A Compositionalist’s Guide to Predicate-Reference

Agustín Rayo

October 13, 2014

In this paper I develop and defend an account of predicate-reference, which is a consequence of *compositionality*: a particular conception of the relationship between our language and the world it represents.

1 Language and World

The purpose of this section is to introduce compositionality. I will first argue that compositionality fits together with a natural picture of the way language works. I will then argue that it gives rise to a particular conception of reference for singular terms. Later, in section 2, I will argue that it gives rise to an analogous conception of predicate-reference.

1.1 The Social Picture of Language

I will start by describing the Social Picture of Language—a picture that strikes me as eminently sensible.

According to the Social Picture, language is a tool for social interaction. More specifically: it is a tool for communication. More specifically still: it is a tool for making speech acts.

And what is it to make a speech act? I will focus on the special case of assertion to keep things simple—speech acts of other kinds are to be modeled along similar lines. On the Social Picture of Language, to make an assertion is to make a two-part proposal (Stalnaker
1979). First, one proposes that a *distinction* be drawn amongst the possibilities that are being treated as “live options” for the purposes of the conversation. Second, one proposes that the possibilities falling on one side of this distinction be *ruled out*. Suppose, for example, that three possibilities that are being treated as live options for the purposes of our conversation:

1. A democrat wins the election.
2. A republican wins the election.
3. An independent wins the election.

Now suppose I assert “neither of the established parties has a chance this year”. In doing so, I propose, first, that we divide the possibilities into two groups: possibility 3, on the one hand, and possibilities 1 and 2, on the other. I then propose that we rule out possibilities in the latter category. If my proposal is accepted, only possibility 3 will remain as a “live option” for the purposes of our conversation.

If language is (in part) a tool for making assertions, and if making an assertion consists in making a proposal about which of a set of possibilities to rule out, then language is (at least in part) a tool for making proposals about the ruling out of possibilities. How are we to model language, if this result is to be secured? The most natural strategy is to claim that each sentence in the language has a “meaning” of some sort, and that competent speakers are in a position to use sentence-meanings, in context, to decide which of the possibilities that are being treated as live options for the purposes of the conversation to rule out.

The Social Picture of Language therefore gives us some reason to think that sentences have *meanings*. And, of course, if a language has infinitely many sentences, and if those sentences have meanings, then there is pressure to think that the language has meaningful sub-sentential expressions. For if the language is to be learnable by finite beings such as ourselves, it had better be *compositional*: it had better be such that there is a way of computing the meanings of sentences from the meanings of their constituent parts. So the Social Picture of Language gives us some reason to think that both sentences and sub-sentential expressions
Compositionalism and Metaphysicalism

How is our language related to the world it represents?

In this section I will consider two rival answers to this question: compositionalism and metaphysicalism. I will later argue that the Social Picture of Language gives us some reason to prefer the former.

According to compositionalism, the relationship between our language and the world it represents is relatively unconstrained. The only constraint on an assignment of sentential meanings is that it be generable compositionally from some assignment of sub-sentential meanings, and the only constraint on an assignment of sub-sentential meanings is that it allow one to generate one’s preferred assignment of sentential meanings compositionally.

The metaphysicalist agrees with the compositionalist that the meanings of sentences should be generable from the meanings of their constituent parts. But she goes beyond compositionalism by endorsing the following four claims:

**Facts** If a sentence has been assigned the truth-condition that \( p \), and if the world is such as to satisfy the condition that \( p \), then the sentence “describes” a particular feature of the world: it describes the fact that \( p \).

(What is a truth-condition? A sentence’s truth-condition is the condition that the world would have to satisfy in order for the sentence to count as true. The truth-condition of “Socrates is wise”, for example, is the condition that Socrates be wise. Thus, since the world is such as to satisfy the condition that Socrates be wise, “Socrates is wise” describes a particular feature of reality: it describes the fact that Socrates is wise.)

**Objective Structure** Facts are “objectively structured”: they are articulated into components, not by the manner in which we happen to represent them, but by the intrinsic
character of the relevant feature of the world.

For instance, a metaphysicalist might think that the fact that Socrates is wise is objectively structured into two components: Socrates and the property of wisdom.

**Uniqueness** Each fact has a unique objective structure.

Consider, for example, the fact that Socrates died. Suppose it is objectively structured into two components: Socrates and the property of having died. Then it cannot also be objectively structured into, say, an event of dying, Socrates, and the relation of being an agent.

**Metaphysical Reference** In order for an atomic sentence to succeed in describing a fact, two conditions must be satisfied: (i) the compositional structure of the sentence must be *isomorphic* to the objective structure of the fact, and (ii) the linguistic item at each terminal node of the compositional structure of the sentence must *refer* to the item at the corresponding node of objective structure of the fact.¹

For instance, the metaphysicalist thinks that “Socrates is wise” can only succeed in describing the fact that Socrates is wise if: (i) just like “Socrates is wise” is compositionally structured into a name (“Socrates”) and a predicate (“is wise”), the fact that Socrates is wise is objectively structured into an object (Socrates) and a property (wisdom), and (ii) “Socrates” refers to Socrates and “is wise” refers to the property of wisdom.

The metaphysicalist also thinks that “Socrates died” and “Socrates’s death took place” must have different truth-conditions, if they could be true at all. For suppose not: suppose that the two sentences have the same truth-conditions, and suppose there is

---

¹Here I am simplifying a bit, to ease the exposition. What [Metaphysical Reference] requires is that the compositional structure of the sentence be isomorphic to a *subtree* of the relevant objective structure, and that the term at each terminal node of the compositional structure of the sentence refer to the item at the corresponding node of the subtree. This is needed to make room for the view that, e.g. “c contains water” might pick out the same way for the world to be as “c contains H₂O”, even though “H₂O” has compositional structure that “water” lacks.
some world at which these truth-conditions are satisfied. It follows from [Facts] that our sentences describe the same fact at that world; it follows from [Objective Structure] that the fact is objectively structured; and it follows from [Uniqueness] that if it is objectively structured in a way that corresponds to the compositional structure of “Socrates died”, then it cannot also be objectively structured in a way that corresponds to the compositional structure of “Socrates’s death took place”. So it follows from [Metaphysical Reference] that our two sentences don’t describe the same fact after all.

Metaphysicalism parts company with compositionalism because it sees reference as imposing a non-trivial constraint on our ability to pair truth-conditions with sentences. The metaphysicalist believes that an assignment of truth-conditions to sentences could easily be derailed by the failure of a sub-sentential expression to properly hook up with the world, even if the assignment can be generated compositionally. For suppose we try to assign truth-conditions to an atomic sentence in a way that delivers a mismatch between the compositional structure of the sentence and the objective structure of the fact that the sentence would describe at a world satisfying the proposed truth-conditions. Then the metaphysicalist is committed to thinking that the sentence cannot be true at that world even if the proposed truth conditions are satisfied. So she is committed to thinking that the attempt to assign truth-conditions will be unsuccessful, regardless of whether it could have been generated compositionally.

