my cookies.

There is an extensive literature dedicated to re-evaluating the ontological commitments of first-order quantification. Motivation for the project stems from the fact that if such quantification is ontologically committing then it would be extraordinarily easy to settle some ontological questions. However, the relevant ontological questions do not seem so easy to settle. Consider the following argument for the existence of numbers:

(11) Two is greater than four.

(12) Some number is greater than four

(13) Therefore, numbers exist: after all, one of them is greater than four.

The inference from (11) to (12) seems unassailable in English. On the standard conception of quantification, (12) implies (13). Therefore, it is extraordi-

narily easy to prove that numbers exist. *Mutatis mutandis* for entities of all ontological stripes. The ease with which these proofs come seems to contradict the standard conception of ontology, according to which such ontological questions are not so easily solvable.

There are a number of attempts to resolve this tension. Fictionalists such as Stephen Yablo (2001) claim that in uttering such sentences as (11) we do not commit ourselves to their literal truth. As such, we need not take their ontological commitments seriously. I'm sliding over an enormous amount of complexity here, but I bring up fictionalism only to set it aside. My aim is not to evaluate particular strategies for disarming the realist's argument for quantification. Rather, it is to provide a more general assessment of the dialectic.

Another general proposal, due to Thomas Hofweber (2005), is to claim that English quantifiers are polysemous. On one reading they are existentially committing, just as Quine thought. On another reading, however, they are not committing. Rather, their meaning simply consists in their inferential role and their existence is due to their communicative roles.

Another type of strategy is to attempt to divorce first-order quantification from other higher-order quantification. A number of proposals to this end have been canvassed. The two best known are substitutional interpretations of higher-order quantifiers and plural interpretations of higher-order quantifiers, *à la* Boolos (1982 and 1984). These proposals are subject to familiar worries. Substitutional quantifiers are limited by the language in question, and plural interpretation of higher-order quantifiers falters when the attempt to quantify over relations. Instead of lingering on familiar worries with these proposals, I want to consider a more recent proposal by Wright (2007): neutralism. (Though, as

MacBride (2006) outlines, Prior (1972) takes a similar position. Rayo and Yablo (2001) also make some quite sympathetic remarks.) In addition to promising to sidestep the worries that plague the substitutionist and Boolosian, the neutralist also may be able to provide a uniform meaning for the English quantifiers. These are potential strengths of neutralism. However, my reason for considering neutralism is that it provides the nominalist with what I take to be the strongest dialectical move against the argument from quantification.

The neutralist's basic philosophical idea is that quantified statements are exactly as ontologically committing as their non-quantified counterparts. Taken by itself, this idea is independent of any claims about whether particular types of lexical items denote. If the neutralist's philosophy is to provide an underpinning for nominalism about predication, it should be coupled with a semantics of quantifiers which is neutral as regards to their ontological commitment. In other words, the neutralist should claim that there is nothing in the meaning of the quantifiers, as such, that incurs ontological commitment. Rather, ontological commitment is only incurred if the type of position quantified into is occupied by an expression that is independently committing. Notice that the task of providing such a semantics is a challenging one. To see why, consider the semantic accounts we give of other types of expressions. It is fairly common to characterize the semantic contribution of a name by specifying its reference: such a specification is hardly ontologically neutral. Similarly, each of the four proposals for the semantics of predicates I outlined in Chapter 1 makes specific ontological commitments or non-commitments. What the neutralist is after is a semantics for quantifiers that avoids any inherent commitments. (I am ignoring the further complication that quantifiers are often simply construed as higher-order predicates.) Wright (2007) is aware of these difficulties and he attempts to

overcome them by giving an inferentialist account of quantification. For fairly technical reasons, Wright notes that it will be challenging to uniformly characterize the inferential roles of quantifiers.¹¹ There are, of course, substantial worries that one may have about the feasibility of inferential role semantics (see Williamson 2003 & 2007). However, I wish to set aside the neutralist's semantics, and focus on her philosophy.

The neutralist's philosophical claim is a natural one. Moving from a non-quantified claim to a quantified one seems to be legitimate regardless of whether predicates are committing or not, and furthermore, the commitments incurred by quantifying seem to be just those commitments already present before quantification. Rayo and Yablo put this thought nicely:

If predicates are noncommittal, one might think, the quantifiers *binding* predicative positions are not committal either. After all, the commitments of a quantified claim are supposed to line up with those of its substitution instances. (2001: 79)

This philosophical claim actually seems implicit in much of our reasoning. From the claim that predicate quantification is committing, we infer that predicates generally carry ontological commitment. The reason that the neutralist's philosophy is of use to the nominalist is that it allows her make an important dialectical point against the argument from predicate quantification. The point is that, in the face of predicate quantification, there is little reason to favor a

¹¹The challenges stem from the fact that we must limit our inferential schemes to account for non-denoting and complex terms. Roughly, we want to block inferences based on non-denoting terms as well as block the independent support of inferences that may derive from complexity, as opposed to mere quantification. If we take into account disanalogies between non-predicates and predicates, then the differing inferential roles given may undermine a uniform account.

committal view of quantification and predication over a non-committal view of both. The simple observation that predicate position can be quantified into, independent of strong reason to think that quantification must be ontologically committing, provides us with no reason to favor a ontologically committing account of predication. It simply shows us that if we don't favor a committal account of predication then we will have to come up with an adequately non-committal account.

Of course, this move only aids the nominalist if one thinks that the prospects for a non-committal account of quantification are promising. However, as already mentioned, there are a number of such accounts on offer in the literature. Their existence is exactly what leaves the argument against nominalism from quantification in a precarious position. In order to defend the argument, one must undermine all extant non-committal accounts, as well as give a principled reason that no other such account can succeed. This is surely a Herculean task, and the demand of such a task severely weakens the argument from quantification.

3.3.3 Looking Forward

For the reasons just outlined, arguing against nominalism purely from considerations about quantification is ill-advised. Such considerations, if they were to be fully defended, would have to be grounded in an independent conception of quantifiers as ontologically committal. This would take us quite far off the present topic.

The neutralist's philosophical claim comes with a slogan: quantification con-

sists in generalization of semantic role. This suggests a more direct route towards arguing against nominalism: argue on independent grounds that the semantic role of predicates requires that they denote. Such arguments need not rely on substantial theses about quantifiers, and they would not be susceptible to the same weaknesses as the argument from quantification. It is for just these reasons that I pursue such arguments in Chapter 5 in which I argue that consideration of predicates, in and of themselves, reveals that they carry ontological commitment.

CHAPTER 4
EXPRESSIBILITY PROBLEMS

4.1 Frege and Beyond

Famously, Frege hit a wall when attempting to discuss predicate reference.¹ His exclusive distinction between concepts and objects, when conjoined with the thesis that the former are uniquely suitable for predicate reference and the latter are uniquely suitable for non-predicate reference, leads to a problem. The problem is that Frege's thesis seem to undermine our ability to discuss the semantics of predicates. To see this, assume that we want to discuss the referent of a predicate, e.g. "horse". In order to do this, it is natural to attempt to introduce a non-predicate that refers the predicate's referent, e.g. "the concept *horse*". Unfortunately for Frege, his semantic theses undermine such a move. It seems, then, that we are left without the terms we need in order to adequately discuss the semantics of predicates. This is a rough version of what is known as "the concept *horse* problem".

The entity theorist shares Frege's claim that there is some class of denotations such that it is both necessary and sufficient for a term, or term-occurrence, to be a predicate that that term or occurrence denotes an entity in the class. This forces them into the same corner as Frege. Any attempt to use a non-predicate to refer to the denotation of a predicate is doomed to failure. Like Frege, the entity theorist seems to lack the resources to adequately discuss the semantics of predicates. Ultimately, I will argue that this problem gives us reason to reject the entity view. In service of this argument, I will attempt to provide a greater

¹The most famous and relevant passage is pp. 182-185 of his (1892).

understanding of Fregean expressibility problems.

The problems have engendered the full range of reaction. On the one hand, some think that Frege's concept/object distinction is deeply misguided and the resultant problems are avoidable.² On the other hand, some think that the distinction reflects the true nature of logical categories and, as such, some expressibility problems are unavoidable.³ Interestingly, what's missing from the literature are non-historical discussions of the problem's implications. One of my four goals will be to remedy this.

My discussion is divided into four parts: one for each goal. I'll begin by discussing the concept *horse* problem as it arises in Frege (section 4.2). As will become clear, speaking in the singular is misguided. There are several problems in the neighborhood and I will attempt to identify the most important two, as well as their source. I'll then move beyond Frege and examine the semantic assumptions that lead to the problem (section 4.3). Surprisingly, these assumptions are not as wedded to Frege as one may have thought. Concept *horse*-style problems arise from a pair of plausible and commonly held semantic assumptions. After explaining and motivating these assumptions, I'll turn to responses to the problem that are compatible with these assumptions and argue that these responses are all highly problematic (section 4.4). I'll conclude by considering the implications of the problems (section 4.5). My conclusion will be that we should embrace a semantics of predication that is richer than usual. This will push us towards rejecting the entity view and embracing the ascription view.

²E.g. Burge (2007) pg. 19-21.

³E.g. Proops (forthcoming)

4.2 The Concept *Horse* in Frege

4.2.1 A Breach of Custom

The concept *horse* problem is so-called because of an example Frege used in responding to his critic Kerry. Kerry objects to Frege's claim that concepts and objects are mutually exclusive; according to Kerry, there must be some entities that are both concepts and objects. To argue for this, Kerry employs Frege's own criteria for objecthood and concepthood. According to Frege, it is both necessary and sufficient for something to be an object that it is the referent of a non-predicate; for something to be a concept it is both necessary and sufficient that it is the referent of a predicate. These conditions, along with the mutual exclusivity of concept and objects, create trouble when we try to discuss predicate referents with non-predicates. For instance, if we try to use "the referent of 'horse'" to refer to the referent of "horse", then it seems we have a non-predicate that co-refers with a predicate. Kerry thinks that such reference is possible and that its possibility, along with Frege's criteria for concepthood and objecthood, leads Kerry to reject the disjointness of concepts and objects and, *ipso facto* claim that some entities are both concepts and objects.

Frege demurs. He agrees that *if* it were possible to discuss predicate referents with non-predicates, then Kerry's conclusion would follow. However, Frege denies the antecedent. He thinks that it is impossible to refer to predicate referents with non-predicates. This leads him to say counterintuitive things about non-predicates that *seem* to co-refer with predicates. In particular it leads Frege to assert the bizarre claim that the concept *horse* is not a concept. The explicit path to the bizarre claim is as follows:

1. "The concept *horse*" refers to an object. (Frege's criterion for objecthood.)
2. No object is a concept. (Frege's claim of mutual exclusivity.)
3. "The concept *horse*" refers to the concept horse. (Disquotation about reference.)
4. The concept *horse* is an object. (1,3)
5. Therefore, the concept *horse* is not a concept (2,4)

5 is bizarre. To see this, compare it to such sentences as "the city of Berlin is not a city", "the bug on my rug is not a bug", and "the smallest leaf is not leaf". Perhaps there are non-literal uses of each of these sentences that express truths, but we'd be hard pressed to agree that the sentences, when used in a normal and literal manner, are true. Following Proops, we'll call this problem "the custom-breach problem". The custom is that any definite description of the form "The F x is an F" is true (or at least non-false).⁴ Frege, for reasons made explicit by Kerry, is forced to breach this custom.

The custom-breach problem is frequently discussed. It is likely the problem people have in mind when using the phrase "the concept *horse*". This is unfortunate because the custom-breach problem is shallow, at least relative to other problems in the vicinity. In arguing for this I again follow Proops.

Broadly speaking, there are two strategies for disarming the custom-breach problem. The first is to successfully argue that "the concept *horse* is not a concept" is relevantly disanalogous to a statement like "the city of Berlin is not a city". The relevance of the disanalogy would be that embracing the former is acceptable, while embracing the latter is not. The idea is that the custom of

⁴I add the caveat for non-falsity to cover the case of non-denoting definite descriptions. Intuitively, "The happiest invisible man is invisible" is not true but it is also not false.

treating sentences of the form \ulcorner the $F \times$ is $F \urcorner$ as true (or non-true) doesn't extend to sentences of the form \ulcorner the concept X is a concept \urcorner . If the custom does not extend, it cannot be breached. The second is to argue that the above argument fails somewhere and, despite what he seemed to think, Frege is not committed to endorsing the claim that the concept *horse* is not a concept.

The seeds of each strategy can be found in Frege's own writing. In the following passage from "Comments on Sense and Meaning" (1892-1895), he endorses the first. Here he argues that definite descriptions of the form \ulcorner the concept $X \urcorner$ are disanalogous to ordinary definite descriptions precisely because the entities that they purport to describe are unsaturated, i.e. they have the predicative nature that ensures they cannot be denoted by non-predicates. In his own words:

One would assume, on the basis of its analogy with other expressions, that if I say 'the concept *equilateral triangle*' I am designating a concept, just as I am of course naming a planet if I say 'the planet Neptune'. But this is not the case; for we do not have anything with a predicative nature. Hence the referent of the expression 'the concept *equilateral triangle*' (if there is one in this case) is an object. We cannot avoid words like 'the concept', but where we use them we must always bear their inappropriateness in mind. (1979: 119-120)⁵

The idea is that definite descriptions of the form \ulcorner the concept $X \urcorner$ are non-standard precisely because the predicate "concept" does not operate analo-

⁵I have slightly modified the translation. In this volume 'Bedeutung' is translated as 'meaning', rather than as 'reference', as it is in other translations of Frege. The latter translation better coheres with my discussion, so I have modified the passage accordingly. I do not mean to be taking a stand on Frege translation, I mean simply to use the translation that best suits my philosophical aims.

gously with other predicates. “Concept”, if it is true of anything, is true of entities that can serve as the denotations of non-predicates: objects. For this reason, “concept” is disanalogous to ordinary predicates such as “planet”, *ipso facto* the description “the concept *horse*” is disanalogous to “the planet neptune” and the sentence “the concept *horse* is a concept” is disanalogous to “the planet neptune is a planet”.

From within Frege’s framework, the disanalogy between “concept” and ordinary (first-order) predicates seems well justified. After all, “concept”, at least in its logical sense, is employed in an attempt to express thoughts that it is linguistically unsuitable to express.⁶ Ordinary predicates, by contrast, are linguistically well-suited for employment in expressing the thoughts they are intended to aid in expressing.

Despite the fact that it is well-motivated, this strategy has its complications. In particular, it will not be easy for Frege to articulate the nature of the disanalogies at issue. However, even without a satisfactory articulation of the disanalogies, Frege does have good reason to claim they exist. This, by itself, gives Frege reason to doubt that the custom of affirming \ulcorner the F x is F \urcorner extends to definite descriptions of the form \ulcorner the concept X is a concept \urcorner .

The second strategy is to block the argument from Fregean premises to the claim that the concept *horse* is not a concept. If this can be successfully pursued, then Frege does not even *prima facie* breach any custom. In his discussion of the sentence “The concept *square root of 4* is realized”, Frege provides us with the raw materials to develop such a strategy:

⁶In the first few pages of “On Concept and Object”, Frege admits that there are two senses of “concept”: one logical and the other psychological. His focus is on the logical sense and he criticizes Kerry for wrongly focussing on the psychological sense.

