***Articulating Reasons*: Chapter Four**

What Are Singular Terms, and Why Are There Any?

Section I *What Are Singular Terms?*

1
Singular Terms and Objects

What conditions on the use of an expression are necessary and sufficient for it to be functioning as or playing the role of a singular term? What sort of expressive impoverishment is a language condemned to by not having anything playing that sort of role? The answers to these questions may seem straightforward, at least in the large. Singular terms are linguistic expressions that refer to, denote, or designate particular objects.1 The point of having something playing this role in linguistic practice is to make it possible to talk about particular objects, which, together with their properties and relations, make up the world in which the practice is conducted.

The first of these claims may be accepted without accepting the order of explanation presupposed by the transition from the first claim to the second. To begin with, it may be questioned whether the concept *particular object* can be made intelligible without appeal to the concept *singular term*. Frege, for instance, implicitly denies this when in the *Grundlagen* he explains the ontological category of particular objects, to which he is concerned to argue numbers belong, in effect as comprising whatever can be referred to by using singular terms, to which linguistic category he argues numerals belong.

1 Strictly, what is referred to by a singular term is a particular. Not all particulars are *objects*: there are also events, processes, and so on. The present argument does not turn on the differences among these sorts of particulars, and it will often be more convenient simply to talk of objects, where in fact any sort of particular can be involved.

Put somewhat more carefully, the first answer forwarded above must be: singular terms are expressions that, in Quine's useful phrase "*purport* to refer to just one object".2 Quine is suspicious of the full-blooded notions of representational purport implicit in intentional idioms, and the echoes in his phrase are a reminder of his desire to explain much of what they might be thought to explain by appeal to more austere linguistic analogs. For singular referential purport, in the sense he appeals to, need not be an intentional affair. As Quine is quick to point out, "Such talk of purport is only a picturesque way of alluding to the distinctive grammatical role that singular...terms play in sentences." The real task is to specify this role. Explanatory ground is gained by appeal to the principle Quine states only in the presence of such an account. That story, however, would offer a direct answer to the question "What is a singular term?", one that does not appeal to (but on the contrary can itself be used via Quine's principle to help explain) the dark and pregnant notion of referential or representational purport. It is such an account that the remainder of this chapter aims to provide.

2

Subsentential Expressions and Projecting the Use of Novel Sentences

The pre-Kantian tradition took it for granted that the proper order of semantic explanation begins with a doctrine of concepts or terms, divided into singular and general, whose meaningfulness can be grasped independently of and prior to the meaningfulness of judgments. Appealing to this basic level of interpretation, a doctrine of judgments then explains the combination of concepts into judgments, and how the correctness of the resulting judgments depends on what is combined and how. Appealing to this derived interpretation of judgments, a doctrine of consequences finally explains the combination of judgments into inferences, and how the correctness of inferences depends on what is combined and how. Kant rejects this. One of his cardinal innovations is the claim that the fundamental unit of awareness or cognition, the minimum graspable, is the judgment. For him, interpretations of something as classified or classifier (term or predicate) make sense only as remarks about its role in judgment. In

2 *Word and Object* (MIT Press 1960) p. 96, see also p. 90. Emphasis added.

the *Grundlagen* Frege follows this Kantian line in insisting that "only in the context of a proposition [Satz] does a name have any meaning".3 Frege takes this position because it is only to the utterance of sentences that pragmatic force attaches, and the explanatory purpose of associating semantic content with expressions is to provide a systematic account of such force.

Since semantics must in this way answer to pragmatics, the category of sentences has a certain kind of explanatory priority over subsentential categories of expression, such as singular terms and predicates. For sentences are the kind of expression whose free-standing utterance (that is, whose utterance unembedded in the utterance of some larger expression containing it) has the pragmatic significance of performing a speech act. Declarative sentences are those whose utterance typically has the significance of an assertion, of making a claim. Accordingly, there is available a sort of answer to the questions:

What are sentences, and why are there any?

that is not available for any subsentential expression: Sentences are expressions whose unembedded utterance performs a speech act such as making a claim, asking a question, or giving a command. Without expressions of this category there can be no speech acts of any kind, and hence no specifically linguistic practice.