1.3 An Example: Lines and Directions

From the point of view of the Social Picture of Language, it is hard to motivate the metaphysicalist thought that reference imposes a non-trivial constraint on our ability to pair truth-conditions with sentences. The best way to see this is to consider an example.

Frege famously set forth the doctrine that “a thought can be split up in many ways, so that now one thing, now another, appears as subject or predicate” (Frege 1892, 199). He made
use of this doctrine in the *Foundations of Arithmetic* when he suggested that “the direction of line \(a\) is identical with the direction of line \(b\)” expresses the same content as “line \(a\) is parallel to line \(b\)”, but we “carve up the content in a way different from the original way, and this yields us a new concept” (§64). In more contemporary terms, one might say that the sentences “line \(a\) is parallel to line \(b\)” and “the direction of line \(a\) = the direction of line \(b\)” have the same truth-conditions: they way the world must be in order for one of the sentences to be true is precisely the way the world must be in order for the other to be true.

Our example will use a variant of this idea. Suppose we start with a first-order language with variables \((x, y, \ldots)\) and constants \((a, b, \ldots)\) ranging over lines. We then enrich the language with variables of a new sort \((\alpha, \beta, \ldots)\) and with a function-letter \(\delta(x)\) (read “the direction of line \(x\)”). Truth-conditions for sentences containing the new vocabulary are stipulated to be as follows:

- If \(a\) and \(b\) are lines, we let the truth-conditions of \(\Gamma \delta(a) = \delta(b)\) (read: \(\Gamma\) the direction of \(a\) is identical to the direction of \(b\)) consist of the requirement that line \(a\) be parallel to line \(b\).

- If \(a\) is a line, we let the truth-condition of \(\exists \alpha(\alpha = \delta(a))\) (read: \(\exists\) there is a direction which is identical to the direction of \(a\)) consist of the requirement that there exist some line \(x\) such that is \(x\) parallel to line \(a\).

Truth-conditions for other sentences are specified along similar lines.\(^2\)

\(^2\)Here are the details. We begin by giving a precise characterization of our language, \(L\). In addition to the standard logical vocabulary, \(L\) contains a two place predicate ‘\(\ldots\)(\(\ldots\))’ (read: ‘\(\ldots\) is parallel to \(\ldots\)’), and variables of two different sorts: Roman variables ‘\(x_1, x_2, \ldots\)’ and Greek variables ‘\(\alpha_1, \alpha_2, \ldots\)’. The predicate ‘\(\ldots\)(\(\ldots\))’ is only allowed to take Roman variables as arguments. The identity predicate can take variables of either sort as arguments, but mixed identity statements are disallowed, so that \(\Gamma x_i = \alpha_j\) and \(\Gamma \alpha_i = x_j\) are both counted as ill-formed. Finally, \(L\) contains the Roman constants ‘\(a_1, a_2, \ldots\)’, which are allowed to take the place of Roman variables, and the Greek function-letter ‘\(\delta(\ldots)\)’ (read: ‘the direction of \(\ldots\)’), which is allowed to take the place of Greek variables when its argument-place has been filled with a Roman variable or constant. Accordingly, \(\Gamma \delta(x_i) = \alpha_j\) and \(\Gamma \delta(x_i) = \delta(x_j)\) are well-formed formulas, but \(\Gamma \delta(\alpha_i) = \alpha_j\) and \(\Gamma \delta(x_i) = x_j\) are not.

Next, we consider an assignment of truth-conditions to sentences in \(L\). We proceed by specifying, in our metalanguage, what would be required of the world in order for the truth-conditions of a given sentence of
From the compositionalist’s point of view, there is no reason to think that our assignment of truth-conditions is illegitimate, since it is easy to verify that it can be generated compositionally. (For instance, one could let the “meaning” of \( \Gamma \delta(a) \) consist of a function that assigns to each world \( w \) the set of lines that are parallel to \( a \) at \( w \), and claim that \( \Gamma \delta(a) = \delta(b) \) is true at a world \( w \) just in case the meaning of \( \Gamma \delta(a) \) and the meaning of \( \Gamma \delta(b) \) assign the same set of lines to \( w \).

From the metaphysicalist’s point of view, in contrast, our assignment of truth-conditions could well be rendered inadequate by a failure of sub-sentential expressions’ to properly hook up with the world. For suppose, as the metaphysicalist might, that the fact that line \( a \) is parallel to line \( b \) is objectively structured into three components: line \( a \), line \( b \), and the relation of being parallel to. Then the metaphysicalist thinks that this fact could not be picked out by the atomic sentence \( \Gamma \delta(a) = \delta(b) \). For—on the assumption that \( \Gamma \delta(a) \) and \( \Gamma \delta(b) \) are to have directions as their referents, and that ‘=’ is to express identity—the

\[ L \] to be satisfied. In doing so, we will allow ourselves to make reference to the lines \( l_1, l_2, \ldots \) in a particular domain, but not to the directions of these lines.

If \( \phi \) is a sentence of \( L \), we shall let the truth-conditions of \( \phi \) be specified by the metalinguistic sentence \( [\phi]^N \). The function \([\ldots]^N\) is characterized recursively, by way of the following procedure:

- \( [\Gamma \psi \land \theta]^N \) = ‘it is both the case that’ \( [\psi]^N \) and ‘that’ \( [\theta]^N \).
- \( [\Gamma \lnot \psi]^N \) = ‘it is not the case that’ \( [\psi]^N \).
- \( [\Gamma \exists x_i(\psi)]^N \) = ‘there is a line \( y_i \) such that’ \( [\psi]^N \).
- \( [\Gamma \exists \alpha_j(\psi)]^N \) = ‘there is a line \( z_i \) such that’ \( [\psi]^N \).
- \( [\Gamma a_i = a_j]^N \) = ‘line \( l_i \) is identical to line \( l_j \).
- \( [\Gamma x_i = a_j]^N \) = ‘\( y_i \) is identical to line \( l_j \).
- \( [\Gamma x_i = x_j]^N \) = ‘\( y_i \) is identical to \( y_j \).
- \( [\Gamma \alpha_i = \alpha_j]^N \) = ‘\( z_i \) is parallel to \( z_j \).
- \( [\Gamma \delta(a_i) = \alpha_j]^N \) = ‘line \( l_i \) is parallel to \( z_j \).
- \( [\Gamma \delta(x_i) = \alpha_j]^N \) = ‘line \( l_i \) is parallel to \( z_j \).
- \( [\Gamma a_i | a_j]^N \) = ‘line \( l_i \) is parallel to \( l_j \).
- \( [\Gamma x_i | a_j]^N \) = ‘\( y_i \) is parallel to \( l_j \).
- \( [\Gamma x_i | x_j]^N \) = ‘\( y_i \) is parallel to \( y_j \).

(I have omitted a few clauses for the sake of readability.)