If, on the other hand, we substitute the name 'Julius Caesar' for the proper name formed from the first six words of the sentence 'The concept *square root of 4* is realized', we get a sentence that has a sense but is false; for that so-and-so is realized (as the word is being taken here) is something that can be truly said only concerning a quite special kind of objects, viz. such as can be designated by proper names of the form 'the concept *F*'. (1892: 189)

The idea is that a definite description of the form "the concept *F*" does not denote a concept: it denotes an object. The object that it denotes, however, is a proxy for the object that we *wish* to use the definite description to denote. Thus, the things that we wish to assert about the concept, e.g. that it is realized, can be truly asserted of this proxy object.

I will return to this idea in greater detail both later in this chapter and in the next. For now, the only important point is that this semantics for definite descriptions gives us motivation for denying premise 3 and blocking the argument. Since "the concept *F*" denotes a proxy object, all and only those predicates that intuitively apply to the concept will true apply to the proxy object. It will then be false that the concept horse is an object.

The lesson is that Frege has the resources to avoid the breach of custom in at least two distinct ways. Discussing these in a fully satisfactory manner would take quite a bit of additional energy. The energy would be misplaced, however, because even if the breach of custom could be avoided, deeper problems remain.

4.2.2 Expressibility Problems

Escaping the custom-breach problem will allow Frege to avoid asserting something bizarre. However, in discussing the semantics of predication our goal isn't simply to avoid the bizarre. Our primary goal is to articulate and circumscribe a true theory. More specifically, we wish to correlate specific predicates with their referents (and perhaps also their senses), characterize the nature of those referents (and senses), and generalize about both predicates and their referents (and senses). As is generally true, full characterization not only requires endorsements, but also denials. In Frege's case, predicate referents are concepts and they *aren't* objects.

Why do we wish to do these things? One reason is that, *qua* linguistic theorists, we are attempting to construct theories that capture the true nature of linguistic representation. Naturally, these theories will contain claims about the nature (and non-nature) of predicates. In a fairly typical semantic theory, for example, we have axioms that align predicates with their denotations (“‘wise’ denotes wisdom”). We want our claims about predicates not only to be true, but also to be comprehensive and relevant. Furthermore, on many views about the nature of semantics, semantic theories do not merely characterize meaning. In addition, they reveal the mental processes that underlie linguistic understanding and computation. If this is the case, then articulating facts about predicate semantics will be necessary to understanding such mental processes.⁷

Even if one of the two strategies mentioned in the last section allows us to escape the custom-breach problem, Fregean troubles remain. This is because

⁷The relationship between semantics and cognition is highly controversial. See Chomsky (2000) and Pietroski (2005b) for arguments that semantics and cognition are intimately related, see Devitt (2006) for a defense of the view that they aren't, or at least needn't be.

general features of the Fregean view seem to prevent articulation of claims about predication. To see why, consider a simple sentence that purports to align a predicate with its denotation.

(1) "Wise" denotes wisdom.

According to Frege, (1) cannot be true. "Wisdom" is a singular term and, as such, it denotes an object, if it denotes at all. "Wise", on the other hand, is a predicate and it denotes a concept, if it denotes at all. No concept is an object, so "wise" cannot denote wisdom. The problem is that in our effort to specify the denotation of "wise" we have employed the singular term "wisdom". The problem generalizes. Consider the following claims:

(2) Every concept is unsaturated.

(3) The referent of "wise" is a concept.

(2) and (3) seem equally as problematic as (1). "Every" standardly combines with two first-order predicates, as in "Every dog is happy", which is true just in case every object that is a dog is also a happy object. The problem is that, in (2), "every" is provided with the predicates "concept" and "unsaturated" which are either true of nothing or don't express what we want them to. This prevents either the truth of (2) or its success in capturing the intended thought. Similarly, "the referent of 'wise'" is a singular term (we will question this claim later) and, as such, it cannot refer to the denotation of a predicate. This prevents the truth of (3). However, Frege's very own semantic theses seem to entail the truth of both (2) and (3). We are at an impasse, Frege's theses seem to simultaneously entail particular meta-linguistic propositions, as well as entail their falsity.

In articulating these problems I have painted with a broad brush. Much of the rest of the chapter will be dedicated to sharpening. I'll be concerned with the nature, scope, and extent of Fregean expressibility problems. Already it is worth distinguishing between two types of expressibility problems, which are found in Proops' taxonomy.

The first type of expressibility problem is what Proops calls "self-stultification". The problem is that Frege's semantic theses prevent their very own articulation. This type of problem has already been displayed in (2) and can be seen even more clearly by considering (4).

(4) The concept *horse* is not an object.

(4) is a claim that Frege would endorse, at least in informal discussion. (4) is the type of claim that allows Frege to articulate his proposals about the semantics of predicates. The problem with (4), and Fregean semantic theses quite generally, is that they are self-undermining. Relying on Fregean theses about predication, we can deduce the falsity of any one of his theses. An argument of this sort precedes as follows:

1. The concept *horse* is not an object. (for *reductio*)
2. Singular terms denote objects.
3. "The concept *horse*" is a singular term.
4. "The concept *horse*" denotes the concept horse
5. The concept horse is an object.
6. \perp

The problem stems from our efforts to refer to predicate referents by using definite descriptions, or other non-predicates. The resources we employ—non-predicates—ensure that we cannot refer to the denotations of predicates; our own efforts stultify their success.

The second type of expressibility problem is what Proops calls “the frustration of referential intentions”. The thought is that whether or not Frege’s theory is correct, Frege certainly believes it. The problem is that the form in which he attempts to communicate his beliefs prevents their own communication. While this problem is highly related to self-stultification, the two can be distinguished as follows. Frege’s theses are self-stultifying because their articulation ensures their falsity. This is a feature shared by any internally inconsistent theory. Frege’s theses frustrate his referential intentions because he cannot successfully communicate his beliefs, whether or not these beliefs are true or coherent. In Frege’s own terms:

I admit that there is a quite peculiar obstacle in the way of an understanding with my reader. By a kind of necessity of language, my expressions, taken literally, sometimes miss my thought; I mention an object, when what I intend is a concept. I fully realize that in such cases I was relying upon a reader who would be ready to meet me halfway – who does not begrudge a pinch of salt. (1892: 192)

The two problems are highly related. Natural language seems to force Frege to use terms unsuitable for conveying his own thoughts. These unsuitable terms then lead to inconsistency. For Fregean theses to be successfully articulated, Frege needs to utilize language that both captures his thoughts and allows for internal consistency. I’ll use the umbrella term “expressibility problems” to de-

note both the problem of self-stultification and the frustration of referential intentions. Occasionally, however, it will be useful to distinguish the two.

4.2.3 Misdiagnosis

The problems of self-stultification and frustration of referential intentions remain even if Frege can avoid a breach of custom. Before evaluating these problems, it will be useful to identify their source. In recent discussions, Wright (1998) and MacBride (2006) have emphasized the importance of Frege's views about intersubstitutability, which are captured in what they call "the reference principle".⁸ In this section I'll argue that this emphasis on the reference principle is misplaced. Fregean expressibility problems go deeper than the reference principle because they arise even if it is false, which it is. Understanding why the reference principle is not at the root of expressibility problems will help us understand what is at their root, which will be the topic of the next section. In this section I'll argue that the reference principle is false and in the next section I'll demonstrate that expressibility problems arise even in its absence.

The Reference Principle: Co-referring terms are intersubstitutable *salva veritate* and *salva congruitate*.

The principle contains two parts. The first is that co-referring expressions are intersubstitutable *salva veritate*, i.e. preserving truth-value. The second is that

⁸In his formulation of the reference principle, Wright adds the caveat "at least in extensional contexts". He then claims, and Oliver (2005) agrees, that the semantic portion of the principle becomes trivial. The triviality would arise if we have no conception of the intensional/extensional distinction independent of intersubstitutability. This seems doubtful to me, intensional contexts are created by means of a specific class of linguistic devices, and it seems to me that understanding the nature of this class need not proceed by facts and inter-substitution, however useful such facts are for demarcating the class.

co-referring expressions are intersubstitutable *salva congruitate*, i.e. preserving grammaticality. The two parts are related. Preservation of truth-value requires preservation of grammaticality because ungrammatical phrases are not truth-evaluable. The converse is not true: preservation of grammaticality does not require preservation of truth-value. For example, when we move from “Russell was German” to “Frege was German”, our substitution preserves grammaticality but changes truth-value.

Strict adherence to the reference principle, along with the (alleged) observation that non-predicates and predicates cannot ever be intersubstituted *salva veritate* and *salva congruitate* forces us to the conclusion that non-predicates and predicates can never co-denote. This was one of Frege’s motivations for adhering to the concept/object distinction. Whether or not the reference principle is the primary source of Frege’s adherence to the concept/object distinction, its importance has been overemphasized in discussion of expressibility problems.⁹

There are two types of counterexamples one could give to the principle. On the first type, substitution of co-referring terms yields a change in grammaticality and, *ipso facto* a change in truth-value. The change would not be a change from true to false, or vice-versa, but, rather from either truth or falsity to non-evaluability. On the second type, substitution of co-referring terms yields a change in truth-value while maintaining grammaticality. As Oliver shows, the first type of counterexample is easy to come by:

(5) Clever Crispin solved Frege’s paradox.

⁹There is at least one other reason that Frege is motivated to make the concept/object distinction: to account for the unity of the proposition. He writes, for example, “For not all the parts of a thought can be complete; at least one must be unsaturated or predicative; otherwise they would not hold together.” (1892: 193)

(6) #Clever the reference of “Crispin” solved Frege’s paradox.¹⁰

(7) I am hungry.

(8) #Me am hungry.

These examples undermine the syntactic portion of the reference principle. They show that a term’s syntax is not wholly determined by its reference. This comes as no surprise to syntacticians who routinely identify syntactic features that are referentially impotent. For instance, “I” differs from “me” is its case-marking. As far as reference goes, however, case-marking is inert.

Counterexamples of the second type, if they exist, are elusive. One thought, endorsed by MacBride(2006), is that intensional contexts provide us with uncontroversial counterexamples. It is often accepted (though not uncontroversial) that distinct proper names which standardly co-refer cannot be inter-substituted *salva veritate* in intensional contexts, though they surely can be inter-substituted *salva congruitate*. However, even if standardly co-referential proper names cannot be inter-substituted *salva veritate* in such contexts, this need not undermine the reference principle. Frege claims that proper names in intensional contexts refer to their ordinary senses. This claim allows us to *retain* the reference principle. Similar things can be said about quotational and indirect contexts. Of course, plenty of theorists disagree with Frege and claim that proper names refer to their ordinary referents even in intensional contexts.¹¹ These theorists, however, often claim that, despite appearances, substitution of co-referential proper names preserves truth-value even in intensional contexts. What’s interesting about these moves is that the semantic portion of the ref-

¹⁰Oliver 2005: 182

¹¹This is currently the dominant view. See Salmon (1986) and Soames (2002) for influential defenses.

erence principle is held sacrosanct to the point that semanticists are willing to make major modifications to their theories in order to preserve it.

Of course, one may claim that occurrences of names in intensional contexts refer to their ordinary referents *and* deny that they can be inter-substituted *salva veritate*. Such a theorist must countenance another facet of meaning, e.g. a mode of presentation, that accounts for this failure. On this type of theory the failure of the reference principle is most interesting because it leads to the claim that the truth-value of a sentence is not wholly a function of the referents of its sub-sentential constituents.

In general, any time a semanticist is faced with a purported counterexample of the second type she may choose to complicate her semantics and claim that, in the relevant context, standard reference is suspended. This, of course, makes it impossible to find a decisive counterexample of the second type. It also exhibits the asymmetry between the clauses of the reference principle. When faced with a counterexample of the first type, syntacticians surely cannot claim that, despite appearances, sentences such as (8) are grammatical. This would be absurd: some facts about grammaticality can't reasonably be denied. Facts about the semantics of sub-sentential constituents, on the other hand, are not obvious and, for this reason, easier to deny.

According to MacBride, the reference principle is motivated by Frege's insight that the truth-value of a sentence does not, in general, change, merely by changing the *way* that we refer to something. This insight may be retained even if the reference principle is rejected. On the first type of counterexample, substitution of co-referential expressions took us from a grammatical sentence to an ungrammatical string. In virtue of its ungrammaticality, the string does not

have a truth-value. The string, however, may still be interpretable: the meanings of the string's constituents may be semantically combinable. If the result of such a combination would lead to the same truth-value as the pre-substitution sentence, then Frege's insight can be preserved.

If we were to find a counterexample of the second type: a case in which grammaticality was preserved but truth-value was not, then we could show that truth-value was not merely a function of reference. However, we have seen that such an example is certainly not easy to come by. So while such examples may be argued over, it is not clear that, at the end of the day, Frege's insight will have to be sacrificed along with the reference principle.

The ultimate status of the reference principle, while interesting, is orthogonal to the issues at hand. The upshot of this discussion is that the reference principle is false. If it were the source of expressibility problems, then we'd expect those problems to fade away with the principle. As, I'll now demonstrate, they do not. It follows that the problems cannot be sourced to the principle.

4.2.4 Diagnosis

If it were true, the reference principle would deliver a pair of relations between expressions: inter-substitutability *salva veritate* and *salva congruitate*, as entailed by another relation: co-denotation. In order to derive expressibility problems, we do not require a *relation* between expressions. Rather, we require a *property* of expressions—predicativity—showing up where we don't want it. The predicative status of an expression, according to Frege, is completely determined by that expression's denotation. If we conjoin this Fregean tenet with the claim that ar-

articulating semantic theses about a predicate P requires the *use* of a non-predicate that co-denotes with P, expressibility problems follow. To see why articulating semantic theses about predicates requires recourse to such non-predicates, begin by considering three claims about “Frege” and Frege.

C1: “Frege” denotes Frege.

C2: Frege is an object.

C3: Frege is suitable to be the denotation of a non-predicate.

C1 is a specification of the denotation of “Frege”. The sentence we use to articulate C1 contains three meaningful parts. First, we use the expression “Frege” to refer to the expression “Frege”. Second, we use the expression “denotes” to express the 2-place denotation relation. Third, we use the expression “Frege” to refer to Frege himself. I’ll assume what’s fairly uncontroversial: that neither “Frege” nor “Frege” is a predicate. This teaches us something about “denotes”: that each of its arguments *can* be a non-predicate. When we consider sentences like (9) and (10), we learn a stronger lesson: that each argument of “denotes” *must* be a non-predicate. An attempt to provide “denotes” with predicates as either of its arguments will produce an ill-formed string.

(9) **“Wise”* denotes wise.

(10) **Wise* denotes wisdom.

This lesson about “denotes” doubles as a lesson about denotation specification. Assuming that specification of denotation requires the verb “denotes”, and I’ll return to this assumption, we can never *use* a predicate in order to specify its own denotation. Such an attempt will result in a type-mismatch: the term

“denotes” will be provided with a predicate and a non-predicate when, in fact, it requires two non-predicates. (9) is an example of such an offending sentence. (9) is both ungrammatical and uninterpretable and, *ipso facto*, fails as a specification of predicate denotation.

Similar remarks apply to C2 and C3. Our articulation of C2 contains the predicate “is an object” which requires one non-predicate argument, in this case Frege. C3 contains the predicate “is suitable to be the denotation of a non-predicate” which also requires one non-predicate argument.