From this point of view it is not obvious why there should be subsentential expressions at all. For they cannot have the same sort of fundamental pragmatic role to play that sentences do. So we ought to start by asking a question more general than that of the subtitle of this chapter:

What are subsentential expressions, and why are there any?

Given the pragmatic priority of sentences, why should other semantically significant categories be discerned at all? Sentences are assigned semantic contents as part of an explanation of what one is doing in asserting them, what one claims, what belief one avows thereby. But the utterance of an essentially subsentential expression, such as a singular term, is not the performance of this sort of speech act. It does not by itself make

3 Intro p. x, secs 46, 60, 62 (*Foundations of Arithmetic* Tr. by J.L. Austin; Harper and Row 1960).

a move in the language game, does not alter the score of commitments and attitudes that it is appropriate for an audience to attribute to the speaker. Accordingly, such expressions cannot have semantic contents in the same sense in which sentences can. They cannot serve as premises and conclusions of *inferences*. They can be taken to be semantically contentful only in a derivative sense, insofar as their occurrence as components in sentences contributes to the contents (in the basic, practice-relevant inferential sense) of those sentences.

If, because of their pragmatic priority, one begins rather with the semantic interpretation of sentences, what is the motivation for decomposing them so as to interpret subsentential expressions as well? Why recognize the semantically significant occurrence of expressions of any category other than sentences?

Frege begins one of his later essays with this response:

> It is astonishing what language can do. With a few syllables it can express an incalculable number of thoughts, so that even a thought grasped by a human being for the very first time can be put into a form of words which will be understood by someone to whom the thought is entirely new. This would be impossible, were we not able to distinguish parts in the thought corresponding to parts of a sentence....4

The ability to produce and understand an indefinite number of novel sentences is a striking and essential feature of linguistic practice. As Chomsky has since emphasized, such creativity is the rule rather than the exception. Almost every sentence uttered by an adult native speaker is being uttered for the first time--not just the first time for that speaker, but the first time in human history. This high proportion of sentential novelty appears in surveys of empirically recorded discourses, and becomes evident on statistical grounds when one compares the number of sentences of, say, thirty or fewer words, with the number there has been time for English speakers to have uttered, even if we never did

4 "Compound Thoughts", Mind, LXXII 1963, pp. 1-17, p. 1.

anything else.5 "Please pass the salt," may get a lot of play, but it is exceptionally unlikely that a sentence chosen at random from this lecture, for instance, would ever have been inscribed or otherwise uttered elsewhere.

The point is often made that individual speakers in training are exposed to correct uses only of a relatively small finite number of sentences, and must on that basis somehow acquire practical mastery, responsive and productive, of proprieties of practice governing an indefinitely larger number.6 The need to explain the possibility of projecting proper uses for many sentences from those for a few is not just a constraint on accounts of language learning by individuals, however. For what is of interest is not just how the trick (of acquiring practical linguistic competence) might be done, but equally what the trick consists in, what counts as doing it. As just remarked, the whole linguistic community, by the most diachronically inclusive standards of community membership, has only produced (as correct) or responded to (as correct) a set of sentences that is small relative to the set of sentences one who attributes to them a language is thereby obliged to take it they have somehow determined correct uses for. The idea that there is a difference between correct and incorrect uses of sentences no-one has yet used involves some sort of projection.

We are well advised to follow Frege in taking seriously the fact that the sentences we are familiar with do, after all, have parts. A two-stage compositional strategy for the explanation of projection would take it that what is settled by proprieties of use governing the smaller, sample set of sentences, which is projected, is the correct use of the subsentential components into which they can be analyzed or decomposed. The correct use of these components is then to be understood as determining the correct use also of further combinations of them into novel sentences.7 The linguistic community

5 In a sense, of course, we don't know how many such sentences there are, even restricting ourselves to a basic vocabulary, since we don't have a syntactically adequate grammar for any natural language. But there are grammars that will generate *only* sentences of English. The difficult thing is getting one that will generate *all* of them, without generating all sorts of garbage as well.

6 For instance, Davidson emphasizes this point in his influential "Theories of Meaning and Learnable Languages" (in *Proceedings of the 1964 International Congress of Logic, Methodology, and Philosophy of Science*, North Holland Publishing Co. Amsterdam, 1965).