It is worth noting that although \([\phi]^N\) is an open formula of the metalanguage when \( \phi \) is an open formula of \( L \), \([\phi]^N\) is always a sentence of the metalanguage when \( \phi \) is a sentence of \( L \).
sentence and the fact will be out of sync: there will be a mismatch between the referents of the terminal nodes of the compositional structure of the sentence and the terminal nodes of the objective structure of the fact.

The Social Picture of Language gives us a way of gaining traction on the debate between compositionalists and metaphysicalists. For, on the Social Picture, language is simply a tool for communication—and, in particular, a tool for making speech acts. So all it takes for an assignment of truth-conditions to be acceptable is for the resulting sentences to constitute a useful tool for making speech acts. And there is no reason to doubt that our Fregean assignment of truth-conditions could deliver a useful tool for discriminating amongst possibilities in the course of a conversation. So there is no reason to give credence to the metaphysicalist idea that the assignment could fail to be adequate because of a failure of sub-sentential expressions’ to properly “hook up” with the world.

1.4 A Compositionalist Conception of Reference

The compositionalist disagrees with the metaphysicalist about the need for any sort of connection between the compositional structure of a sentence and the objective structure of the fact that the sentence describes—if she is even prepared to speak of “objective structure”, which she may well not be. It is important to be clear, however, that this is not because the compositionalist believes that sub-sentential expressions lack reference. She would insist, for example, that the singular term \( \langle \delta(a) \rangle \) refers: it refers to the direction of line \( a \).

This might seem paradoxical. The compositionalist is, after all, committed to the following two claims:

1. The singular terms \( \langle \delta(a) \rangle \) and \( \langle \delta(b) \rangle \) refer: they refer, respectively, to the direction of line \( a \) and the direction of line \( b \).

2. All that is required of the world for \( \langle \delta(a) \rangle = \langle \delta(b) \rangle \) to be true is for line \( a \) to be parallel to line \( b \).
But how could these claims possibly be true at the same time? In accepting (1), the compositionalist is committed to thinking that $\neg \delta(a) = \delta(b)$ is a sentence “about” directions, since it is a sentence containing singular terms that refer to directions. And in accepting (2), she is committed to thinking that $\neg \delta(a) = \delta(b)$ can be made true by a feature of the world that is entirely to do with whether certain lines are parallel to one another. How could this be right? How could a sentence “about” directions be made true by a feature of the world that is entirely to do with lines?

The compositionalist escapes paradox by borrowing a page from Frege, and endorsing the following ‘just is’-statement:

[DIRECTIONS]

For the direction of $a$ to be identical to the direction of $b$ just is for $a$ to be parallel to $b$.

The compositionalist would claim, in other words, that there is no difference between the direction of $a$ being identical to the direction of $b$ and $a$ being parallel to $b$. (More colorfully: when God created the world and made it the case that line $a$ was parallel to line $b$, she thereby made it the case that the direction of $a$ was identical to the direction of $b$; there was nothing extra God needed to do or refrain from doing. Conversely: when God created the world and made it the case that the direction of $a$ was identical to the direction of $b$, she thereby made it the case that line $a$ was parallel to line $b$; there was nothing extra God needed to do or refrain from doing.)

In endorsing [Directions], the compositionalist follows Frege in thinking that a single feature of reality can be carved up—or structured—in different ways. When we use the sentence “the direction of $a$ is identical to the direction” to describe the relevant feature of reality we structure it one way; when use the sentence “$a$ is parallel to $b$”, we structure it in a different way.

The metaphysicalist, on the other hand, is committed to [Objective Structure] and [Unique-
ness]. So she would insist that—even if the compositionalist is right to think that a given feature of reality be could in principle be structured in different ways—at most one of these structurings is metaphysically significant: at most one of them is determined independently of the particular way in which we choose to represent it. And because the metaphysicalist is also committed to [Metaphysical Reference], she would go on to insist that $\Gamma \delta(a) = \delta(b) \uparrow$ can only succeed in describing a particular feature of reality if it is objectively structured in a way that yields as components the direction of $a$ and the direction of $b$.

The compositionalist need not disagree with the metaphysicalist about [Objective Structure] or [Uniqueness]. For compositionalism is neutral on the question of whether reality is objectively structured, on the question of whether such structure is unique, and, indeed, on the question of whether there is sense to be made of the notion of objective structure. The compositionalist will, however, disagree with the metaphysicalist about [Metaphysical Reference]. For she sees no reason to think that objective structure—if it makes sense to speak of such a thing—is a constraint on reference.

It is tempting, but ultimately unhelpful, to describe the disagreement between compositionists and metaphysicalists by saying that only metaphysicalists think of reference as a “genuine relation”. The reason it would be unhelpful to do so is that it would beg the question against the compositionalist, who would insist that reference genuinely relates expressions with the world. She would claim, for example, that in asserting:

$$\Gamma \delta(a) \uparrow$$

one is relating the expression $\Gamma \delta(a) \uparrow$ with the direction of $a$—and that relations don’t get any more “genuine” than that.

The real difference between compositionalist and metaphysicalist conceptions of reference is to do with the particular way in which the world is taken to constrain reference. To put the point in slogan form, the compositionalist thinks that our language only “makes contact” with the world at the level of sentences, and therefore that the only constraints on
reference are constraints that emerge from one’s assignment of meanings to *sentences*.

A bit more precisely, the compositionalist sees the situation as follows. To render a language meaningful is to decide which ways for the world to be—which truth-conditions—are to be associated with which sentences in which contexts. The world determines which sentences are true in which contexts, by determining which truth-conditions are satisfied. But there is no need for the world to be, in some sense, “responsive” to a sentence’s compositional structure in order to make the sentence true.

Compositional structure matters to truth, but only insofar as it places constraints on how one’s decision to associate truth-conditions with some sentences can coexist with one’s decision to associate other truth-conditions with other sentences. (If, for example, one chooses to associate the truth-condition that Alice run with the first-order sentence ‘\( R(a) \)’, then considerations of compositionality would allow one to associate with ‘\( R(b) \)’ the truth-condition that Bruno run—or the truth-condition that Julius Caesar run—but not the truth-condition that Bruno *walk*.)

The compositionalist thinks that whether a singular term refers is determined by whether some sentence of the right kind that contains the relevant term has been assigned a way for the world to be that turns out to be actualized.³ And which sentences are of the “right kind”? Atomic sentences. (More precisely: atomic sentences which are not inferentially anomalous.)

The compositionalist would claim, for example, that all it takes for the singular term “Neptune” to be non-empty is for an atomic sentence like “Neptune is a planet” to have been assigned a way for the world to be that turns out to be actualized.

And what about “Sherlock Holmes is a fictional character”? This is presumably an atomic sentence. It is not obviously true, but let us assume that it is true for the sake of argument. Would this be enough to show that “Sherlock Homes” refers? Not according

---

³I am certainly not the first to articulate a version of this view. See Frege, *Die Grundlagen der Arithmetik*; Dummett, *Frege: Philosophy of Language*; Wright, *Frege’s Conception of Numbers*; Rosen, *The Refutation of Nominalism (?)*.
to the compositionalist. For the sentence is inferentially anomalous. Notice, for instance, that whereas one can unproblematically infer “some object is a planet” from “Neptune is a planet”, it would be somewhat awkward to infer “some object is a fictional character” from “Sherlock Holmes is a fictional character”. And whereas one can unproblematically infer “Neptune is an object of some kind or other” from “Neptune is a planet”, it would be somewhat awkward to infer “Sherlock Holmes is an object of some kind or other” from “Sherlock Holmes is a fictional character”.