C1-C3 express semantic theses about a non-predicate and semantically relevant facts about its denotation. We’ve shown that their articulation requires the use, not merely mention, of non-predicates. Any attempts to form similar sentences about predicates must proceed by using those very predicates: we will not be able to use predicates in the same way, rather we require non-predicates to stand in for predicates. This is why articulation of semantic theses about predicates requires the use of co-denoting non-predicates

This observation, conjoined with Frege’s central thesis about predication: that denotation dictates predicative status, is sufficient to generate expressibility problems. Here’s how. Assume we wish state the denotation of the predicate “wise”. As we observed in our discussion of C1, “denotes” requires two non-predicates as arguments. The first argument is easily provided: we can use the term “wise”. The second argument, however, is not so easily provided. We cannot use the predicate “wise”, an attempt to do so will lead to the incomprehensible (9). What we need is some non-predicate that co-denotes with “wise”. However, for Frege, “wise” is a predicate, so we know that it denotes a concept. According to Frege, if a term denotes a concept then it must be a predicate. It

follows, then, that no other type of term can be used to specify the denotation of “wise”. Any attempt to specify the denotation of “wise” is bound to fail because there is no non-predicate we can properly use.

Similar remarks apply to attempts to articulate theses about predicates that mirror C2 and C3. It may be thought that Frege is better off in these cases because he never wants to truly say that predicate denotations are objects, or that they can be the referents of non-predicates. However, this does little to mitigate the problem. After all, he will still want to falsely say these things or at least say that they are false. The unsuitability of predicates for such a role, combined with Frege’s tenets, guarantees, that no term whatsoever could be suitable.

The lesson is that merely two claims are required to generate problems for expressing claims about predicate denotation. I’ll label these FC and DS.

FC: A term’s predicative status is wholly determined by its denotation.

DS: Denotation specification for predicates requires the *use* of non-predicates that co-denote with predicates.

Cousins of DS generate additional expressibility problems when conjoined with FC. If, for instance, the predicate “is a concept” requires a non-predicate argument, then to label something a concept we need a non-predicate that refers to that thing. FC ensures that no such non-predicate that refers to a predicate referent is forthcoming. The result is that we cannot express claims about predicate referents being concepts. *Mutatis mutandis* for other expressibility problems. That expressibility problems generalize beyond DS can be captured with GS.

GS: Articulating semantic theses about predicates requires, at least in a substantial number of cases, the *use* of non-predicates that co-denote with predicates.

FC and GS are sufficient to generate expressibility problems in their full generality. Assessing the exact extent of this generality would require case-by-case examination of the types of constructions we wish to use to articulate claims about the semantics of predicates. Given examples 1-3, it is safe to assume that these cases are numerous and pervasive. If these cases are numerous and pervasive, then, given FC, it will follow that expressibility problems are as well.

4.3 Relevance

Thus far I've followed almost all other extant discussions of the concept *horse* problems and focused primarily on Frege. This is shortsighted. Given GS, concept *horse* style expressibility problems arise for all of theorists who endorse FC, or a relevantly similar claim. As it turns out, this is nearly everybody. I'll first show that semanticists broadly in the tradition of Montague endorse FC. I'll then turn to a very general motivation for FC. As it turns out, FC follows from some mundane and plausible assumptions.

4.3.1 Montague-style Type Theory

Semanticists in the tradition of Montague (1974) assign semantic values from a type-theoretic hierarchy.¹² On the simplest form of such a theory, there are two basic types: $\langle e \rangle$ (for entity), and $\langle t \rangle$ (for truth-value). Complex types are derived by ordered pair formation: any ordered pair of types is itself a type. More complicated type theories add basic types for additional categories, e.g. possible worlds and times. Without delving into complications, e.g. Montague's treatment of all noun phrases as type-identical, it is natural to assign type $\langle e \rangle$ to referential terms, and type $\langle t \rangle$ to truth-apt sentences. More complex types are assigned to predicates that map entities to truth-values, and combine with non-predicates to form sentences. For example, "swims" is assigned type $\langle e, t \rangle$: swimmers are mapped to truth and non-swimmers are mapped to falsity.¹³ As far as our discussion is concerned, the relevant feature of a Montague-style type theory is that, according to such a theory, a term's predicative status is completely determined by its denotation, i.e. FC. If a term denotes an entity or a truth-value, then it is a non-predicate. If a term denotes a complex type, such as $\langle e, t \rangle$, then it is a predicate.

There are two complications that I slid over. The first complication arises from the difference between giving a semantics and constructing a semantic model. Distinguish two aims for a semantic theorist. The first is to give a theory that accurately captures the meanings of natural language expressions. The claims made on such a theory will be of the form $\ulcorner x \text{ means } y \urcorner$ where x is replaced

¹²Given the degree to which Montague was influenced by Frege, it may not be surprising that theorists in the Montague framework face expressibility problems. Whether or not the observation is surprising, it is certainly often ignored.

¹³This example is just a toy. There are all sorts of complexities that may affect which type we assign to "swims"; I ignore them here.

by a meaningful term of the language under consideration and y is the meaning of x . The second is to give a *model* of such meanings. We can intuitively capture the distinction by considering the function of models more generally. Models allow us to abstract away from the vagaries of the actual phenomenon, and make predictions about the phenomenon in question without giving a full account of that phenomenon. I take it that modeling is useful for all types of inquiry. For instance, we can model a physical interaction by abstracting away from the actual features of the interaction that produce “noise” when trying to construct a theory.

Frege, in giving his theory of predication, seems to have the first aim while many type-theorists in the Montague tradition seem to have the second aim.¹⁴ A type-theorist, then, may claim that expressibility problems are to be expected: the model theory comes up against its limits when we attempt to do complicated things such as model metalinguistic constructions. Models, she may insist, just aren’t rich enough to handle such constructions. This move is fine as far as it goes, but it is important to note that it makes a major concession: it is tantamount to admitting that the model-theory favored by type-theorists is inadequate for modeling substantial portions of natural language.

The second complication is that I have assumed that a type-theoretic meaning assignment is the same as a type-theoretic denotation assignment. This is a bit quick. One may argue that “swims” is assigned type $\langle e,t \rangle$, though it does not denote a function of this type. As far as I can tell, this move does not change

¹⁴There are a number of reasons that Montague style type theorists may wish to provide semantic models rather than meanings themselves. To mention one, there is a Benacerraf (1965) style worry about taking (some) meanings to be ordered pairs. Given that there are a number of equally admissible ways to build ordered pairs, it would seem to be the case that meanings are indeterminate between these several candidates. However, the nature of meanings does not seem to admit such indeterminacy. See King (2007) for an argument against identifying propositions as ordered tuples.

the dialectic. It remains the case that terms are assigned (perhaps relative to a model) extra-linguistic entities. On such an assignment, a term's predicative status is wholly determined by its assigned entity. Expressibility problems will arise when we attempt to assign complex types to proper names: this assignment will result in a predicate where we don't want it.

Neither of these complications undermine the relevant point. Type theorists in the Montague tradition, a group which includes the vast majority of contemporary natural language semanticists, all endorse the same basic claim from which concept *horse* style expressibility problems can be generated. Since such problems afflict many more than Frege, it has been an oversight to focus solely on Frege when discussing them.

4.3.2 General Motivation

In fact, expressibility problems are even more general than I've suggested so far. Given GS, such problems arise on any theory that endorses FC. FC, in turn, is easy to argue for: it arises from two plausible assumptions. The first assumption is optimism about characterizing predicates. The optimist thinks that there is a semantic feature that uniquely characterizes predicates. Arguing for this without a substantial view of predication is hard, but the considerations I gave in Chapter 2 should lead us to adopt optimism as a working hypothesis. The second assumption is that a meaningful term's contribution to argument structure is fully captured by its denotation. This assumption can be supported in two ways. To understand the first way of supporting the assumption consider the makeup of familiar semantic theories. Our standard method of con-

structuring a semantic theory is to identify a denotation for each term and then specify some general rules of semantic composition. On such a picture, the argument structure of sentences depend on the type of denotation possessed by their sub-sentential constituents. To understand the second way of supporting the assumption consider semantic theories on which denotation does not exhaust meaning. On a Fregean theory, for instance, words have senses as well as referents. Senses are given a number of jobs: (1) they determine reference, (2) they serve as referents in intensional contexts, and (3) they contribute to the cognitive content of the thoughts expressed by sentences.¹⁵ The important point is that none of these roles are directly related to argument structure. Similar remarks go for the additional entities invoked by other semantic theories, e.g. primary and secondary intensions, course-grained propositions, etc. Whatever jobs these are usually put to, they have nothing to do with argument structure. The basic idea is that familiar semantic theories, no matter how complicated, tie argument structure directly to denotation.

I have taken pains to motivate this second assumption but, ultimately, I will argue that it is false. According to the view I defend—the ascription view—a term’s contribution to argument structure consists in what it denotes as well as *how* it denotes: there are multiple ways to denote and this is how we distinguish predicates from non-predicates. Though I claim that the second assumption is false, it should be fairly clear that it is *prima facie* appealing. To undermine it is to identify some other source of argument structure beyond correlation with extra-linguistic entities, and such identification is bound to be both challenging and controversial.

These two assumptions lead directly to FC. Here’s how. If we assume opti-

¹⁵Salmon (1981) critically discusses the different roles played by Fregean sense.

mism (assumption 1) then there is some semantic feature shared by all and only predicates. Given that a term's contribution to argument structure is wholly dependent on its denotation (assumption two), the only facet of meaning that predicates can share is their denotation. Therefore, there must be some class of entity that guarantees predicative status. There is one small complication: this argument leaves open the possibility that the class that of meanings that guarantees predicative status could be the empty class and, therefore, that predicates are united by *not* denoting. However, given the fairly uncontroversial assumption that there are non-denoting names, this route will be closed off.

What's now brought into relief is that expressibility problems were not brought on by a misguided or archaic thesis of Frege's. Their root in FC, coupled with the observation that FC is entailed by assumptions that the vast majority of theorists find plausible, makes it clear that the problems remain relevant and interesting. I'll now move on to assessing their severity. A terminological note: despite moving beyond Frege, I'll continue to use "concept" as a general term for predicate denotations. "Concept", as I use it, should be tied explicitly to FC but not to Frege's particular ontological claims about predicate denotation.

4.4 Depth

We are left with three options: (1) escape expressibility problems by rejecting FC, (2) escape them by rejecting GS, or (3) embrace them. As I've already mentioned, I think that expressibility problems push us to option 1. In this section, I'll focus on critical assessment of option 2. I will largely set aside option 3, as I take it to be the least appealing option. However, some remarks on it are in order.

4.4.1 Ineffability

Those who embrace option 3 think that, due to the limits of language, truths about predicate semantics are ineffable. At least in some form, this view is embraced by Frege when he claims that “By a kind of necessity of language, my expressions, taken literally, sometimes miss my thought” (1892: 192). There is a tradition of interpreting Frege as embracing substantial ineffability, which dovetails with historical work on nonsense in Wittgenstein’s *Tractatus*.¹⁶

Broadly speaking, there are two ways that one may try and embrace option 3. First, one could claim that the problem is *merely* linguistic. On this view, the linguistic limits that prevent us from articulating claims about predicate semantics are *not* mirrored in the realm of thoughts; there are perfectly coherent thoughts about predicate semantics, however, due to the limits of language, we cannot successfully construct sentences that express these thoughts. Second, one could claim that the problems extend to the realm of thought as well; due to the nature of logical categories—both in language and thought (and perhaps elsewhere)—we can neither speak nor think about predicate semantics in the way we wish. I’ll tackle these in reverse order.

The second strategy is considerably more radical than the first and this leads to trouble. On a common view of the nature of semantics, semantic theories are cognitively internalized by speakers. A theory will, among other things, specify the meanings of fundamental lexical items as well as the manner in which the meanings of non-fundamental items are calculated from them. The idea is that understanding language consists of grasping the tenets of such a semantic

¹⁶See Geach (1972), Diamond (1991), and Conant (2000).

theory.¹⁷ In light of this view about the nature of semantic theories and understanding, the problem with the second view becomes clear. If truths about predicate semantics cannot be thought, then speakers cannot employ such truths in linguistic understanding. The second strategy, then, is incompatible with such a view.

There is a more general reason to be wary of the second strategy. It leads straightforwardly to skepticism about the possibility of a semantic theory for predicates, either in language or in thought. Without extremely good reason, we should avoid such skepticism. What would a good reason be? Even assuming FC and GS doesn't lead us to anything so radical. After all, the first strategy is compatible with FC and GS.

The first strategy is more conservative and, as such, avoids both thoroughgoing skepticism about predicate semantics as well as incompatibility with the view of semantic theories as cognitively internalized. Its biggest problem is the explanatory debt it incurs. It is appealing, and fairly standard, to think that the structures of thoughts are isomorphic to the structures of sentences that express them. Embracing the first strategy requires embracing the claim that certain thoughts, by a matter of necessity, have no linguistic analogues. To support this view, the disanalogy between thought and language must be fleshed out. How this can be done in a way that vindicates the ineffability claim is mysterious.

There is certainly much more to be said about the ineffability strategy. Complications aside, it is *prima facie* the least appealing strategy. It does seem as if we speak and think about predicate semantics with great ease and regularity. Our

¹⁷I have deliberately used the cagey term "grasping" because the exact cognitive relation between the speaker and the tenets is controversial. Some claim that the relation is knowledge, others favor a weaker relation.

belief in the possibility as well as the actuality of such discourse and thought seems far more sacrosanct than a belief in either GS or FC and, as such, it seems as if we should consider denying the latter long before the former.

4.4.2 Methods for Rejecting GS

In the literature on the concept *horse*, option 2, the rejection of GS is the most pursued strategy. Ultimately, I will claim that such a strategy has major flaws that should push us towards option 1, rejection of FC. In the next several sections I will critically discuss various ways that one may deny GS. The first way to deny GS, which I will discuss in 4.4.3, was already briefly touched on in section 4.2.1. On this strategy, the non-predicates that we introduce to discuss predicate referents do, in fact, denote objects, i.e. entities that can't be denoted by predicates. However, these denoted objects are special. They *represent*, or go proxy for, concepts, so that the non-predicates allow us to express claims about predication. The thought here is that articulating claims about predicate semantics doesn't require using non-predicates that co-denote with predicates because it is sufficient to use non-predicates that denote proxy objects. The second way to deny GS, which I will discuss in 4.4.4, is to embrace the claim that we need definite descriptions of the form "the concept *horse*" to discuss predicate semantics, but to deny that these descriptions are non-predicates. If these descriptions are predicates, then they will certainly have no problem co-denoting with other predicates. The third way to deny GS, which I will discuss in 4.4.5, is to reject such predicates as "is a concept" and "is unsaturated" as unsuitable for the task of articulating claims about predicate semantics and to find other natural language predicates that themselves take predicates as arguments. This strategy

is famously pursued by Michael Dummett (1973). The fourth way to deny GS, which I will discuss in 4.4.6, is to invent a formal language with devices that allow us to adequately express our thoughts without recourse to non-predicates that co-denote with predicates. The thought here is that while natural language is flawed in a way that prevents us from expressing claims about predicate semantics, this flaw can be remedied in a formal language.

Before critical discussion of various strategies, it is worth pausing to consider the criteria for success. Success here comes in degrees. Minimally, we want to be able to correlate predicates with their denotations. This much would be required by any adequate semantic theory. Slightly more ambitiously, we want to be able to characterize the nature of predicate denotations. This will help give us some insight into the nature of predicate semantics. Optimistically, we wish to engage in the full range of discourse about predication that, intuitively, natural language allows. When discussing predicate semantics in English—even if we rarely recognize it as such—we do not limit ourselves to claims about denotations. In philosophical discourse, we are happy to theorize about properties by discussing their relationship to predicates. In ordinary discourse, we allow ourselves to speak freely about what two objects have in common, based on a common predication. Of course, in addition to myriad affirmations we engage in myriad denials. Frege claims that predicates *don't* denote objects and *can't* co-denote with non-predicates. Such denials allow us to circumscribe the extent of our claims. A maximally successful solution to expressibility problems will make room for all of desired affirmations as well as all of our desired denials.