7 Notice that the problem of projection such a strategy addresses concerns moving from *proprieties* governing the use of one set of sentences to proprieties governing the use of a superset. A quite different

determines the correct use of some sentences, and thereby of the words they involve, and so determines the correct use of the rest of the sentences that can be expressed using those words. (Notice that I am talking about projecting *proprieties* governing some sentences from *proprieties* governing others, *not* about projecting any of those proprieties from nonnormatively characterized *dispositions*.)

The need to project a distinction between proper and improper use for novel sentences provides the broad outlines of an answer to the question: What are subsentential expressions for? or Why are there any subsentential expressions? But what *are* subsentential expressions, functionally? According to the two-stage explanatory scheme, there are two sorts of constraints on the correct use of subsentential expressions, corresponding to their decompositional and compositional roles respectively. Their correct use must be determined by the correct use of relatively small subset of the sentences in which they can appear as components, and their correct use must collectively determine the correct use of all the sentences in which they can appear as components.

The key to the solution Frege endorses is the notion of *substitution*. For the first, or decompositional stage, sentences are to be analyzed into subsentential components by being assimilated as substitutional variants of one another--that is, related by being substitutionally accessible one from another. Regarding two sentences as substitutional variants of one another is discerning in them applications of the same function, in Frege's sense. In the second, or recompositional stage, novel sentences (and their interpretations) are to be generated as applications of familiar functions to familiar substitutable expressions. Familiar sorts of substitutional variation of familiar classes of sentences result in a host of unfamiliar sentences. It is this substitutional clue to the nature of subsentential expressions and their interpretation that is pursued in what follows.

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issue concerns the relation between the correct use even of the sentences in the initial subset, on the one hand, and the actual occasions of use or dispositions of the community to use them. These puzzles must be sharply separated, for the first remains within the normative dimension, asking after the relation between two different sets of practically embodied norms, while the second asks after the relation between such norms and the non-normative happenings that express them.

Section II *What Are Singular Terms?*

1

Syntax: Substitution-Structural Roles

First let me talk about *syntax*. "What are singular terms?". The question has been posed from the point of view of someone who understands (or is prepared to pretend to understand) already what it is to use an expression as a sentence, but admits to puzzlement concerning the distinctive contribution made by the occurrence of singular terms in such sentences. One way to get into this situation8 is to begin with a pragmatics, an account of the significance of some fundamental kinds of speech act. A line can then be drawn around the *linguistic* by insisting that for the acts in question to qualify as *speech* acts, the fundamental kinds must include *asserting*. A general pragmatic theory then specifies for each speech act the circumstances in which, according to the practices of the linguistic community, one counts as entitled or obliged to perform it, and what difference that performance makes to what various interlocutors (the performers included) are thereby entitled or obliged to do. Assertional performances (and thereby specifically linguistic practices) are in turn picked out by *inferential* articulation: the way in which the pragmatic circumstances and consequences of acts of asserting depend upon the inferential relations of ground and consequent among sentences. The category of sentences is then defined as comprising the expressions whose (free-standing or unembedded) utterance standardly has the significance of performing a speech act of one of the fundamental kinds. A pair of sentences9 may be said to have the same pragmatic potential if across the whole variety of possible contexts their utterances would be speech acts with the same pragmatic significance (Fregean force).

Frege's notion of *substitution* can then be employed again to define subsentential categories of linguistic expression. Two subsentential expressions belong to the same syntactic or grammatical category just in case no well-formed sentence (expression that

8 Roughly the direction taken in *Making It Explicit*.

9 Type/token issues are suppressed for the purposes of this chapter. The complications they introduce are the topic of Chapter Seven.

can be used to perform one of the fundamental kinds of speech act) in which the one occurs can be turned into something that is not a sentence merely by substituting the other for it. Two subsentential expressions of the same grammatical category share a semantic content just in case substituting one for the other preserves the pragmatic potential of the sentences in which they occur. Then the intersubstitution of co-contentful subsentential expressions can be required to preserve the semantic contents of the sentences (and other expressions) they occur in. In this way, the notion of substitution allows both syntactic and semantic equivalence relations among expressions to be defined, beginning only with an account of force or pragmatic significance. The relations differ only in the substitutional invariants: expressions assimilated accordingly as well-formedness is preserved by intersubstitution share a syntactic category; those assimilated accordingly as pragmatic potential is preserved share a semantic content.