1.5 A Parochial Conception of Singulartermhood

Above I suggested a couple of respects in which the English sentence “Sherlock Holmes is a fictional character” is inferentially anomalous, but I did not give a general characterization of inferential anomaly. In particular, I did not give a characterization of inferential anomaly that could be used to determine, of a sentence in an arbitrary language, whether it counts as inferentially anomalous. From the compositionalist’s point of view, this is as it should be. The compositionalist thinks that both the notion of singulartermhood and the notion of inferential anomaly are parochial notions: although they can sometimes be made sense in the case of particular languages, they cannot be defined in a language-transcendent sense—a sense that would allow for application in arbitrary languages.

This deserves further explanation. The best place to start is to try to see things from the perspective of the metaphysicalist. By making use of the metaphysicalist’s ideology, let us say that the objective constituents of a fact are the “components” into which the fact gets carved out by its objective structure. (Suppose, for example, that the fact that Socrates is wise is objectively structured into Socrates and the property of wisdom. Then the “objective constituents” of the fact are Socrates and the property of wisdom.) The metaphysicalist might think, in particular, that the objective constituents of a fact can be classified in accordance with their “ontological character”. She might think that whereas some objective constituents have a “saturated” ontological character—constituents like Socrates, or like the
planet Neptune—others have an “unsaturated” ontological character—constituents like the property of wisdom, or the property of being a planet. This puts the metaphysicalist in a position to give a language-transcendent notion of singular termhood. She can claim that for an expression to be a singular term is for it to have a particular function: the function of picking out an “entity” of saturated ontological character. She can then go on to claim that for the singular term to be non-empty is for it to be successful in carrying out this function.

From a compositionalist’s point of view, this is all wrong. To begin with, the compositionalist need not accept the metaphysicalist’s ideology. As we have seen, she need not grant that it makes sense to talk about objective structure. Similarly, she need not grant that it makes sense to talk about the ontological character of an “entity” carved out by objective structure—and, indeed, she need not grant that it makes sense to speak of an “entity” in the general sense that the metaphysicalist requires.

More importantly, the compositionalist would claim that the metaphysicalist’s ideology is irrelevant to the notion of reference. It is simply a mistake to think that singular terms have the function of picking out from amongst the “entities” carved out by the world’s objective structure one with “saturated” ontological character. The compositionalist would claim instead that to be a singular term of English is simply to be an expression with the same sort of compositional behavior as expressions like “Plato” or “London”—and she would emphasize that there is no need to add anything about purporting to pick out “entities” with the right kind of ontological character. If she wished to project this understanding of singular terms beyond English, the compositionalist might claim that to be a singular term of, say, Spanish is simply to be an expression with the same sort of compositional behavior as expressions like “Platón” and “Londres”—expressions which we regard as natural translations of “Plato” and “London”, respectively. And she might claim that to be a singular term of a first-order language is simply to be an expression with the same sort of compositional behavior as the first-order expressions that we would naturally use to translate English expressions like “Plato” and “London”. Given a language with sufficiently alien compositional structures,
however, the compositionalist would claim that she has no principled way of extending her parochial, language-relative understanding of singular termhood to the new language.

Similarly, the compositionalist would claim that the metaphysicalist’s ideology is irrelevant to the question of whether a given singular term refers. She would claim, instead, that for a singular term to refer is simply for it to figure in some (inferentially normal) atomic sentence with truth-conditions that turn out to be satisfied, and she would go on to emphasize that the notion of inferential normality is to be elucidated parochially: as it might be, by reference to specific examples of acceptable and unacceptable inferences within the relevant language. She would insist that there is no need to make any claims about whether the term is successful in carrying out its function of “picking out a suitable entity from amongst those carved out by the world’s objective structure”. The compositionalist would therefore claim that it is a mistake to think that a singular term could fail to refer because of a lack of a suitable referent amongst the “entities” carved out by the world’s objective structure. As long as some (inferentially normal) atomic sentence containing the term has been assigned truth-conditions that turn out to be actualized, the term will refer.

1.6 Two Notions of Objecthood

We have seen that metaphysicalists and compositionalists think of reference in very different ways. This means that they must also think of the notion of objecthood in very different ways. According to the metaphysicalist, there is a language-transcendent notion of objecthood: to be an object is simply to be one of the “entities” carved out by the world’s objective structure and to have the right kind (i.e. “saturated”) ontological character.

The compositionalist would disagree. As usual, she need not accept the metaphysicalist’s ideology. But she would also deny that there is a language-transcendent notion of objecthood. From the compositionalist’s point of view, the notion of objecthood cannot be separated from grammatical considerations: to describe the world as containing objects just is to describe the world by using a sentence that contains singular terms (or variables taking
singular-term positions).\(^4\)

Does the compositionalist’s conception of objecthood commit her to the view that the objects themselves are language-dependent? Absolutely not. The compositionalist has no reason to deny that there is a definite way the world is. Suppose she thinks that the world is such that Venus is a planet. When one describes this way for the world to be by using the sentence “Venus is a planet”—which includes the singular term “Venus”—one describes the world as containing an object. Such an object-involving description of the world would have been unavailable to us if we had no singular terms. But the world would have remained unchanged in all astronomical respects. Venus would have continued to exist, even if we lacked the resources for describing the relevant feature of the world in a way that rendered Venus salient.

The compositionalist thinks that there is no difference between describing the world as containing objects and describing the world by using a sentence that contains singular terms (or variables taking singular-term positions). Is there anything further she might say to elucidate the notion of object? Yes, thought it is of limited utility. She can say—using a quantifier that binds variables taking singular term positions—that everything is an object (\(\forall x (\text{Object}(x))\), in a first-order language). We will return to this in section 2.3.

### 1.7 Summary of Section 1

Compositionalism is a view about the nature of the relationship between language and the world it represents. In slogan form, it is the view that language only makes contact with the world at the level of sentences. Sub-sentential expressions have meanings, but these meanings impose no constraints on the meanings of sentences beyond the constraint that it be possible to generate the meanings of sentences by using a recursive procedure of the right kind. In particular, an assignment of meanings to sentences couldn’t possibly be derailed by the failure of a sub-sentential expression to properly “hook up” with the world.

It is no part of compositionalism that singular terms fail to refer. A compositionalist would insist, for example, that a term like “Socrates” refers—in the most genuine and literal sense possible—to Socrates. But, unlike her metaphysicalist counterpart, she would also claim that it is a mistake to think that a singular term could fail to refer on account of there being no suitable referent amongst the “entities” carved out by the world’s objective structure. As long as some (inferentially normal) atomic sentence containing the term has been assigned truth-conditions that turn out to be actualized, the term will refer.