4.4.3 Proxy Objects

According to the proponent of the proxy object strategy, we can express claims about the semantics of predicates without referring to the denotations of those predicates. Rather, it is sufficient to use some term that refers to an object that goes proxy for the corresponding predicate denotation. To see this strategy in action, consider the following sentence:

(11) The concept *horse* is unsaturated.

The idea is that, in (11), “the concept *horse*” is a non-predicate. It refers to a proxy object. Reference to this proxy-object, in turn, allows us to express a thought about, or near-enough about, the concept denoted by the predicate “horse”.¹⁸ There are several major problems for the proxy object solution. First, it does seem as if the move to proxy objects changes the subject. Intuitively, (11) tells us something about a particular concept. On the proxy object view this is not so. Rather, the sentence is about an object that goes proxy for the relevant concept. Much more needs to be said about the *going proxy* relation to explain exactly how we can adequately articulate our semantic theses. A start on this may be made if it is claimed that the proxies of concepts are their extensions.¹⁹ Concepts and their extensions do seem intimately related. However, this is not quite enough. One needs to show that reference to extensions is sufficient for communicating thoughts about concepts. If one thinks, as is plausible, that concepts are more fine-grained than extensions, then reference to extensions will be insufficient. Second, the move to proxy referents for definite descriptions such

¹⁸Parsons (1986) suggests this on behalf of Frege, though he is also explicit about the problems faced by the view.

¹⁹Frege, who appears in some passages to endorse some form of the proxy object strategy, never explicitly claims that extensions are the proxies, but this move does seem to cohere nicely with his views.

as “the denotation of ‘horse’” isn’t, by itself, enough. We must also understand predicates like “is a concept” to denote first-order properties, which are truly predicable of non-concepts. It is an uphill battle to endow us with an adequate understanding of “is a concept” such that it can apply to non-concepts, but this is a battle the proxy theorist will have to win. Third, and most pressingly, the proxy object view generates a problem as severe as the one it set out to solve. To show this, I’ll introduce a name for the entity that goes proxy for the concept *horse*: “Sam”. Sam, according to the proxy theorist, is not a concept: it is an object. Furthermore, because it is an object, Sam cannot serve as the referent of a predicate. Consider sentences (12) and (13).

(12) Sam can serve as the semantic value of a predicate.

(13) Sam is not an object.

Neither of these sentences is true. After all, Sam was introduced precisely as something that doesn’t play these roles. Sam, rather, purportedly goes proxy for an entity that can serve as the semantic value of a predicate. Unfortunately, according to the proxy object theorist, both of these sentences are true. Sam is a purported proxy for the concept *horse* and, as such, all of those properties that intuitively apply to the concept *horse* genuinely apply to Sam. Among those properties are serving as the semantic value of a predicate, being a function, and not being an entity. In short, we fail when we try to genuinely speak of proxies.²⁰

²⁰There is a temptation to try and differentiate contexts in which a proxy is acting as a proxy from contexts in which it is not to try and solve this new expressibility problem. Aside from seriously complicating or semantic theory, this seems implausible. The constructions in which we seem to be able to use non-predicates to co-denote with predicates are ubiquitous. They pop up in natural language all over the place, and there is no reason to think that we can’t use proxies both ways in a single context.

The move to proxies generated a new expressibility problem that is analogous to the old one. Our initial problem was that we couldn't use singular terms to speak of predicate denotation. To solve this we introduced proxies. Unfortunately, this just created a new problem. We now can't use singular terms to speak of proxies.

4.4.4 Descriptions as Predicates

For the sake of the argument it has been assumed that the definite description "the concept *horse*" is a non-predicate. Frege took this to follow directly from the presence of the definite article. However, the fact that definite descriptions can occur as predicates has long been familiar. Consider (14), which seems to contain a predicative occurrence of a definite description, and (15), which seems not to; both examples are from Fara (2001). To jog our intuition that in (14) "the greatest French soldier" is predicative, Fara has us compare (14) with (15). (15) is both about Washington and a man that he met (or didn't). (14), however is only about Washington: in it we appear to use the definite description to ascribe a property to Washington rather than to refer to the greatest French soldier. Similarly, in (16), "the greatest french soldier" looks as if it is the predicate that restricts the adverb of quantification "generally". (16) is true just in case it is true generally of that person that is the greatest French soldier that he or she is tall and stately when satisfying the description.

(14) Washington was the greatest French soldier.

(15) Washington met the greatest French soldier.

(16) Generally, the greatest French soldier is tall and stately.

Once we recognize that definite descriptions can occur as predicates, one may try to use this in their rejection of GS. The thought would be that we can use predicative definite descriptions to articulate claims about the semantics of predicates. For instance, in (11), “the concept *horse*” can be taken as a first-order predicate that refers to a concept, and “is unsaturated” can be taken to be a second-order predicate that takes “the concept *horse*” as its argument term.

(11) The concept *horse* is unsaturated.

The main hurdle for this approach is that “the concept *horse*” in (11) does not intuitively resemble predicative definite descriptions: e.g. it occurs in sentence initial position rather than after a copula or a higher-order predicate. Even granting the fact that some occurrences of definite descriptions are predicative, it is fairly uncontroversial that others aren’t.²¹ In the effort to discover a predicative occurrence of a definite description, we contrasted the occurrences of “the greatest French soldier” in (14) and (15). The former was best seen as predicative in contrast to the non-predicative latter. Given, then, that some occurrences of definite descriptions are non-predicative, we can examine “the concept *horse*” as it appears in (11). There are several reasons to think that it is a non-predicate. First, it is combined with the predicate “is unsaturated” which can take non-predicates as arguments, e.g. “Sam is unsaturated”. Second, we intuit that the sentence is about the concept *horse*, just as (15) was about the greatest French

²¹On Fara’s view, all occurrences of definite descriptions are predicative. To generate the truth-conditions that correspond to (15), Fara introduces LF transformation rules that introduce additional structure which allows her to continue to treat the description as a predicate. The contribution of the predicate combined with the contribution of this additional structure generates the proper truth conditions. This more complicated picture utilizes argument-type constituents to achieve the proper effect. *Ipsa facto*, one would need such constituents to implement Fara’s view. This non-predicate argument-type constituent would have to co-refer with a predicate, thereby undermining the attempt.

soldier (in addition to being about Washington). The very intuitions that lead us to recognize a predicative definite description in (14) lead us to deny that “the concept *horse*” is predicative. Without any good reason to think that “the concept *horse*” is predicative in the relevant occurrences, the strategy under consideration cannot get off the ground.

There is a second reason to worry about the current strategy. Even if it is successful, it will only meet our minimal criteria of success. If we are to adequately articulate everything we want about a particular predicate’s denotation, then we need more predicative occurrences of definite descriptions. At the very least we want to be able to say *truly* about predicate denotations that they are distinct from non-predicate denotations, and they they have a particular ontological status. Since saying such things requires employment of first-order predicates which combine only with non-predicates, e.g. “is not an object”, we will not be able to do so. Combining a first-order predicate with an argument that is itself a predicate is, by anyone’s lights, ill-formed. We also want to be able to say *falsely* about predicate denotations that they are objects, and can be the referents of non-predicates. This, too, requires the use of first-order predicates. If concept-denoting definite descriptions are themselves predicates, then such use will be illegitimate.

4.4.5 “What” Phrases as Predicates

The reason that predicates seem inadequate to the task of articulating the entity theorist’s semantic theses was that “is a concept” and “denotes”, it seems, require non-predicate arguments. We are then left without terminology that suits

our needs. Dummett thinks that we can find suitable terminology by looking harder. His goal is to find higher-order predicates of English that can be themselves be combined with lower-order predicates in order to articulate Frege's semantic theses. Dummett takes himself to find these in the form of English relative clauses, consider (17)

(17) Wise is what Frege was and Bush isn't.

If the "is" in (17) is the "is" of predication, rather than the "is" of identity, then it seems as if we are using the relative clause "is what Frege was and Bush isn't" to ascribe a higher-order property to the lower order property denoted by "wise". If this is right, then we can attempt to use relative clauses to articulate claims about predicate denotation. Dummett gives the following example.²²

(18) A philosopher is what "is a philosopher" stands for.

Informally, the relative clause "what "is a philosopher" stands for" purports to ascribe the property of being stood for by "is a philosopher" to the concept *philosopher*. The strategy could be generalized as, for example, in (19):

(19) Wise is what "wise" stands for.

Dummett's strategy has numerous flaws. First, it is not clear that (18) has any reading on which it is true.²³ In (18) the indefinite "a philosopher" is supposed to be a predicate, but it seems that the only reading available is one in which

²²Dummett takes predicates to be non-quotable parts of sentences. So, for Dummett, the predicate in "That is a horse" is " ξ is a horse" rather than, "is a horse" or simply "horse". Following Oliver (forthcoming) I am not convinced by his reasons so I continue to treat predicates as quotable parts of sentences.

²³Even Dummett thinks that the true reading is hard to come by (1973: 217). Substituting "being wise" for "wise" in the subject position of (19) makes the sentence sound much better. However, the clear worry is that "being wise" is not a predicate so, for the entity theorist, such a sentence would fail to be true.

the indefinite is an argument, as it is in, e.g. "A philosopher is in the room."²⁴ Second, as displayed in (19), it seems as if the strategy cannot be generalized to produce denotation specification for different types of predicates: (19) simply seems unintelligible. Third, it is not clear how, exactly, one could carry out the strategy for the numerous distinct things we wish to say about predicate denotations. All Dummett says on this is "Relational expressions can clearly be handled in a similar way" (217).

One need not conclude from the failure of Dummett's particular strategy that every similar strategy is doomed. It is a possibility that Dummett simply picked the wrong natural language constructions. What we are after is a two-place predicate that can combine with one non-predicate and one predicate in order to express a semantic relation between them. There is one plausible candidate here: "means":

(20) "Wise" means wise.

(20) seems both intelligible and true. Furthermore it does seem to express a semantic relationship between the predicate "wise" and its meaning. What's less clear is whether such a meaning specification should satisfy us. After all, we don't simply want to align predicates with their meanings, we also want to characterize the nature of these meanings.

The search for alternative natural language terminology in which to couch her semantic theses again brings to light some deeper questions about the entity theorist's goals. The initial objection was that, at the very least, the entity theorist should be able to articulate her basic semantic theses about predicate

²⁴Indefinite descriptions, just like definite descriptions, do seem to have predicate occurrences. However, with the possible exception of generic subjects, it seems doubtful that sentence-initial indefinites are predicative.

denotation: that predicates denote, and that they denote concepts. Our tour through relative clauses and disquotational meaning specification was an attempt to find natural language terminology for such an articulation. However, what's not clear is why we should be satisfied with such modest goals. In both philosophical discourse and non-philosophical discourse, we wish to articulate much more about predicates than simple denotation specifications. We wish, e.g., to say what predicates are true of and why, how they're related to their denotations, and what the requirements for using them and understanding their senses are. Similarly, we wish to articulate much more of predicate denotations than basic ontological classification. We wish, e.g., to theorize about how predicate denotations relate to ordinary particulars, how they may account for the presence or absence of genuine similarity between objects, and how they relate to our classificatory schemes. Even if, and it is a big "if", the entity theorist can find some natural language constructions to satisfy her modest goals, all of this seems to suggest that her goals are simply too modest! It seems as if we can theorize with full generality about predicates and their denotations, and the entity theorist's attempts to furnish us with terminology do not get us even close to this generality.

I have given no principled reason that the entity theorist can't supply us with adequate natural language terminology. I've only argued that Dummett doesn't. An optimist may continue searching. However, I see no reason to be so optimistic. The constructions that naturally suggest themselves are all deemed illegitimate by the entity theorist, and the search for constructions allowed by the entity theorist has, thus far, borne little fruit.

4.4.6 A Move to the Formal

Perhaps, then, the best thing for the entity theorist to do is to avoid natural language altogether and introduce technical vocabulary to serve her purposes. Heck and May (2006) suggest introducing a technical predicate “denotes_x” that expresses a relation between predicates and their denotations. So while the English sentence (21) is unintelligible, the non-English sentence (22) is, by stipulation, grammatical and meaningful.

(21) “Wise” denotes wise.

(22) “Wise” denotes_x wise.

There are no limits to the generality of such a strategy. For every English predicate we *wish* to use to articulate semantic theses, we *can* at least attempt to introduce a technical predicate that has all of the grammatical and semantic properties we desire.

The problem with the move to technical terminology is that it is hard to guarantee that such terminology expresses exactly what we want it to express. Sometimes technical terminology is uncontroversially successful: e.g., an acronym that is explicitly introduced to mean the same thing as a perfectly meaningful English phrase. However, some technical terminology is introduced to express concepts that we have no natural language expressions for. It is hard to know when introduction of such terminology succeeds, but one should proceed with caution.

There are two features of the entity theorist’s technical terminology that are especially risky. First, each of the envisioned technical terms purports to express

something that, intuitively, we *can* express in English. The risk then, is that insofar as we understand terminology such as “denotes_x” at all, we understand it as meaning the same thing as its English counterpart “denotes”. For the entity theorist, however, “denotes_x” must express a very different relation than “denotes”: the former is one that obtains between predicates and concepts and the latter is one that obtains between non-predicates and objects. Second, and relatedly, each of the envisioned technical terms seems to be intimately related to its English counterpart. According to the entity theorist, we cannot use “denotes” to express claims about predicate denotation.²⁵ However, we can use “denotes_x” to express all of those things that we *wish* to express using “denotes”. Given the category distinctions between predicates and their technical language counterparts, we will not be able to express the relationship between the two terms in English. After all, English constructions are simply not designed for such terms as “denotes_x”. In order, then, to express such relationships it seems that we will have to take recourse to additional technical terminology. And, of course, with more terminology comes more worry.

Of course, arguing that the introduction of technical terminology is risky is quite different from arguing that it is illegitimate. In fact, I do not know exactly how one could conclusively establish this latter claim. It is my view that the risks are significant enough, and hard enough to ensure avoiding, so as to undermine the project. However, I do not want to rest anything on this. Even if the entity theorist’s introduction of technical terminology is maximally successful, certain claims will remain inexpressible. I will now show just what they are and why this is unacceptable.

²⁵Of course, according to the entity theorist we cannot use “denotation”, either.

4.4.7 The Unsolvable Problem

Assume, for a moment, that the entity theorist succeeds at articulating her semantic theses in one of the ways just considered. Even if, somehow, a great deal of expressive power is achieved, expressibility problems will remain. First, one will not be able to ascribe falsity to particular claims about predicate denotations. Second, one will not be able to express distinctions between types of denotation.²⁶ These problems are unavoidable because they will remain no matter how the entity theorist enriches her language: they flow directly from FS. I'll begin by articulating the additional expressibility problems, then I'll explain why they are unavoidable.

The entity theorist has no trouble expressing semantic theses about ordinary referential expressions. She can simply use standard first-order English predicates. So, for instance, (23) and (24) are, for the entity theorist, true, grammatical, and well-formed:

(23) The denotation of "Frege" is an object.

(24) The denotation of "Frege" is not of predicate type.

When discussing predicates, we naturally want to ascribe falsehood to sentences corresponding to (23) and (24). So, for example, we wish claim that (25) and (26) are false, as well as that (27) and (28) are true.

(25) The denotation of "wise" is an object.

(26) The denotation of "wise" is not of predicate type.

²⁶Proops (forthcoming) calls the second "The inexpressibility of logical category distinctions". He discusses its historical roots in Frege and Wittgenstein.

(27) It is false that the denotation of “wise” is an object.

(28) It is false that the denotation of “wise” is not of predicate type.

Unfortunately, even if the entity theorist succeeds in articulating her semantic theses in one of the ways considered, she will still be forced to regard (25)-(26) as ill-formed. The reason is simple. The predicates “is an object” and “is not of predicate type” require non-predicates as their arguments. This is manifested in (23) and (24). Since those predicates require non-predicates as arguments, and the definite descriptions in (25)-(28)– if they are to express facts about predicate denotation– must denote concepts and therefore be predicates, the sentences are ill-formed.

Similar remarks can be made about sentences such as (29) and (30) in which we try to use a single predicate to express the distinctions between predicates and non-predicates. According to the the entity theorist, (29) and (30) are ill-formed. We are attempting to use a single predicate in two different ways: to combine with a non-predicate and to combine with a predicate. Such a use, for the entity theorist, must be illegitimate:

(29) The denotation of “Frege” is an object, while the denotation of “wise” is not.

(30) The denotation of “Frege” is not of predicate type, while the denotation of “wise” is.

The reason that these problems arise is that when articulating a theory about predicate-denotation, we do not wish to limit ourselves to claims about what such denotations are. We also wish to say what they *aren't*, as well as how they

compare to distinct types of entities. Even at its most successful, the entity theorists' attempts to articulate semantic theses about predicates will fail here. Such attempts consist in identification of special, peculiar expressions which allow us to formulate those claims. Limitation to such peculiar expressions, by its nature, rules out any attempt to use ordinary expressions to express falsehoods, or true negations.

The entity theory is, in a certain way, inflexible. A term's predicative status is inflexibly determined by its denotation. This guarantees that, even at its most successful, terms of two different statuses will not be able to meaningfully occur in comparative constructions. Similarly, we will not be able to ascribe falsity to a claim that requires a prohibited predicational structure for its articulation. For the entity theorist, these problems are both unavoidable and deeply troublesome. They are troublesome because, I take it, adequate articulation of a theory of predicate denotation will include some true negations and comparative claims. It is unavoidable because even the most successful attempts for the entity theorist to articulate her claims will, for reasons given above, fall prey to the problem. At the very least, these problems should give us reason to favor a theory of predication that does not fall prey to them. In the final section of this chapter, I'll show that the ascription theory easily avoids such problems.

4.5 Implications

Rejection of GS leads to the search for other ways to express claims about predication. Success comes in degrees, the greater expressive power of the reformed linguistic practice, the more successful a rejection of GS will be. Minimally, I

claimed, we wish to correlate predicates with their denotations. A survey of strategies has left us without an uncontroversial way to do even this. Furthermore, I have argued that, for a principled reason, even the most successful rejection of GS will leave us with limits. There are certain claims that we never be able to ascribe falsity to and there are certain distinctions that will remain ineffable. This bleak outlook should move us to seriously consider rejection of FC.

Rejection of FC would require us to find an additional facet of meaning that determines predicativity. The proponent of the ascription strategy identifies this facet with the relation that a predicate bears to its denotation. In rejecting FC, the ascription theorist prevents expressibility problems and allows us to engage in the full range of discourse about predicates and their denotations. The basic idea is simple. If we want to discuss predicate denotations we can do so by introducing non-predicates that refer to those denotations. These non-predicates allow us to discuss the denotations of predicates by referring to those denotations. However, they are not semantically identical to those predicates. The predicates *ascribe* their denotations while the non-predicates *refer* to theirs. The ascription view lifts the constraint on co-reference that lead to expressibility problems. It does so while maintaining a distinction between predicates and non-predicates that allows us a substantial and optimistic account of predication.

CHAPTER 5

NATURAL LANGUAGE MOTIVATIONS FOR THE ASCRIPTION VIEW

5.1 Natural Language

The views of predication we've been considering are views about the nature of all possible predication. *Ipsa facto*, it is incumbent on any such view to give an adequate account of the type of predication with which we are most familiar: actual natural language predication. I will argue that the ascription view is superior to its competitors at providing such an account. The crucial observation—which was already discussed in Chapter 2—is that there are natural language predicates that bear a close semantic relationship to natural language non-predicates. It is incumbent on an adequate view of predication to account for these relationships. The ascription view can account for the relationships by claiming that predicates and non-predicates can co-denote. On the entity and mapping views, there is no plausible way to account for the semantic connection between predicates and their corresponding non-predicates.

In this section I'll introduce the relevant natural language phenomena and explain why they present problems for the entity and mapping views. In section 5.2, I'll critically consider attempted solutions for the entity theorist and in section 5.3, I'll do the same for the mapping theorist. In section 5.4, I'll show how the proponent of the ascription view can nicely account for the relevant semantic phenomena, concluding that these considerations give us strong reason to favor the ascription view.

5.1.1 Nominalization

English predicates have what we intuitively think of as counterparts that occupy non-predicate positions. These come in fairly natural classes.¹ The first class is *property names*. This class is comprised of names that intuitively refer to those same properties that are denoted by their predicate counterparts. “Wisdom”, for instance, seems to refer to the property that is denoted by “wise”. Second, we have *gerunds*. “Swimming”, for instance, appears to name the kind of activity that is denoted by the predicate “swims”.² Third, we have *infinitives*.³ “To swim” appears, again, to name the kind of activity that “swims” denotes.⁴

I’ll use the term “predicate nominalization” to denote expressions that intuitively refer to the denotations of their corresponding predicates. There are three desiderata on a semantics of predicate nominalizations. The first is to account for our intuition that predicate nominalizations refer to the very same things denoted by their predicate counterparts. The second and third can be seen by considering the following two sets of sentences:

(1) Socrates is wise.

(2) Wisdom is an attribute of/ is possessed by Socrates.

¹English is certainly not the only language to have this feature. I focus on English only because it is my native language.

²Not all gerunds seem to denote properties. For instance, “John’s swimming of Lake Cayuga” seems to denote an event. I will focus solely on the gerunds that seem to co-denote with predicates.

³I am going to ignore the potential complications due to the fact that infinitives are often thought to combine with the covert subject PRO. I have two reasons for ignoring these complications: 1) the main motivations for the view apply only to infinitival complements and not infinitives in subject position, which are the only ones that I consider, and 2) even if the complications weaken my arguments, they do not affect the arguments from property names or gerunds. Also, see Culicover and Jackendoff (2006) for an anti-PRO view.

⁴Chierchia (1982 and 1984) discusses infinitives and gerunds in great detail. My discussions of infinitives and gerunds are highly inspired by his, though I do not think that his positive view is adequate. In essence, Chierchia gives a version of what I call “the proxy view”, which I criticize below.

(3) John is hula-hooping.

(4) Hula-hooping is a fad.

(5) Therefore, John is engaged in/participating in a fad.

(1) and (2) display the intimate connections that predicate nominalizations seem to have with their corresponding predicates. Most speakers have the intuition that (1) and (2) are mutually entailing. In fact, moving from one to the other seems to many, e.g. Ramsey (1925), to be purely stylistic. Of course, those with an antecedent commitment to nominalism will balk at the inference from (1) to (2).⁵ Their hesitance, however, will be the result of theoretical commitments, rather than linguistic intuitions. What I want to focus on is the fact that movement between (1) and (2) does seem freely allowed by ordinary English speakers who have no metaphysical axes to grind. I take it that it is a point in favor of a semantic theory if it can explain this intuition. After all, even if nominalism were true, the nominalist would face the task of explaining away the intuition. The intuition should not be ignored: it is data for our semantic theorizing, even if some have abandoned the intuition on independent grounds. As such, the second desideratum on an account of predicate nominalizations is that it accounts for intimate (plausibly analytic) connections between sentences such as (1) and (2).

In addition to denial of the inference from (1) to (2), the nominalist will deny that property names, such as “wisdom”, refer. This move may not look particularly desperate, since sentences like (2) are, it may be thought, inessential to

⁵This is not the only option for the nominalist: they could also try and give a nominalistic semantics for (2) and (4). This seems quite challenging to me.

our expressive power: the information communicated by using such sentences could plausibly be communicated by using other sentences, e.g. (1).⁶ Such a move, however, looks implausible when we consider other types of predicate nominalizations. The connection between (3) and (4) seems to lie solely in their shared gerund: “hula-hooping”. In (3) “hula-hooping” appears to be a predicate, and in (4), it appears to be a non-predicate.⁷ (4), unlike (2), does not seem inessential to our expressive capacities: it is hard to know how we could express the same proposition, or even one nearby enough for our communicative purposes, by using a different sentence. Rejection of the truth of (4) in order to defend nominalism will, for this reason, look unpromising. Once we accept the truth of (3) and (4) we can see that (5) must follow. This can only be accounted for if there is a tight connection between the occurrences of “hula-hooping” in (3) and (4). The third desideratum on an account of predicate nominalization is that it accounts for arguments such as the one from (3) and (4) to (5). In such arguments, premises are linked only by a predicate and its corresponding nominalization.

The easiest way to deal with such constructions is to claim that the predicate nominalization and its corresponding predicate denote the *very same thing*. The ascription view allows us to do just this: on the ascription view we can claim that “wise” in (1) *ascribes* the property of being wise, the very property which is *referred* to by “wisdom” in (2). The relationship between (1) and (2) is, then,

⁶This claim actually seems suspect, though I am willing to grant it to the nominalist for the sake of discussion. The reason the claim is suspect is that there is plausibly extra-semantic information conveyed by an utterance of (2) that is not conveyed by (1), e.g. information about discourse topic. This can remain the case even if (1) and (2) express the same proposition. (Even the claim that (1) and (2) express the same proposition is doubtful, see Chapter 2.)

⁷Somebody may doubt that “hula-hooping” in (4) is a predicate because they think that it is a predicate bound by an unpronounced generic operator: Gen. This view is implausible because particular instances of hula-hooping aren’t fads. Rather, hula-hooping, *the kind of activity*, is a fad.

easy enough to account for.⁸ Similar remarks hold for (3), (4), and (5). The proponent of the ascription view can claim that “hula-hooping” in (3) ascribes a kind of activity to John and it is just this kind of activity which is named by “hula-hooping” in (4). Since the predicate nominalization in (4) names the very same thing that is ascribed in (3), we can conclude (5).

More generally, the proponent of the ascription view sees nominalization as *relation swapping*. A predicate bears the ascription relation to some entity and that predicate’s corresponding predicate nominalization bears the reference relation to the same entity. The process of going from one to another is simply the process of swapping semantic relations while preserving denotation.

The proponent of the entity view cannot give an account this intuitive. This is due to the fact that predicate nominalizations are not predicates and, as such, they cannot denote something which would suffice for predicative status. Similarly, the proponent of the mapping view cannot give a straightforward account of nominalization. Since predicates, on the view, do not denote anything at all, there is nothing that can serve as the denotation of both the predicate and its corresponding predicate nominalization. The connections will have to be explained some other way.

5.1.2 Dual Occurrences

While moving from a predicate to its corresponding nominalization often requires some morpho-syntactic transformation, such as the transformation from “swims” to “swimming”, moving from a predicate to a non-predicate does not

⁸We may still be required to assume that it is analytic (or something close) that a property P is truly ascribed to an object O just in case P is possessed by O.

always require such operations. Several types of English terms plausibly have both predicate and non-predicate occurrences. Topping the list, though theorists disagree, are descriptions, plural count nouns, and mass nouns.⁹ Additionally, two of the three types of predicate nominalization that I've discussed—gerunds and infinitives—also seem to have dual occurrences. Consider the following pairs of sentences:

(6) Those are dogs.¹⁰

(7) Dogs are widespread.

(8) Eating broccoli is healthy.

(9) Much to her surprise, Nancy discovered her daughter eating broccoli.

(10) To eat broccoli is good for you.

(11) Nancy forced her daughter to eat broccoli.

The natural account of (6) is that “dogs” functions as a predicate, and it attributes doghood to the things denoted by “those”. The natural account of (7)

⁹Fara (2001) defends the view that all occurrences of descriptions are predicates. In my “Mass Nouns as Kind-Referring” I defend the view that all mass nouns are kind-referring non-predicates. Chierchia (1998a and 1998b) gives a recent version of the dual occurrences view for mass nouns.

¹⁰There is a simplifying assumption that I'm making here. I'm assuming that the unquantified “dogs” in the predicate position of (6) is, in fact, a predicate. On Carlson's influential theory (1977 and 1980), all unquantified plural count nouns are non-predicates. However, Carlson's reasoning conspicuously leaves out consideration of unquantified plural count nouns in predicate position: those which seem the most likely to be treated as predicates. Even if we accept Carlson's theory, there is still reason to think that non-bare, i.e. quantified, occurrences of plurals are predicates. For example, “dogs” in “Some dogs are nice” is still plausibly a predicate. As long as there are some predicate and some non-predicate occurrences of plural count nouns, my arguments can be run.

is that “dogs” refers to a kind of animal and “widespread” picks out a property that is attributed to that kind. If “dogs” in (7) were a predicate then (7) would contain an unpronounced quantifier that allows us to generalize about dogs. However, (7) is not a generalization about dogs: particular dogs are not, in general, widespread; dogs are only widespread as a kind. While “dogs” in (6) seems predicative and dogs in (7) seems referential, they nonetheless seem to have a clear relationship. Roughly, all of the members of dog-kind have the property of being a dog. This relationship between these different types of occurrences is something that we want reflected in our semantics. Similar remarks hold for the occurrences of “eating broccoli” in (8) and (9), and the occurrences of “to eat broccoli” in (10) and (11).¹¹

Just as in the predicate nominalization case, we do not have to depend solely on our intuitions that predicate and non-predicate occurrences are intimately related. We can construct arguments that display the relationship. (12) follows from (8) and (9) in a way that we will want our semantic theory to account for.

(8) Eating broccoli is healthy.

(9) Much to her surprise, Nancy discovered her daughter eating broccoli.

(12) Much to her surprise, Nancy discovered her daughter doing something healthy.

Dual occurrences present all of the same challenges as predicate nominalizations, but they also add one. To give an adequate account of dual occurrences we must explain how two occurrences of a *single* term can differ in predicative

¹¹Seemingly predicate occurrences of infinitives and gerunds led Montague (1974) to treat them as first-order predicates of type $\langle e,t \rangle$. Chierchia (1984) turns this move against Montague, using arguments that inspired mine.

status. The proponent of the ascription view can make a promising start: she can claim that in (6) “dogs” ascribes a kind (dog-kind) to the dogs that are referred to by “those”, while “dogs” in (7) refers to that very kind that is ascribed in (6).¹² Co-denotation is not sufficient for two terms to be identified, but it is a promising start. A full story will outline the process whereby the relation of reference is swapped for that of ascription, or *vice-versa*.

The entity and mapping theorists run into familiar trouble. For the entity theorist, the occurrences of “dogs” cannot co-denote on pain of both (or neither) being predicates. For the mapping theorist, the two occurrences of “dogs” cannot co-denote because the predicate occurrence does not denote. Neither view can explain the relevant relationships in terms of co-denotation and it is unclear how a different type of explanation would prove adequate.

5.1.3 Predicate Anaphora

Paradigmatic anaphoric pronouns rely on antecedent singular terms in order to secure their referents. For instance, the pronoun “he” in (13) refers to Frege, a referent that it inherits from “Frege”.

(13) Frege is widely respected now, though he wasn’t so widely respected when he was alive.