Along with the compositionalist’s conception of reference comes a conception of the notion of object. Whereas the metaphysicalist would claim that to describe the world as containing objects is to describe the world as containing “entities” with a particular “ontological character”, the compositionalist thinks that to describe the world as containing objects is to describe the world by using a sentence that contains singular terms (or variables taking singular-term positions). So she thinks that there is an inextricable link between the notion of an object and the notion of a singular term.

Compositional sounds like a radical view. Why take it seriously? Because it sits naturally with an attractive conception of the way language works: the Social Picture of Language. On this picture, language is a tool for making speech acts. So all it takes for an assignment of meanings to sentences to be acceptable is for it to deliver a useful tool for making speech acts. In the case of infinite languages, this motivates the compositionalist thought that one’s assignment ought to be generable compositionally. But it gives us no reason to accept the metaphysicalist idea an assignment of truth-conditions to sentences is only acceptable if the sentences are built from sub-sentential expressions that are properly “hooked up” with the world.
2 Predicate-Reference

In the preceding section we discussed a compositionalist conception of the reference of singular terms. In this section we will discuss an analogous conception of predicate-reference.

2.1 The Entity and Expressibility Theses

I would like start by considering some recent work by Bob Hale and Øystein Linnebo (Hale & Linnebo typescript). I will later argue that their proposal could be motivated from a metaphysicalist point of view but not from a compositionalist’s point of view, and this will help bring compositionalism into better focus.

Hale and Linnebo’s discussion presupposes a notion of “entity” that is meant to satisfy the following principle:

**Entity Thesis** If an expression is referential, then it refers to an “entity”.

They presuppose, in particular, that if a *predicate* is referential, then it must refer to an “entity”.

And what is an “entity”? Hale and Linnebo suggest that a Fregean would think of “entities” as falling under different “ontological categories”:

an entity belongs to a certain ontological category if and only if it is, or could be, the referent of an expression belonging to a corresponding syntactic category. Thus, objects are those things which are or could be the referents of proper names (i.e. singular terms), monadic first-level concepts [...] are those things which are or could be the referents of first-level predicates, and so on. (Hale & Linnebo typescript)

With this as their background, Hale and Linnebo defend the following claim:

**Expressibility Thesis** There is a variable that has among its values all entities of all ontological categories. (Hale & Linnebo typescript.)
The Entity and Expressibility theses are both potentially controversial. One way to see this is to consider the question of what they tell us about the reference of plural terms.

Let us start with the Entity Thesis. Suppose that one thinks that a plural term like “the elephants” refers, collectively, to the elephants. It is not obvious that this warrants the conclusion that “the elephants” refers to an “entity”. For what “entity” would that be? The most straightforward answer—“the entity in question is the elephants”—is dubiously grammatical, and therefore dubiously intelligible. Perhaps someone would wish to claim that the entity in question is the “plurality” of elephants. Although that answer has the advantage of grammaticality, it has the disadvantage that it risks changing the subject. For how is the “plurality” of elephants related to the elephants? If one answers anything other than “it is identical to them”, one has changed the subject. But if one does answer “it is identical to them”, one is again left with a claim that is dubiously grammatical, and therefore dubiously intelligible.

What about the Expressibility Thesis? As Hale and Linnebo are well aware, the Expressibility Thesis leads to contradiction in the presence of seemingly harmless assumptions. Here is a way of using plural terms to derive a contradiction:

Say that the “entity” referred to by a plural term is a “plurality”. Using the variables postulated by the Expressibility Thesis, we can say that some pluralities contain no pluralities amongst their members (for instance, the plurality referred to by “the elephants”). And we can say that some pluralities do contain pluralities amongst their members (for instance, the plurality referred to by “the pluralities”). Let $\rho$ be the plurality referred to by the plural term “the pluralities”.

---

5Lewis (1991) famously claimed that “the fusion [of cats] is nothing over and above the cats that compose it. It just is them. They just are it.” (p. 81) I certainly think Lewis is onto something here. For it is natural to think that there is no difference between the fact that there are cats and the fact that there is a fusion of cats. In other words, it is natural to accept:

For the fusion of cats to exist just is for the cats to exist

—which is perfectly grammatical. But note that this is simply an instance of the thesis that a single feature of reality can be carved up in different ways. It has no tendency to entail the dubiously grammatical—and therefore dubiously intelligible—“the fusion is the cats”. 

---
that do not contain themselves as members”. Does $\rho$ contain itself as a member?

Either way, you get a contradiction.

A friend of the Expressibility Thesis must make a substantial move to block this argument. She might claim, for instance, that the variables postulated by the Expressibility Thesis do not allow one to form meaningful plural terms. Or she might claim that although such terms are meaningful, some of them fail to be referential—or refer, but fail to refer to an “entity”.

Hale and Linnebo explore versions of the two latter moves, and find that each of them has “advantages and disadvantages”. I will not pursue the issue further here. All I want to do for now is put the Entity and Expressibility theses on the table, and note that they are potentially controversial.

2.2 Back to Metaphysicalism

In this section I will argue that the metaphysicalist is in a position to accept both the Entity Thesis and the Expressibility Thesis.

As we noted in sections 1.2 and 1.5, the metaphysicalist believes that facts are objectively structured into “components”, and therefore have “objective constituents”. This means that she has a straightforward way of understanding the notion of “entity” that is presupposed by the Entity and Expressibility Theses: an “entity” is simply an “objective constituent” of a fact.

The metaphysicalist believes, moreover, that in order for an atomic sentence to describe a fact, each of its subsentential expressions must refer to one of the fact’s “objective constituents”. So we immediately get a version of the Entity Thesis: the referential expressions in an atomic sentence will always refer to “entities” in the sense just characterized.

Finally, the metaphysicalist thinks that the objective constituents of a fact have different kinds of “ontological characters” (e.g. “saturated”, “unsaturated”), and that expressions of
different syntactic categories refer to constituents with different such “characters”. So we immediately get a version of the idea that expressions of different syntactic categories refer to “entities” of different “ontological categories”.

What about the Expressibility Thesis? The metaphysicalist thinks that the *semantic jobs* of predicates and singular terms—picking out an “unsaturated entity” and picking out a “saturated entity”, respectively—can be specified without bringing in syntactic notions. They can be specified using metaphysical notions: to be an “entity” is to be the “objective constituent” of a fact, and to be “saturated” or “unsaturated” is to do with one’s “ontological character”. So there is no obvious reason why one couldn’t introduce a variable designed to do *both* these jobs, and therefore no obvious reason why there couldn’t be a variable that takes as values both the referents of predicates and the referents of singular terms, as the Expressibility Thesis requires.6

### 2.3 Predicate-Reference for the Compositionalist

Let us now turn to compositionalism. In the present section we will consider a compositionalist account of predicate-reference; in the next section we will discuss the Entity and Expressibility Theses from a compositionalist point of view.