As can be seen in sentences (14) and (15), singular terms are not the only terms capable of supporting anaphoric pronouns. (That is, of somehow provid-

¹²Here I skip over the interesting relationship between kinds and properties, assuming that kinds can be predicated just as properties can. One way to achieve this aim is to identify kinds as a subset of properties. However, I do not endorse this. See my “Mass Nouns as Kind-Referring” and “Simple Generics”. Whatever kinds are, it is intuitively clear that they have instances and are therefore ascribable to individuals.

ing them with referents.) In both (14) and (15), the pronoun “it” is anaphoric on an earlier occurrence of a predicate.

(14) Sam is hasty; it runs in his family.

(15) Frege and Russell were smart; it (that) is something they had in common.

Intuitively, the pronouns in (14) and (15) pick up their referents from antecedent predicates. If this is right, then “it” in (14) refers to hastiness, which is ascribed by the predicate “hasty”. Similarly, “it” in (15) refers to smartness, which is ascribed by the predicate “smart”.

The semantic challenge is twofold. First, a referent needs to be provided for the anaphoric pronouns in (14) and (15). The sentences are true, and given that they contain anaphoric pronouns, their truth requires referents for those pronouns. Second, those referents need to be adequately related to the predicates that the pronouns intuitively depend on.

At the risk of sounding like a broken record: we do not need to rely on intuitions about denotation. We can construct arguments that hinge on a semantic link between a predicate and its subsequent anaphoric pronoun. From (14), we can conclude (16).

(16) Sam has a property/character trait that runs in his family.

(16) will likely not follow analytically from (14), after all it contains explicit mention of properties/character traits. However, it does seem to be entailed by (14), and it seems that the best way to explain this is by linking the predicate “hasty” with the anaphoric pronoun “it.”

The proponent of the ascription view will have no trouble with predicate anaphora. On the ascription view, predicates introduce potential referents into the discourse. They do this by ascribing, not referring to, those potential referents. Once the potential referents are ascribed, and thus introduced into discourse, they become available for anaphoric reference.

The proponent of the entity view, on the other hand, runs into the same trouble that she had with predicate nominalization. The referents of the anaphoric pronouns in (14) and (15) cannot be introduced by the predicates that they seem anaphoric on. This is due to the fact that the predicates only introduce entities whose denotation suffices for the denoting term to be predicative. Since the anaphoric pronouns are not predicates, they cannot denote the same things as the predicates on which they seem anaphoric. So what *do* the anaphoric pronouns denote and where did these things come from? These questions are pressing for a proponent of the entity view.

The proponent of the mapping view is not in a much better spot. In fact, she may be worse off. As we will see, one strategy for the entity theorist is to claim that once an unsaturated entity is introduced, its saturated correlate is available for anaphoric reference. Nominalists can't claim anything like this. On the mapping view, predicates do not have any ontological correlates. Thus, they introduce no entities whatsoever. Mapping theorists are faced either with telling us what the anaphoric pronouns refer to and how those those referents were made salient, or telling us that these pronouns, in fact, do not refer, and making this claim palatable.

5.2 Attempted Solutions for the Entity Theorist

I have just considered three types of constructions that seem to favor the ascription view over the entity view and the mapping view. I now want to investigate possible responses on behalf of proponents of those views. The constructions that I mentioned are distinct, but the problems generated have a common core. Thus, I will consider the possible escape routes in tandem.¹³ In this section I'll consider escape routes for the entity theorist and in the next I'll consider escape routes for the mapping theorist.

The first attempted solution for the entity theorist is to provide an object correlate for each concept. For instance, the concept denoted by "dog" is correlated with a proxy object. This proxy can be referred to with a non-predicate. I've already considered this proposal at length in Chapter 4. The idea was for proxy objects to provide non-predicate referents in a way that allowed the entity theorist to escape expressibility problems. To recap briefly, the entity view has problems with semantic claims like (17)

(17) The concept *horse* is a concept.

The problem with (17) is that it seems to contain a non-predicate that co-denotes with a predicate. Such co-denotation is prohibited by the entity view. Here is where the proxy object strategy intervenes. The entity theorist may countenance a class of objects that "go proxy" for their corresponding concepts.

¹³In particular I will skip over escape routes that address some, but not all, problems. One worth noting is appeal to type-shifting principles in order to account for the phenomena of dual occurrences. The idea is that "dogs" in its predicative role denotes a property (type $\langle e,t \rangle$) and dog in its non-predicative role denotes a kind (either type $\langle e \rangle$ or type $\langle e \langle e,t \rangle \rangle$). One of these meanings could be derived from the other via a type shifting operation. For instance, we could go from the property to the kind by taking the largest single group in the extension of the property. See Chierchia (1998a) for an account along these lines.

Such objects, being objects, can be the referents of non-predicates. In (17), the non-predicate “the concept *horse*” may refer to the object that goes proxy for the corresponding concept. Furthermore, all of the properties that we *wish* to ascribe to the concept *can* truly be ascribed to the proxy object.

In Chapter 4, I gave several objections to the proxy-object strategy. The most convincing is that the strategy solves some expressibility problems at the cost of giving rise to others. If we stipulate that “Sam” refers to the proxy object correlate of the concept *horse*, we can construct sentences such as (18)

(18) Sam can serve as the semantic value of a predicate.

According to the proposal in question, (18) should be false. After all, Sam is precisely a non-concept. This is what allows it to be the referent of a non-predicate. However, the entity theorist (who proposes the proxy object solution) is committed to taking (18) to be true. This is because Sam goes proxy for the concept *horse*, and, therefore, Sam is truly ascribed all of the properties that we wish to ascribe to the concept. In other words, it *can* serve as the semantic value of a predicate. The move to proxies generates a new expressibility problem that is analogous to the old one.

This recap serves to stress that even if the proxy-object strategy is up to the task of dealing with the natural language constructions under consideration, there is no reason to think that it solves all of the problems confronted by the entity theorist. Expressibility problems remain, and, as I argued in chapter 4, such problems are quite serious.

I now want to argue that, on independent grounds, the strategy doesn’t adequately account for the phenomena at issue. Re-consider sentences (1) and (2).

- (1) Socrates is wise.
- (2) Wisdom is an attribute of/is possessed by of Socrates.

The data is that (1) and (2) are mutually entailing. The challenge is for the entity theorist to account for this, despite the fact that, according to her view, “wise” and “wisdom” can’t co-denote. The idea is to claim that while they don’t co-denote, they do denote entities that stand in a very intimate relation: one, the referent of “wisdom”, goes proxy for the other, the denotation of “wise”. Since we wish to claim that the denotation of wise is an attribute of Socrates, we can truly claim this about the proxy object to which “wisdom” refers.¹⁴

The problem for the entity theorist is that the “going proxy” relation isn’t intimate enough. Roughly, the problem is that the mutual entailment between (1) and (2) is a result of the meanings of “wise” and “wisdom”; however, the proxy object strategy cannot provide us with a connection this intimate between the terms. Rather, she merely us a representational relation—*going proxy*—that holds between their denotations.

The best way to show that proxy-hood isn’t enough is to consider the modal status of the relationship between (1) to (2). Given their actual interpretations, it is necessary that they have the same truth-value. However, this cannot be accounted for by the proxy object strategy. *Going proxy* is a representational relation. As such, it is highly intuitive to think that it holds contingently. Consider a paradigm example of a representational relation: the tent symbol on a map represents the property of being a campsite. This relation is contingent. The same property might have been represented by a different symbol.

¹⁴The entity theorist will reject the literal truth of much of what I just wrote, in virtue of expressibility problems that I considered in chapter 4. She should allow, however, that the relevant claims can be communicated using such language even if the sentences use don’t literally express them. Not being an entity theorist, of course, frees me from all such worries.

Now hold the meanings of “wise” and “wisdom” fixed and consider a world in which the object denoted by “wisdom”—the same object it actually denotes—does not go proxy for the concept denoted by “wise”. In such a world, there is no entailment from (1) to (2), or vice-versa. Since the meanings can be held fixed without preserving the entailments, it is clear that, on the proxy object strategy, the entailments are not solely a function of meaning.

All of this brings out a deep problem for the proxy object strategy. The problem is that, insofar as we understand it, the *going proxy* relation is a contingent, perhaps even conventional, relation. However, the relation between “wise” and “wisdom” does not seem contingent or conventional in the same way. (Obviously it is conventional in some way, in the way that we can use sounds and symbols to mean what we want, more or less.) Given that those terms have the meanings they do, their connection does not require any *additional* convention about representation. Rather, once the meanings are fixed, so are the connections. In short, the proxy object strategy does provide some relationship between “wise” and “wisdom” but it is not as deep as is demanded by the data.

A proponent of the proxy-object strategy may attempt to fall back on some non-conventional relation between the objects in question. However, it is hard to see what such a connection would look like, or how there could even be a non-conventional relation that does the same work as a relation that looks particularly conventional.

The proxy-object strategy is not the only strategy available for the entity theorist. Thus far, we have been operating with the tacit assumption that predicate nominalizations, anaphoric pronouns, and definite descriptions are non-predicates. An entity theorist may deny this and claim that, despite appear-

ances, they are predicates, at least in the relevant occurrences. To see how this strategy would work, consider, again, sentence (4):

(4) Hula-hooping is a fad.

We assumed that the gerund “hula-hooping” in (4) is a non-predicate and, therefore, that it denotes an object. However, the entity theorist may doubt this. She may insist that “fad” in (4) is a second-order predicate that takes as its argument the first-order predicate “hula-hooping”. This assumption allows us to give uniform semantics for predicates and predicate nominalizations: they are both predicates. Thus the transformation from (1) to (2) and the argument from (3)-(5) are secured. Similarly, we can claim that the predicate “hasty” in sentence (14) refers to a concept, as does the pronoun “it” which, despite appearances, is a predicate. We then can attempt to sidestep expressibility problems by claiming that expressions such as “the concept *horse*” are, in fact, predicates which can be the argument terms of higher-order predicates. Thus, “the concept *horse* is a horse” expresses a true second-order predication.

There are two ways to pursue this strategy, which I’ll call “the higher-order strategy”. The first is to claim that “fad”, as it occurs in (4) is typed such that it can only take first-order predicates as arguments. The second is to claim that “fad”, as it occurs in (4) is untyped, such that it can take argument terms of different types: non-predicates, as well as predicates of different orders. I’ll object to these in turn.

The primary virtue of pursuing a typed version of the higher-order strategy is that it allows a resolution of Russell’s paradox. The primary problem is that terms which seem to be first-order predicates have to be interpreted as second

order predicates (and so on up the hierarchy). The intuitive interpretation of (4) is that it contains a single first-order predicate “fad” which takes, as its argument, a single non-predicate: “hula-hooping”. This intuition is bolstered by the fact that, in (4), we seem to attribute the same thing to hula-hooping that we attribute to the activity of hula-hooping in (19).

(19) That (activity) is a fad. (Demonstrating hula-hooping.)

The type-theoretic higher-order strategist cannot give a uniform account of “fad” as it occurs in (4) and (19). This is due to the fact that the demonstrative “that activity” is a non-predicate in (19).¹⁵ She, rather, claims that the occurrence of “fad” in (4) has a different meaning than the occurrence of “fad” in (19). The latter is a first-order predicate while the former is a higher-order predicate. An initial worry with this strategy is that it commits the higher-order strategist to the claim that every predicate of English is extremely (infinitely?) ambiguous between predicates of different orders. The ambiguity ramifies when we realize that adverbs will also have to be ambiguous in order to modify verbs of these different orders. Thus, we have an explosion of both ambiguity and meaning. What’s worse is that this explosion of semantic types does not seem to be reflected in English at all, and, as Chierchia repeatedly insists (1982 & 1984), there are no known languages that syntactically mark the purported semantic distinctions.

An even more pressing problem is explaining what it is exactly that the two predicates have in common. It is clear that we appear to attribute the very same property in (19) as in (4). The higher-order theorist denies this. There must

¹⁵Even if, following King (2001), one thinks that complex demonstratives are quantifiers, the point is not undermined. We could easily use the referential non-complex “that” to refer to a kind of activity.

be some intimate connection between these properties as well as their kin that ascend up the hierarchy, but at this point we have no idea what it is.

Finally, there seem to be particular constructions that the typed higher-order strategist won't be able to account for:

(20) Hula-hooping and the first day of a new job are always unpleasant.

A nervous employee who dislikes moving his hips can truly utter (20). In order for the higher-order theorist to account for the truth of (20), though, it seems that "unpleasant" will have to be used in two separate senses at once. Given that we can't normally use a single occurrence of an ambiguous word with more than one sense, the higher-order theorist will not be able to give a standard semantics for (20).

The untyped version of the higher-order strategy has distinct problems. According to this version, nearly all predicates are untyped, such that their arguments can be both non-predicates and predicates. The main problem with the strategy is that it severely severs syntax from semantics. To see this consider (21).

(21) *Greedy is unpleasant.

(21) is ungrammatical. Intuitively, it is also uninterpretable (semantically ill-formed). However, according to the untyped version of the higher-order strategy, it is interpretable. On the view, "unpleasant" refers to the concept of unpleasantness, which applies to both objects and to concepts. "Greedy", a predicate, refers to the concept of being greedy. Semantically, on the view, the concept of being greedy is a perfectly good argument for "unpleasant". Therefore, (21) is, on the view, interpretable. These results ramify: a huge number

of strings will, on the view, be both ungrammatical and interpretable. In other words, syntax will be highly divorced from semantics. I take it that some deviation of syntax from semantics is plausible, but such a widespread mismatch isn't.

What has emerged is a dilemma for the higher-order theorist. On the one hand, she can pursue a type-theoretic strategy, which saddles her with extreme and implausible ambiguity. On the other hand, she can pursue a untyped approach, which saddles her with an implausible severing of the syntax/semantics link. Either way, the strategy is implausible.

It should be clear by now that there is no *easy* way for the entity theorist to deal with nominalization, predicate anaphora, and expressibility problems. Furthermore, two complicated approaches to such phenomena—the proxy object approach and the higher-order approach—are themselves highly problematic. There is more that could be said on this subject. However, it is a significant point in favor of the ascription view and against the entity view that the ascription view has no trouble dealing with nominalization and predicate anaphora, and that it doesn't give rise to expressibility problems.

5.3 Attempted Solutions for the Mapping Theorist

The proponent of the mapping view is a committed nominalist. As such, she doesn't recognize entities that can serve as referents for either predicate nominalizations or predicate anaphora. A virtue of the mapping view is that expressibility problems do not arise. After all, the proponent of the mapping view has nothing to express: she thinks that predicates do not denote. There are several

routes for a mapping theorist to take in her attempt to account for the data from section 5.1.

First, she could claim that predicate nominalizations and predicate anaphora don't refer to entities because they are, themselves, predicates. This is the same strategy discussed above as the "higher-order strategy" and it will run in to all of the same problems.

Second, she could claim that while predicates do not themselves denote, they do raise particular objects to salience. Once these objects are raised to salience they are then available as referents for predicate nominalizations and predicate anaphora. This strategy does seem like it would solve some of the problems. However, such a strategy would jettison the spirit of the mapping view. The mapping view is constructed around the idea that predicates, though non-denoting, do make a specific type of contribution to truth-conditions. If we introduce entities that predicates raise to salience then it seems as if we will have given up on the idea that predicates contribute to truth conditions without contributing entities.

Third, she could bite the bullet and claim that none of the relevant sentences containing predicate nominalizations or predicate anaphora are true. This move may be moderately plausible when considering property names such as "wisdom", at least in the context of nominalism. However, when it comes to gerunds and infinitives, the move looks desperate. Gerunds and infinitives seem to be uncontroversially used in non-predicate positions of true English sentences and I take it that it would be a major strike against a mapping theorist if she denies the truth of these sentences.

As with the entity view, there is surely more that could be said on behalf of the mapping view. However, as with the entity view, it looks as if whatever the mapping theorist says at the end of the day will be sufficiently complicated and problematic that nominalization and predicate anaphora give us significant reason to favor the ascription view over the mapping view.

5.4 The Ascription View and Relation Swapping

I've already mentioned what I take to be the ascription theorist's crucial insight about intimate relationships between some predicates and non-predicates. The insight is that the move from a predicate to its corresponding non-predicate—be it a pronoun, name, gerund, or whatever else—consists of *relation swapping and denotation preservation*. This account allows predicates and non-predicates to have something semantically in common: denotation, while also having something semantically distinct: mode of denotation. On the view, predicates and their corresponding non-predicates denote the same thing in different ways. This type of explanation requires a semantic theory on which two distinct types of semantic contribution are made by a given term. Of the views that we are considering, only the ascription view recognizes more than one type of semantic contribution. As such, only the ascription view has the resources to preserve intimate connections between predicates and non-predicates while simultaneously divorcing them semantically.

To see exactly how this works, re-consider (1) and (2):

- (1) Socrates is wise.
- (2) Wisdom is an attribute of/is possessed by of Socrates.

The challenge is to account for the intimate semantic connections between “wise” in (1) and “wisdom” in (2) without identifying their semantic contributions, as the skeptic does. The challenge is met as follows. In (1), “wise” denotes wisdom. Since it is a predicate, it denotes in a predicate-specific way: by ascribing. More precisely, “wise” in (1) ascribes wisdom to Socrates. In (2), “wisdom” denotes wisdom. Since it is a name, it denotes as names do: by referring. More precisely, “wisdom” in (2) refers to wisdom. “Wise” in (1) and “wisdom” in (2) are both intimately related and clearly distinguished. They are related by co-denoting, and distinguished by the way in which they denote. Moving from one to the other preserves something: denotation. Moving also changes something: the way of denoting. This specific story generalizes to all of the phenomena considered in 5.1.

CHAPTER 6
THE ASCRIPTION VIEW

6.1 Combating Obscurity

At this point the advantages of the ascription view over its competitors should be clear. The nature of the ascription relation, however, remains unclear. This unclarity provides fodder for the opponents of the ascription view. MacBride, for example, expresses his skepticism about the ascription view as follows:

[The ascription view] is open to the complaint that ascription *is* reference in all but name and that [the ascription view] does not resolve but merely masks by re-labeling the difficulties... (2006: 466)¹

The skeptic can only reasonably demand so much: it would not be reasonable to expect a complete characterization of the ascription relation. According to the view, ascription is a fundamental semantic relation on par with reference. As such, we should expect a complete characterization of ascription to come just as quickly as complete characterization of reference. Which is to say, not very quickly at all! Rather than providing a comprehensive theory, it is sufficient, at least for our purposes, to distinguish ascription from reference. This will answer MacBride's worry that the ascription theorist is engaged in mere

¹The difficulties that MacBride is concerned with here are difficulties that flow from the principle that any two co-referring expressions are intersubstitutable. If we allow predicate nominals to co-denote with predicates then substitution failures may be rendered mysterious, e.g. "Frege is wise" cannot be expressed with "Frege wisdom". The ascription view provides a way out: allow co-denoting expressions to bear different semantic relations to their denotations. If expression PN refers to C and expression P ascribes C, then the failure of PN to inter-substitute with P will not contravene the reference principle.

re-labeling. I claim that there are two features that clearly distinguish ascription from reference.

The first, which will be the focus of sections 6.1.1 - 6.1.3, is that the ascription relation can be directed, while the reference relation cannot be: we can ascribe properties *to things*. The second, which will be the focus sections 6.1.4 - 6.1.7 is that the relata of the ascription relation are constrained in a way that the relata of the reference relation are not.

After distinguishing ascription from reference, I will move on to briefly discuss the worry that the ascription view leads to Russell's paradox. The upshot of that discussion will be that there are a number of ascription-compatible approaches to dissolution of the paradox.

6.1.1 Direction

The first difference between ascription and reference is that ascription can be directed, while reference cannot be. To grasp this property of relations, consider a metaphysical distinction between throwing, thinking, and teaching. The distinctions I am going to draw between thinking, throwing, and teaching are potentially controversial. My goal here is not to defend a metaphysics of thinking, throwing, or teaching. Rather, I aim merely to demonstrate a plausible metaphysical distinction. If the reader finds my particular choice of examples unsatisfactory, she need not look far to find others.

Throwing, is, in many cases, a two-place relation between a thrower and the object thrown. Throwings come in two types: directed and non-directed. If I

am throwing the baseball *to*, or *at*, something or somebody—perhaps a particular first baseman or window—then my throwing is directed.² If, however, I am throwing the baseball aimlessly, perhaps because I am angry or careless, then there is nothing such that I am throwing the baseball at it. This is non-directed throwing.

Unlike throwing, thinking must be non-directed. Thinking, or at least *thinking that*, is a relation between a person and a proposition. I can think that the sky is blue. I cannot, however, direct this thinking to, or at, something. Teachings, unlike throwings, must be directed. I can teach philosophy to Cornell students. However, I cannot teach philosophy without teaching it to anything or anybody. If I stand in an empty room reciting my philosophy 101 lecture, I have not taught anything, I have just wasted my time.³

This metaphysical distinction has linguistic correlates, though the correlation is not perfect. (1) and (2) are both perfectly intelligible, as determined by the potential directedness of throwing. (3) makes perfect sense, and (4) makes none, as determined by the non-directedness of thinking. Interestingly, both (5) and (6) are intelligible, despite the requisite directedness of teaching.

(1) I threw the ball.

(2) I threw the ball to the first baseman.

(3) I thought that it was rainy.

²I am skipping over another distinction here: between *de re* and *de dicto* throwings. My throwing to the window is *de re* if I am throwing towards a particular window and *de dicto* if I simply intend to hit some window or other. I will count both as directed and continue to ignore the distinction.

³There are complicated questions about intensionality that arise here. It may be the case that there are teaching events with no actual students, as long as the teacher intends the teaching to be directed at some students. There are also contexts in which we use “teach” to mean “successfully teach”. I mean to set these contexts aside.

(4) *I thought that it was rainy *to* Sam.

(5) I taught basic logic.

(6) I taught basic logic to some future philosophers.

That there is some tripartite distinction between directed, non-directed, and directable relations is hard to doubt. What this distinction, or its linguistic manifestations, amount to, is highly controversial. Perhaps the most popular way to make sense of the distinction is by invoking some machinery made popular by Davidson (1967b) and his followers. If we isolate a class of events as throwings, we can identify roles played by different participants of these events. In the throwing event described by (2), I am the agent, the ball is the patient, and the window is the theme. We can then distinguish between three types of events: those that allow, but don't require, themes, those that disallow themes, and those that require themes. Directed relations could, then, be identified as relations such that, when instantiated, they require the existence of an event with a theme. (One complication that I'll slide over is that, for many neo-Davidsonians, relations of the type I am taking for granted drop out of the picture all-together, see Parsons (1990), Landman (2001) and Pietroski (2005a). If such a view is correct, it wouldn't diminish the point that there is a tripartite distinction along the lines I suggest; it simply would show that it is not a distinction between types of relations.) The Davidsonian suggestion is not the only possible one. Another suggestion would be that the throwing relation has variable adicity, allowing, but not requiring, an argument place for the theme of the relation, while the thinking and teaching relations have fixed adicity, of two and three places, respectively.

The precise nature of this distinction is controversial and largely irrelevant

for our purposes. The only relevant fact is that ascription is like throwing: it is directable though not necessarily directed. Reference, like thinking, can not be directed. To see that ascription can be directed we can observe ordinary atomic sentences. In (1), “wise” ascribes wisdom to a particular person, Socrates:

(1) Socrates is wise.

It is a bit more complicated and controversial to see that ascription need not be directed. The best evidence comes from cases in which a predicate serves as the argument for another higher-order predicate. In (7), for example, “dog” restricts the quantifier “some”:

(7) Some dog is happy.

If, as is standardly assumed, “some” is a higher-order predicate that ascribes the property of being co-instantiated to its arguments, then “dog” in (7) will be one of the arguments of “some”. “Some”, however, is not plausibly an argument of “dog”. After all, the property of being co-instantiated is not itself a dog. Here, then, we have a case of ascription—“dog” ascribes doghood—without direction. There are other potential cases of non-directed ascription. Perhaps the most convincing is when the argument term of a predicate is a denotationless pleonastic as in “It is raining”. Since “it” does not denote, the thought goes, there is not anything towards which we can direct the ascription relation. This is, of course, quick, and more would have to be said to make it convincing. See Rothstein (2001) for more on pleonastics and predication.

The more general picture of (7), which extends to other quantificational sentences, is that “Some” ascribes a two-place relation—the relation of being co-instantiated—to the entities that are ascribed by the predicates it combines with,

in this case “dog” and “happy”. Being predicates, “dog” and “happy” are ascribing terms. However, in this sentence their ascription is not directed. Rather, “some” ascribes co-instantiation to their denotations. In general, when a lower-order predicate P is the argument of a higher-order predicate Q, then P’s ascription will not be directed. By contrast, Q’s ascription will be directed towards P. This is just a complicated way to capture a basic fact about the diverse semantic contribution of predicates. Predicates play (at least) two roles: they take arguments and they serve as arguments. When a predicate takes an argument, it ascribes its denotation to that argument. When a predicate serves as an argument, its own ascription is non-directed. The flexibility of ascription mirrors the flexible semantic contribution of predicates. This is exactly what we would expect on the hypothesis that ascription is the mark of predication.

There is one complication worth noting. We need not assume that “dog” and “happy” as they occur in (7) are predicates. If they refer to properties, then we can preserve the same semantics for quantifiers—that they denote two-place relations between properties—while denying that there is any directionless ascription in (7).⁴ If we interpret quantification in this manner, and somehow dispel the motivation from pleonastics, we will be left without reason to think that ascription can ever be non-directed. Even setting aside pleonastics, I am skeptical of this move. We have no independent reasons to think that singular count nouns can occur as non-predicates, so it would be *ad hoc* to claim that here.

⁴Again, for simplicity I am speaking as if all predicates denote properties. I seriously doubt this, as I think that some denote kinds. I’ll ignore that here.

6.1.2 Incompleteness

The Fregean rhetoric—that predicates are incomplete and unsaturated—is powerful. The idea is that a predicate, by itself, contributes something that needs semantic completion by its argument. As powerful as it is, the rhetoric is opaque. Another motivation for the claim that ascription can be directed is that such a claim allows us to sharpen and vindicate the Fregean rhetoric.

Skepticism about incompleteness/unsaturatedness is already present in Ramsey (1925). Ramsey observes that building a sentence (or, more generally, a clause) requires both a predicate and its argument. Neither a predicate nor a non-predicate by itself forms a complete sentence. If a term’s semantic incompleteness consists of the requirement of composition with another meaningful element in order to form a sentence, then non-predicates are just as incomplete as predicates.

Ramsey’s point is important. Neither a single predicate nor a single non-predicate can constitute a sentence. Rather than taking this to show that the incompleteness rhetoric is misguided, we can take it as an invitation to flesh out the rhetoric in another way. The basic intuition is that predicates and non-predicates differ semantically. Describing predicates as “incomplete” is a way to attempt to capture this distinction. In atomic sentences, non-predicates, it is generally agreed, semantically contribute their denotations. Predicates, on the other hand, seem to characterize those denotations. Characterization requires an object, and, in this way, predicates are thought to be ‘incomplete’ until such objects are provided. All of this remains at the level of rhetoric, but the rhetoric is nearly irresistible.

If ascription can be directed, we can account for the incompleteness intuition. According to the ascription view, there are three things that need to be specified in order to capture the full semantic contribution of a directed predicate. First, we need to specify that the predicate stands in the *ascription* relation to its denotation and its argument. Second, we need to specify *what the predicate ascribes*, the denotation of the predicate “wise”, for instance, is the property of being wise. Third, and crucially, we need to specify *what the the predicate is directed towards*.

Predicates only have arguments when they occur in sentences. When we specify the meaning of a predicate expression, as opposed to any of its occurrences, we specify that it ascribes, as well as what it ascribes. When this predicate occurs, there is another element crucial to its contribution: its argument. Predicates, in this way, are incomplete until they are provided with arguments. For an occurrence of a predicate, mere specification of how and what is denoted is an incomplete specification of that occurrence’s full semantic contribution.

6.1.3 Predicates and Predicative Occurrences

The fact that ascription can be directed brings to light issues about the relation between terms and their occurrences. The primary claim of this dissertation is that it is a necessary and sufficient condition for a term or term occurrence to be a predicate that that term or occurrence bear the ascription relation to its denotation. Direction, however, seems only to apply to term occurrences. A particular predicate, e.g. “wise”, is not, in and of itself, directed towards anything. However, when “wise” occurs in “Socrates is wise”, it is directed

toward Socrates.

The idea is that terms (themselves) have semantic values. Their occurrences also have semantic values. The semantics of terms and their occurrences is highly related, though the nature of the relationship is a matter of great controversy. As I mentioned in Chapter 1, I do not take either terms or their occurrences to be fundamental, though the ascription view is compatible with either view about fundamentality. A term such as “wise” is a predicate. This means that it bears the ascription relation to its denotation, wisdom. This may seem wholly disconnected from the fact that certain occurrences of “wise” ascribe wisdom *to things*, but it is not. When a term bears the ascription relation to its denotation, this carries with it a fact about the term’s dispositions. A predicate P which ascribes a property Q is such that it is disposed to ascribe Q *to things* when it occurs in the proper contexts.

We can, therefore, make sense of the incompleteness of both predicate terms and their occurrences. The predicate “wise” ascribes wisdom, it is disposed to ascribe wisdom to things when it occurs in the proper context. This is what incompleteness/unsaturatedness for predicate terms amounts to. The full semantic contribution of those occurrences is, in part, dependent on that term’s object of ascription. This is what incompleteness/unsaturatedness for predicative occurrences amounts to.

6.1.4 Relata

A intuition that has lurked in the background of this discussion is that we can use non-predicates to refer to anything (object, entity, concept, quantity, etc.) If

something exists then we can refer to it. This intuition is buttressed by the natural language data that I relied on in Chapter 5. Gerunds, infinitives, and property names all seem to allow us to refer to predicate denotations. More carefully put, reference is a two-place relation and while the first place needs to be filled by something capable of referring—often a word—the second place, it seems, can be filled by anything whatsoever. Denying this intuition leads quickly to expressibility problems.⁵ The entity theorist constrains reference: on her view no non-predicate can refer to a concept. This constraint undermines the possibility of expressing facts that require, for their articulation, non-predicative reference to concepts.

On the ascription view, reference is unconstrained. Anything and everything is a possible referent, even those things that can also be ascribed. This not only adequately generalizes from our actual linguistic practices, but it also captures a deeply held intuition about the nature of language.

Ascription, on the other hand, is constrained. The first slot of the ascription relation must be filled by something capable of denoting, usually a word. The second slot can only be filled by something that is cable of being ascribed. In more familiar terminology: a predicable. Properties are the most commonly thought of predicables, though kinds may also play the role. Wisdom, a predicable, can be ascribed. Al Gore, a non-predicable, cannot.

This constraint on ascription, that we can only ascribe a predicable, not only serves to further set ascription apart from reference, it also captures our intuitions about predication. I cannot predicate a table of myself, this is precisely

⁵There may be no metaphysical constraints on what fills the first place. Surely we can refer with more than words: non-word symbols sometimes do the trick. I'll remain neutral on this here, though note that there are clear practical constraints on what we can use to refer.

because a table is not the type of thing that can be predicated and, *ipso facto*, a table cannot be denoted by a predicate. I can, however, ascribe wisdom to Frege. This is due to the fact that wisdom is a property and properties are predicables.