As we have seen, the compositionalist thinks that compositional structure matters to truth, but only insofar as it places constraints on how one’s decision to associate some ways for the world to be with some sentences can coexist with one’s decision to associate other ways for the world to be with other sentences.

In sections 1.4 and 1.5 we discussed some of the consequences of this view for the compositionalist’s conception of reference for singular terms. We noted, in particular, that the

---

6It is also worth noting that one’s ability to state the content of metaphysicalism relies on a version of the Expressibility Thesis. For unless one had something akin to a variable that has as values “entities” corresponding to different ontological categories, one cannot so much as express the thought that a way for the world to be is articulated into “objective constituents” with different “ontological characters”. (Of course, the compositionalist need not see this as a reason to accept the Expressibility Thesis, since, as we have seen, she need to think of metaphysicalism as a genuinely intelligible thesis.)
compositionalist would reject the metaphysicalist idea that a singular term has the function of picking out an “entity” of saturated ontological character from amongst the “entities” carved out by the world’s objective structure. The result is that a singular term $t$ couldn’t possibly fail to be referential by somehow failing to properly “hook up” with the world. As long as $t$ is part of a language whose sentences have been assigned truth-conditions compositionally, and as long as some (inferentially normal) atomic sentence containing $t$ has been assigned truth-conditions that turn out to be satisfied, $t$ will be genuinely referential.

The compositionalist conception of predicate-reference is exactly analogous. As in the case of singular terms, she would reject the metaphysicalist idea that a predicate has the function of picking out an “entity” with a certain kind of ontological character—unsaturated character, in this case—from amongst the “entities” carved out by the world’s objective structure. And, as in the case of singular terms, this means that a predicate $P$ couldn’t possibly fail to be referential by somehow failing to properly “hook up” with the world. As long as $P$ is part of a language whose sentences have been assigned truth-conditions compositionally, and as long as some (inferentially normal) atomic sentence containing $P$ has been assigned truth-conditions that turn out to be satisfied, $P$ will be genuinely referential.

As we saw in section 1.6, the compositionalist’s conception of reference for singular terms has consequences for the her conception of objecthood. She thinks that to describe the world as containing something is simply to describe it by using singular terms (or variables that take singular term positions). The situation is analogous when it comes to the compositionalist’s conception of predicate-reference: the compositionalist thinks that to describe the world as being such that a given object is somehow is simply to describe it by using a predicate (or variables taking predicate positions).

The compositionalist’s understanding of the semantic job of singular terms is shaped by her conception of objecthood. She would start by claiming, uncontroversially enough, that the semantic job of a singular term is to describe the world as containing something. But since she also thinks that to describe the world as containing something is simply to describe it
by using singular terms (or variables taking singular term positions), she will go on to claim that there is no way of doing the semantic job of a singular term without being a singular term (or a variable that takes singular term positions).

The compositionalist would say something exactly analogous about the semantic job of predicates. She would start by claiming, uncontroversially enough, that the semantic job of a predicate is to describe the world as being such that a given object is somehow. But since she also thinks that to describe the world as being such that a given object is somehow is simply to describe it by using a predicate (or a variable that takes predicate positions), she will go on to claim that there is no way of doing the semantic job of a predicate without being a predicate (or a variable that takes predicate positions).

2.4 Compositionalism and the Entity and Expressibility Theses

The compositionalist disagrees with the metaphysicalist about the Entity and Expressibility Theses.

As I noted in section 2.2, the metaphysicalist thinks that the semantic jobs of predicates and singular terms are suitably independent of the notion of a predicate and the notion of a singular term. So she sees no obvious obstacle to introducing a variable that does both these jobs, as required by the Expressibility Thesis. In contrast, we have just seen that the compositionalist thinks that performing the semantic job of a singular term requires a singular term (or a variable taking singular term positions), and that performing the semantic job of a predicate requires a predicate (or a variable taking predicate positions). So—unless a single expression can work both as a predicate and a singular term—it is impossible for a single expression to perform both semantic jobs, which is contrary to what the Expressibility Thesis demands.

In addition, the compositionalist faces little pressure to adopt a notion of “entity” general enough to play the sort of role that the Entity and Expressibility theses demand. She thinks that singular term reference is a matter of talking about something, and that predicate-
reference is a matter of saying of something that it is somehow. But she has no reason to add, ungrammatically: “when something is somehow, the thing and the how are both entities”.

The metaphysicalist is in a very different position. As we saw in section 2.2, her notion of the “objective constituents” of a fact is already a notion of “entity” with the requisite level of generality. She thinks, in particular, that predicates and singular terms both refer to “entities” in this sense. So even if the metaphysicalist agrees that a singular term reference is a matter of talking about something, and that predicate-reference is a matter of saying of something that it is somehow, she would go on to add that the two types of reference have something important in common: they both involve the pairing of an expression with the “objective constituent” of a fact.

Even though the compositionalist is not committed to the view that facts are objectively structured, she might sometimes speak of facts’ being “structured”. She might say, for example, that a single fact can be structured in different ways. Doesn’t this commit her to the claim that a fact has different “constituents”?

It does—but not in a sense of “constituent” general enough to support the Entity and Expressibility theses. The compositionalist thinks that to “structure a fact” is simply to describe the fact by using a syntactically articulated sentence. So, for instance, when she claims that a single feature of reality can be structured in different ways, all she means is that it can be accurately described by sentences with different syntactic structures. On this understanding of structuring, there is no commitment to the idea that facts have “constituents” in a sense that would allow one to say that both predicates and singular terms refer to such “constituents”.

Suppose, for example, that one uses “Socrates is wise” to describe a particular feature of reality. The compositionalist thinks that, in so doing, one “structures” the relevant feature of reality in a certain kind of way. But all she means by this is that one describes the relevant feature of reality by using a particular singular term (“Socrates”) and a particular predicate (“is wise”). She could, if she wanted, put the point differently, and say that one describes the
relevant feature of reality as involving a particular object (i.e. Socrates), and as consisting of that object’s being somehow (i.e. wise). But she won’t see herself as saying anything over and above what she had said before, since she thinks that to describe the world as containing an object just is to describe it by using a singular term, and that to describe the world as being such that an object is somehow just is to describe it by using a predicate. And she has no obvious reason to add, ungrammatically: “the relevant feature of reality is structured into two constituents—an object (i.e. Socrates) and a how (i.e. wise)”.

3 Nominalization

It is sometimes possible to nominalize a predicate, by finding a cognate singular term. For instance, one can nominalize the predicate “is wise” by using the singular term “wisdom”, and say “Socrates has wisdom” instead of “Socrates is wise”.