6.1.5 Nominalization

Natural language allows unconstrained generation of non-predicates from predicates. We can generate non-predicates to refer to the denotations of their predicate counterparts by introducing gerunds and infinitives, or coining names. From the predicate “wise” we can produce the non-predicate “wisdom”, from “eats” we produce “to eat”, and from “thinks” we produce “thinking”.

Free movement from predicates to non-predicates is not mirrored by an operation that produces predicates from non-predicates. There is no predicate that corresponds to “Paul McCartney”, just as there is no predicate that corresponds to “I”.⁶

Given the constraints on ascription, the asymmetry of nominalization and the absence of predicates derived from “Paul McCartney” and “I” is not surprising. Paul McCartney is not the sort of thing that can be ascribed. After all, under just what conditions would Paul McCartney be truly ascribed to a table? The bizarreness of the question brings to light just that metaphysical constraint on the ascription relation that prevents free generation of predicates from non-predicates.

Of course, we can form sentences in which proper names occur with “is”, as

⁶Burge (1972) argues that proper names *are* predicates. Following most, I take it that when it seems as if proper names are predicates, what is really going on is that we are using meta-linguistic predicates generated from proper names, e.g. “is named ‘Paul McCartney’”.

in (8).

(8) My favorite Beatle is Paul McCartney.

The popular and long standing view of such sentences is that “is” expresses the identity relation. It follows, then, that “is Paul McCartney” is a predicate that denotes the property of being identical with Paul McCartney. I’ll follow most and endorse this view here. As Higginbotham (1987) notes, such a view is supported by coordination facts. Compare (9) to (10):

(9) My favorite Beatle is funny and charming.

(10) #My favorite Beatle is funny and Paul McCartney.

(10) is extremely odd. If “is” in sentences like (8) expresses the identity relation, while “is” in (9) is the copula, then we have an explanation of the oddity of (10): it is odd because in order to interpret it we must assign two distinct meanings to “is”. My tentative conclusion is that the possibility of sentences such as (8), then, does not support the view that proper names can occur as predicates.

6.1.6 Truth

Davidson (2004) repeatedly insists that any adequate account of predication will have to account for the intimate link between predication and truth. The fact that predicates are constrained to denote predicables allows us to do just this. Roughly, and I will spell this out in more detail below, predicables, unlike Paul McCartney, are true and false of objects; predicables are true of those objects that instantiate them and false of those that don’t. The property blueness is

true of blue things and false of non-blue things. Since predicates must ascribe predicables, it follows that predicates will also be true and false of things: those very things that their denotations are true and false of. It is, then, not surprising that there is an intimate link between truth and predication. Predicates, by their nature, ascribe, and ascription, by its nature, gives rise to truth-aptness.

I'll now spell this out more precisely. Complete and meaningful declarative sentences are truth-apt. Very roughly, this means that they are true, false, or indeterminate. Since vagueness is not our concern here, I'll assume bivalence. For the time being, assume that the truth-aptness of sentences is dependent on the truth-aptness of the propositions that those sentences express. Also assume that propositions are Russellian, i.e. they are complex entities constructed from properties, relations, and ordinary objects with structures isomorphic to the structures of the sentences that express them. Now consider a specific sentence, (11):

(11) Sam is sitting.

(11) expresses the proposition that Sam is sitting, which is true just in case Sam is sitting. Sam and the property of sitting can compose a truth-apt proposition because the property of sitting is such that it can be instantiated by objects. In this way the property of sitting is unlike Paul McCartney. The predicate "sitting" in (11) is constrained to contribute a predicable to the proposition expressed by (11). This is guaranteed by the nature of the ascription relation. The link between predication and truth, then, becomes apparent. Predicates are constrained to denote predicables and, *ipso facto* predicates contribute predicables to the propositions expressed by sentences in which they occur. Predicables, in turn, can be instantiated by objects, or not. This allows propositions containing

predicables, along with objects, to have truth-conditions. The truth-conditions of propositions, on our earlier assumption, then explain the truth-conditions of sentences.

This explanation required two controversial assumptions: that the truth-aptness of sentences is explained by the truth-aptness of propositions, and that propositions are structured Russellian entities. While these assumptions helped to make the explanation vivid, neither is required to make the point. The basic idea is that predicates must denote things that objects do or don't instantiate. The facts about instantiation can then be used to explain the truth-aptness of the sentences in which predicates occur. The exact form of explanation will depend on a number of things, including one's conception of truth, propositions, sentences, and fundamentality.

6.1.7 Unity

When outlining the entity view in Chapter 1, I noted that it has been motivated by its alleged potential to account for the unity of the proposition.⁷ I'll now deflate this motivation for the entity view by demonstrating how the ascription view allows us to give an account of propositional unity.

To understand the unity of the proposition problem, begin by considering tables. Tables are complex in the sense that they are composed of a number of distinct parts. The mere existence of these parts is not sufficient for a table to exist. In addition to existing, the parts must be arranged in a proper way. Very roughly, the legs must support the top. The unity problem, as it concerns

⁷In fact, the adequacy of that account is highly questionable (King 2007).

tables, is the problem of understanding the types of entities and the relationship between them that is required in order to for those entities to compose a table. Similar unity problems arise for any complex object.⁸

Focus, now, on the unity problems that arise for sentences and propositions. Sentences are complex entities composed of (at least) words. Not just any way of putting together words suffices for sentencehood. “Happy Bob is” is not a meaningful sentence, though “Bob is happy” is.⁹ At least on any structured conception, the same can be said of propositions.¹⁰

One way to make unity problems more precise is to distinguish a unified object from the mere sum of the same parts.¹¹ “Bob is happy” is not merely the sum of its sub-sentential constituents; after all, if it were, it would be identical to “happy Bob is”. To compose a meaningful sentence, words must be related to each other in a way that mere summation does not guarantee. The same goes for propositions. The sum of Bob and happiness is not identical to the proposition that Bob is happy. After all, the latter has truth-conditions and the former does not. Unity problems consist of the challenge of identifying the feature of a complex object that distinguishes that object from the mere sum of its parts. In what follows I’ll use the term “the unity of the proposition” to denote the problem as it pertains to propositions and “the unity of the sentence” to denote

⁸There are a number of ways that one may wish to account for the unity of material objects. See Fine (1999) and Paul (2002) for two approaches. Exactly what accounts for the unity of material objects doesn’t matter here, all that matters is that the issue is analogous to the problem of accounting for the unity of sentences propositions.

⁹Perhaps “Happy Bob is” is a sentence in Yoda’s dialect of English, though it is not in ordinary English.

¹⁰The unity of the proposition, at least as it is understood here, does not arise on an unstructured view of propositions such as the ones defended by Stalnaker (1984), Lewis (1986), or Bealer (1998). After all, if propositions do not have components, then, *ipso facto*, there are no components to unify. However, even on unstructured views of propositions, the highly related problem of accounting for sentence’s unity arises.

¹¹See Linsky (1992) for a similar conception of unity problems.

the corresponding problem for sentences.

Crucially, on the ascription view, predicates do not bear the same relation to their denotations that non-predicates bear to theirs. As I've developed the view, the ascription relation has a special feature: it can be directed. In (1), the predicate "wise" doesn't merely ascribe the property of being wise, it ascribes that property *to Socrates*. Wisdom is related to Socrates by virtue of the fact that it is ascribed to Socrates; the predicate "wise" is related to the non-predicate "Socrates" by virtue of the fact that the former ascribes wisdom to the denotation of the latter. The directedness of ascription, then, gives rise to relations between the sub-sentential expressions of (1) and the denotations of those sub-sentential expressions. As I discussed in 6.1.5, these relations give rise to the truth-aptness of the sentence.

The ascription view, then, allows us to account for the unity in the sentence in the following way: the sentence "Bob is happy" is distinguished from the mereological sum of "Bob", "is", and "happy", because in the former the words are related to one another by the ascription relation while in the latter they are not. More precisely, the word "happy" is related to "Bob" because the former ascribes happiness to the denotation of the latter. This story generalizes: meaningful sentences are distinguished from mere sums because the former contains words that are related by ascription while the latter are not. This account of the unity of the sentence, as I've developed it, *does* require that predicate denotations are ontologically special: they must be predicables. However, *pace* Frege, this solution *does not* require that predicate denotations are disjoint from non-predicate denotations. Non-predicates which refer to predicables do not generate any problem precisely because they refer to their denotations rather

than ascribing them.

On structured views of propositions, it is generally assumed that propositional structure is isomorphic to sentence structure. With this assumption in hand, we can use our account of the unity of the sentence to generate an account of the unity of the proposition. The proposition that Socrates is wise is composed of Socrates and wisdom. Socrates and wisdom, in turn, are related by ascription: wisdom is ascribed to Socrates. This distinguishes the proposition that Socrates is wise from the mere sum of Socrates and wisdom: in composing the sum, Socrates and wisdom need not be related by ascription. This is, of course, only the beginning of a full account of the unity of propositions. To give such an account, we'd have to show that invoking ascription as the relation between propositional constituents generates propositions which are capable of fulfilling the familiar tasks attributed to propositions. This sort of account requires a discussion of its own, all that is important to show here is that the ascription view does at least as well as the entity view.

6.2 Paradox

The ascription view may have an advantage over the entity and mapping views when it comes to giving an elegant semantics for some natural language constructions, but, one may think, this advantage is outweighed by its vulnerability to Russell's paradox. The ascription theorist attributes denotations to predicates and allows for genuine self-predication: the referent of a sentence's subject term may be the very entity that is ascribed by the predicate of that same sentence.

These two features lead to the property version of Russell's paradox.¹² Consider the predicate "not self-instantiating". By hypothesis, it denotes the property of being non-self-instantiating. Assume that the predicate truly ascribes this property to itself. It follows, then, by the nature of the property, that the property does not instantiate itself. We contradict our assumption and can conclude its falsity. The same contradiction can then be concluded from the negation of the assumption.

I should immediately come clean and admit that I do not have a novel and satisfactory solution to Russell's paradox (or related paradoxes). That said, requiring such a solution in this context is setting the bar too high. The reason is that Russell's paradox is just one of a large number of related semantic paradoxes, including Grelling's paradox and the liar paradox. As stressed in Field (2008), there is reason to think that there will be a common solution to these. Given that I do not have a general solution to semantic paradoxes, I do not have a solution to Russell's.

The generality of the semantic paradoxes would be a worry for the ascription view if we had reason to think that any solution would require rejection of some tenet of the view, e.g. its allowance of self-ascription. However, banning self-ascription does not allow us to escape all semantic paradoxes and, as such, it is not at their root. Wright, in his defense of the ascription view, stresses this point: "...too many of the family of paradoxes that exercised Russell survive the imposition of Frege's hierarchy to allow us to think that it gets to the root of that particular one" (1998: 90).

¹²We should distinguish the set-theoretic and property-theoretic versions of Russell's paradox. My topic here is the property-theoretic version.

6.2.1 The Entity and Mapping Views

As stated, the entity view does not directly rule out self-predication. However, most developments of the entity view divide semantic expressions and their denotations into types. This type-theoretic approach to Russell's paradox is historically popular and influential. However, it leads directly to the problems that we've already discussed. The lesson of these problems is that any approach that bans self-predication in the familiar way has the virtue of avoiding paradox but enough vices to make us look elsewhere. This is not to say that English is in no way typed. There may be predicate mismatches that suggest typing, e.g. "Sam is occurring". Intuitively, these typing errors seem like category mistakes. This is also not to say that typed formal languages do not provide the best and most powerful models of natural language.

The mapping theorist avoids (some of) the paradoxes of self-predication by brute force. She claims that predicates do not denote and, *ipso facto*, there are no properties to take part in self-predication.¹³ This move avoids Russell's Paradox, but it throws the baby out with the bath-water. Predicate denotation is needed to give an adequate account of the natural language phenomena discussed in section 3. The mapping theorist cannot do this.

The mapping view and its nominalist kin have looked promising when philosophers considered relatively few of their implications. Is it really so bad to deny that terms such as "The property of being wise" and "parthood" are non-denoting? Since such terms are relatively technical and unlikely to be employed by ordinary speakers one may not think so. However, the mapping view

¹³I've included the parenthetical "some of" because the mapping theory doesn't, *qua* nominalist theory, prevent the liar paradox.

starts to look a lot worse when we realize that a huge number of ordinary English terms, e.g. gerunds and infinitives, seem to demand a property denoting semantics. The demand is strong enough to pursue a non-nominalist theory.

6.2.2 Ascription-Compatible Approaches

There are a number of paradox-free approaches to natural language semantics that are compatible with the ascription view. On the ascription view there are two assumptions with which we can generate paradox: the assumption that predicates denote and the assumption that genuine self-predication is possible. As a nominalist, the mapping theorist denies the former assumption, and if developed in a type-theoretic manner, the entity theorist denies the latter.

However, it is not the case that these are the only two assumptions needed to generate paradox. There are a number of additional assumptions needed and there are at least that same number of ways to avoid paradox.¹⁴ Nearly all of the canonical solutions are ascription-compatible. A popular idea is to limit classical logic in some way that prevents derivation of the paradox. There are a large number of ways to do this. For example, Chierchia and Turner (1988) advance an approach based on Gupta and Belnap's revision theory (1993). On this approach, the biconditional is construed as a device for revising earlier conclusions. So we can conclude each half of the contradiction, we just can't conclude them concurrently, in order to assert the contradiction. A different approach is to limit the law of excluded middle as in Field (2004) and Schlenker (ms.) in order to give the Russell biconditional some status short of truth, this solution countenances truth-value gaps. Contrastively, we may assign the Russell bicon-

¹⁴Field (2008) gives a nice overview of possible solutions.

ditional both truth-values, this position countenances truth-value gluts. Those who wish to preserve classical logic may question the intuitive conceptions of the meanings assigned to the paradox-inducing terms. Burge (1979), for instance, gives a contextualist solution that centers on the claim that the meaning of the pernicious expression shifts with context.¹⁵

A more dramatic solution is to accept the seemingly paradoxical reasoning. Acceptance can take two forms. One could take a page from Priest (1987) and accept the truth of certain contradictions but revise classical logic in order to avoid a contradiction-induced explosion. Alternatively, one could follow Tarski (1983) and Eklund (2002) (in their work on the Liar paradox) and claim that natural language is, in some sense, inconsistent. On this view it could be that the rules of English freely allow for predicate nominalization and anaphora, and these rules are enough to generate paradox. Unlike Priest, this theorist can claim that not all of the rules of English can be respected when determining semantic values for English, on pain of inconsistency. In other words, the Russell-reasoning is good in the sense that it is allowed by English but bad in the sense that the conclusion is untrue: this is because the rules of English do not allow for consistent assignment of semantic values.¹⁶

I do not wish to either endorse or dismiss any of these approaches. Assessing their relative merits is beyond the scope of this discussion. I only bring them up to show that the ascription theorist has a several appealing options for dealing with Russell's paradox. A satisfactory assessment of these options can only take place as part of a more general assessment of the semantic paradoxes.

¹⁵Cocchiarella (1972) gives a Russell-paradox specific solution by denying that "is non-self instantiating" is well-defined. Since it is not well defined, it does not denote, and attempts to generate the paradox fall flat.

¹⁶Where possible, I have footnoted theorists who explicitly address Russell's paradox, rather than citing canonical works on the semantic paradoxes.

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