What sort of semantic relationship is there between “is wise” and its nominalization? It should be relatively uncontroversial that there is at least this this:

Necessarily, something is wise if and only if it has wisdom

But is there more to be said? Liebesman (forthcoming) thinks there is. Following (Wright 1998, Hale & Wright 2012), he argues that “‘wise’ in [‘Socrates is wise’] ascribes the property of being wise to Socrates, the very property which is referred to by ‘wisdom’ in ‘Wisdom is a property of Socrates’”. More generally, he sets forth the following claim:

Wright-Hale-Liebesman Thesis A predicate nominalization and its corresponding predicate designate the very same thing. (Liebesman forthcoming)

The aim of this section is to assess the Wright-Hale-Liebesman Thesis.
3.1 Two Theoretical Roles

It seems to me that whether one ought to accept the Thesis depends entirely on the kind of theoretical role that one wants the notion of designation to perform. Here are two different options:

1. **Semantic Ascent**

   It might be used as a device for semantic ascent. In other words: it might be used to generate, from a name of an expression $E$, expressions (or expression-occurrences) that are intersubstitutable with $E$.

2. **Compositional Semantics**

   It might be used as a device for specifying a compositional assignment of meanings to sentences. More specifically, one might think of designation as a relation that couples each expression $E$ of a given type with a “semantic value”, which encodes the semantic contribution of $E$ to the meanings of sentences in which it occurs.

In its first role, designation is a device for use *within* language: it is a tool that might be deployed by a *speaker* in getting the name of an expression to do some of the work that might be done by the expression itself. In its second role, designation is a device for theorizing about language: it is a tool that might be deployed by a *linguist* in specifying the meanings of sentences from the meanings of their constituent parts.

---

7 For further discussion of notions of predicate-reference that are well-suited as a device for semantic ascent, see Krämer 2014 and Trueman forthcoming.

8 The metaphysicalist is committed to thinking that there is a *third* theoretical role for a notion of designation to perform:

3. **Metaphysical Constraining**

   It might be used to specify a *metaphysical constraint* on admissible assignments of truth-conditions. For the metaphysicalist thinks that an atomic sentence can only succeed in describing a fact if its sub-sentential expressions “refer” to corresponding metaphysical components of the fact.

This third role is in principle separable from the linguist’s job of specifying a compositional assignment of meanings to sentences. For the linguist’s job is to account for language as a *social* and *cognitive* phenomenon. This means that she must assign meanings to sentences in a way that helps explain how they could be used as devices for communication, and how our cognitive systems are capable of language mastery. But there is no obvious reason to think that such a project must also conform to a metaphysicalist conception of the
If one takes the linguist’s perspective, and thinks of designation as a tool for specifying a compositional assignment of meanings to sentences, I see no reason for resisting the Wright-Hale-Liebesman Thesis. For, as far as I can tell, there is no reason to doubt that a linguist could generate an adequate assignment of truth-conditions to English sentences by assigning “wisdom” and “wise” the same semantic value—and, as Liebesman argues, she might well find it advantageous to do so.

If, on the other hand, one thinks of designation as a tool for semantic ascent, then matters are quite different. The problem is that the project of semantic ascent demands that one use a first-order predicate to capture singular-term-designation and second-order predicate to capture predicate-designation. And when one uses designation-predicates of different logical types, it is not clear what it would mean to say that a singular term and a predicate “designate the very same thing”, so it is not clear that the Wright-Hale-Liebesman Thesis makes sense.

Before I can make this point more precisely I need to say a few words about second-order resources.

### 3.2 Second-Order Resources

Consider the following first-order formula:

\[
\text{Wise}(\text{Socrates})
\]

[Read: Socrates is wise]

In a first-order language, one is allowed to replace the singular term “Socrates” in “Wise(Socrates)” by a first order variable and get a well-formed formula:

\[
\text{Wise}(x)
\]

[Read: it is wise]

And one can add first-order quantifiers to get further well-formed formulas. In particular:
\[ \exists x \ (\text{Wise}(x)) \]

[Read: there is something such that it is wise]

In a second-order language, one can replace the predicate “Wise” in “Wise(Socrates)” by a second-order variable (i.e. a variable that takes the position of first-order predicates) and get a well-formed formula:

\[ F(\text{Socrates}) \]

[Read: Socrates is like so]

And one can add second-order quantifiers to get further well-formed formulas. In particular:

\[ \exists F (F(\text{Socrates})) \]

[Read: things can be somehow such that Socrates is like so]

Let us now turn to predicates. The first thing to note is that a string like “Wise(\(x\))” is a sentence, not a predicate. (It is, of course, an open sentence, which—like the English sentence “it is wise”—does not express definite truth-conditions on its own.) If one wanted to transform the sentence “Wise(\(x\))” into a predicate, the thing to do would be to eliminate the “\(x\)” altogether, so as to get the incomplete expression:

\[ \exists x \quad \forall \]

9My English paraphrases of second-order formulas are intended as an informal device for helping the reader digest the relevant formulas, rather than as an official statement of their meanings. The question of whether second-order formulas have adequate English paraphrases is a highly controversial issue. Here, however, I will simply take for granted that second-order resources are legitimate, and remain neutral on the issue whether they admit of adequate English paraphrase. My own view, for what it’s worth, is that second-order resources are best treated as primitive, and understood on the basis of their inferential role. (For more on the English-paraphrases that I suggest above, see Rayo & Yablo 2001.)

One complication arises from the fact that second-order variables can take ‘empty’ values. The formula ‘\(\exists F \forall x \neg (F(x))\)’, for example, is truth of second-order logic, and the formula ‘\(\exists F \Box (\forall x \neg (F(x)))\)’ is arguably a truth of second-order modal logic. But it sounds wrong to say ‘things can be somehow such that, necessarily, nothing is like so’. This turns out not to be a problem in practice—at least not when it comes to the project of finding extensionally adequate English paraphrases for non-modal second-order sentences. For Boolos (1984) has shown that every second-order sentence is logically equivalent to a second-order sentence in which second-order quantifiers are restricted to ‘non-empty’ values. But it does underscore the fact that it is not obvious that English contains proper analogues of second-order quantifiers.
Wise(…)

[Read: … is wise]

In general, the result of deleting a singular term (or a variable taking singular term positions) from a sentence is a first-order predicate. Similarly, the result of deleting a first-order predicate (or a variable taking first-order predicate positions) from a sentence is a second-order predicate. For instance, the result of deleting “Wise(…)” from “Wise(Socrates)” yields the second-order predicate:

… Socrates

[Read: Socrates …]

Unlike the singular term “Socrates”, which has no argument-places, the second-order predicate “… Socrates” takes first-order predicates as arguments, and delivers a true sentence just in case its argument-place is filled with a predicate which is true of Socrates.

This sort of procedure can be used to build a second-order reference-predicate. Start with the ordinary first-order sentence:

$$\forall x (\text{Applies}(\text{Wise}, x) \leftrightarrow \text{Wise}(x))$$

[Read: “Wise” applies to an object just in case the object is wise.]

and make the following deletion:

$$\forall x (\text{Applies}(\text{Wise}, x) \leftrightarrow \ldots (x))$$

[Read: “Wise” applies to an object just in case the object is … .]

What you get is a second-order predicate: a predicate that yields a true sentence whenever its argument-place is filled with a first-order predicate which is true of all and only wise things. If one were then to remove the singular term “‘Wise’” from this predicate, one would get a two-place predicate:

$$\forall x (\text{Applies}(\ldots, x) \leftrightarrow \ldots (x))$$

[Read: … applies to an object just in case the object is … .]
The resulting two-place predicate can be used to capture the notion of predicate-reference. The best way to see this is to introduce the following syntactic abbreviation:

\[ \text{Reference}^{Pr}(\ldots, \ldots) \] abbreviates \( \forall x (\text{Applies}(\ldots, x) \leftrightarrow \ldots (x)) \).

Accordingly, one builds a sentence from \( \text{Reference}^{Pr}(\ldots, \ldots) \) by filling its first argument-place with a singular term (typically, the name of a first-order predicate) and filling its second argument-place with a first-order predicate. For instance:

\[ \text{Reference}^{Pr}(\text{“Wise”}, \text{Wise}) \]

[Read: “Wise” applies to an object just in case the object is wise.]

And, of course, the argument places of \( \text{Reference}^{Pr}(\ldots, \ldots) \) can also be filled with variables of the appropriate type:

\[ \text{Reference}^{Pr}(x, F) \]

[Read: it applies to an object just in case the object is like so.]

The compositionalist’s notion of predicate-reference is naturally captured by the second-order predicate \( \text{Reference}^{Pr} \). For instance, the compositionalist might reject the Entity Thesis by claiming that all it takes for a predicate \( P \) to be referential is for it to be the case that

\[ \exists F (\text{Reference}^{Pr}(P, F)) \]

[Read: things can be somehow such that \( P \) applies to an object just in case the object is like so.]

with no need for the additional claim that \( P \) refers to an “entity”.

3.3 Back to the Wright-Hale-Liebesman Thesis

Suppose one wishes to engage in semantic ascent: one wishes to generate, from a name for the first-order predicate “Wise”, variable occurrences which are intersubstitutable with
“Wise”. One way to do so is to use the construction “∃F(Reference^Pr(“Wise”, F) ∧ ...)”. For instance, “Wise(Socrates)” is equivalent to:

∃F(Reference^Pr(“Wise”, F) ∧ F(Socrates))

[Read: things can be somehow such that “Wise” applies to an object just in case the object is like so, and Socrates is like so.]

It is important to keep in mind, however, that this only works because the variable “F” is of the same syntactic category as the predicate “Wise”. Otherwise the result of replacing “Wise” with “F” in “Wise(Socrates)” would fail to be grammatical, and we would not be able to treat the relevant occurrences of “F” as intersubstitutable with “Wise”.

It is for this reason that, when one is engaged in the project of semantic ascent, singular-term-reference and predicate-reference require reference-predicates of different logical types. When one uses reference predicates of different-logical types, however, it is hard to make sense of the Wright-Hale-Liebesman Thesis. In the case of “wisdom” and “is wise”, for example, the Thesis would have to be spelled out as something along the following lines:

∗∀x∀F(Reference^Pr(“is wise”, F) ∧ (Reference(“wisdom”, x) → x = F))

[Read: if things can be somehow such that “is wise” applies to an object just in case the object is like so, and if there is an object x such that “Wisdom” refers to that object, then—ungrammatically—x is identical to is like so.]

But “x = F” (“x is identical to is like so”) is ungrammatical, so it is not immediately clear how to make sense of it.

In section 3.1 I suggested that there are at least two different roles that a notion of designation might be used to perform: it can be used as a speaker’s tool for semantic ascent, and it can be used as a linguist’s tool for specifying a compositional assignment of meanings to sentences. We have just seen that when the notion of designation is thought of as playing the first of these roles, it is not clear that the Wright-Hale-Liebesman Thesis makes
sense. But, as I noted in section 3.1, there is no obvious reason to cast doubt on the Wright-Hale-Liebesman Thesis when the notion of designation is thought of as playing the second of these roles. So it might be reasonable to accept the Wright-Hale-Liebesman Thesis with respect to some projects but not with respect to others.

What if one thought that a single notion of predicate-reference should play both theoretical roles? Such a notion couldn’t be captured by a first-order predicate, since, as we have seen, the role of semantic ascent demands a second-order predicate. But perhaps it could be captured by a second-order predicate: there is, after all, a straightforward way of using of higher-order reference-predicates in the context of compositional semantics (Boolos 1985, Rayo & Uzquiano 1999). If this is right, then it is possible in principle to use a first-order predicate to capture singular-term-designation, in both of its roles, and a second-order predicate to capture predicate designation, in both of its roles. On this approach, it is not clear that there is a viable path for making sense of the Wright-Hale-Liebesman Thesis.

Even if it is possible in principle, using a single notion of predicate-reference to play both theoretical roles may not be a good idea in practice. The task of supplying a compositional semantics for natural language is highly non-trivial, and it might well call for a richer conception of semantic value than could be specified using a predicate well-suited for semantic ascent, regardless of whether the predicate is first- or second-order. Happily, this is not an issue that needs to be decided here.

4 Conclusion

According to the compositionalist, a predicate couldn’t possibly fail to be referential on the grounds that it somehow fails to properly “hook up” with the world. As long as the predicate is part of a language whose sentences have been assigned truth-conditions compositionally,

---

10Dummett (1981b, ch. 7) thinks it is important to keep the two roles separate, but notes that Frege may have been tempted to bring them together in the special case of singular terms. For further discussion, see Trueman forthcoming. For discussion of the issue as it pertains to plural languages, see Florio 2014.
and as long as some (inferentially normal) atomic sentence containing the predicate has been
assigned truth-conditions that turn out to be satisfied, the predicate will be genuinely refer-
ential.

The compositionalist would reject the idea that the semantic job of a predicate can be
specified independently of syntactic considerations. (In particular, she would reject the idea
that the job of a predicate is to pick from amongst the “entities” carved out by the world’s
“objective structure” one of “unsaturated” character.) The compositionalist thinks that the
semantic job of a predicate is to describe the world as being such that a given object is
somehow, and that to describe the world as being such that a given object is somehow is
simply to describe it by using a predicate. So she thinks that there is no way of doing the
semantic job of a predicate without being a predicate.

This means, in particular, that the compositionalist has no reason to accept the Express-
ibility Thesis: the claim that “there is a variable that has among its values all entities of all
ontological categories” (Hale & Linnebo typescript). The compositionalist would also see
no reason to think that we have a notion of “entity” general enough to make sense of the
Entity Thesis: the claim that an expression can only be referential if it refers to an “entity”.

And why believe compositionalism? Because it is a natural consequence of an attractive
picture of language: the view that language is a tool for communication and, more specifi-
cally, a tool for making speech acts.
References


Boolos, G. (1984), ‘To be is to be a value of a variable (or to be some values of some variables)’, The Journal of Philosophy 81, 430–49. Reprinted in Boolos (1998), 54–72.


Hale, B. & Linnebo, Ø. (typescript), ‘Fregean categories and the problem of expressibility’.


Trueman, R. (forthcoming), ‘The concept horse with no name’, *Philosophical Studies*.