There are three sorts of roles that expression-kinds can play with respect to this substitutional machinery. An expression can be substituted *for*, replacing or replaced by another expression, as a component of a compound expression. An expression can be substituted *in*, as compound expressions in which component expressions (which can be substituted for) occur. Finally, there is the substitutional frame or remainder: what is common to two substituted-in expressions that are substitutional variants of each other (corresponding to different substituted-for expressions). '$q \rightarrow r$' results from '$p \rightarrow r$', by substituting 'p' for 'q'. The substitutional frame that is common to the two substitutional variants may be indicated by '$\alpha \rightarrow r$', in which 'α' marks a place where an appropriate substituted-for expression would appear.

Being substituted in, substituted for, or a substitutional frame are the *substitution-structural roles* that (sets of) expressions can play. The relation <u>*being a substitutional variant of*</u> obtains between substituted in expressions, which must accordingly already have been discerned. Substitutional variation is indexed by pairs of expressions that are substituted for, which accordingly also must be antecedently distinguishable.10

10 This requirement is not absolute. The author's "Singular Terms and Sentential Sign Designs" (*Philosophical Topics*, XV, No. 1 Spring 1987, pp. 125-167, referred to hereafter as '*STSSD*') shows how to

Substitution frames, by contrast, are not raw materials of the substitution process; they are its products. To discern the occurrence of a substitution frame, for instance '$\alpha \rightarrow r$' in '$p \rightarrow r$', is to conceive of '$p \rightarrow r$' as paired with the set of all of its substitutional variants, such as '$q \rightarrow r$'. These are only available after a substitution relation has been instituted. For this reason, being substituted for and being substituted in may be said to be *basic* substitution-structural roles, while being a substitution frame is a (substitutionally) *derived* substitution-structural role.

Frege was the first to use distinctions such as these to characterize the roles of singular terms and predicates. Frege's idea is that predicates are the substitutional sentence frames formed when singular terms are substituted for in sentences.11 That is why predicates do, and singular terms do not, have argument places and fixed adicities. But it is clear that playing the substitution-structural roles of substituted for and frame with respect to substitutions in sentences is not by itself sufficient to permit the identification of expressions as singular terms and predicates, respectively. For, as in the schematic example of the previous paragraph, what is substituted for may be sentences, rather than singular terms, and the frames exhibited by substitutionally variant (sets of) sentences thereby become sentential connectives or operators, rather than predicates.12 The substitution-structural roles do provide important necessary conditions for being singular terms and predicates, though.

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make do just with substitutional relations among substituted-in expressions and how to do without antecedently distinguishable substituted-for expressions.

11 Strictly speaking, this is true only of what Dummett calls 'complex' predicates, by contrast to 'simple' ones, about which more below. But as Dummett points out in making the distinction, Frege "tacitly assimilated simple predicates to complex ones" (p. 30).

12 From Frege's mature point of view, this qualification does not need to be made: sentences *are* singular terms, and the frames *are* predicates. This is what motivates Frege's classification of sentences as singular terms. As will be pointed out below, this needn't be the whole story about sentences, a fact that immunizes Frege somewhat from Dummett's scandalized response to this point. Qua subsentential expressions, sentences are singular terms; the thesis is innocent of the objectionable implications Dummett complains about (missing the special role of sentences as usable to make moves in the language game—as though Frege had no idea of force, and as though being a name of the True or the False did not play a very special role for him) because sentences are not *essentially* subsentential expressions, and it isn't as subsentential expressions that they have their special pragmatic position. [I am grateful to John McDowell for pointing this out.]

Why not think of predicates also as expressions that can be substituted for? If "Kant admired Rousseau," has "Rousseau admired Rousseau" as a substitutional variant when the category substituted for is terms, does it not also have "Kant was more punctual than Rousseau," as a substitutional variant when the category substituted for is predicates? Indeed, doesn't talk about predicates as a category of expression presuppose the possibility of such replacement of one predicate by another, given the substitutional definition of 'category' offered above? It does; but though either notion can be used to assimilate expressions accordingly as it preserves well-formedness of sentences, it is important to distinguish between *substituting* one expression for another, and *replacing* one sentence frame with another.

To begin with, it should not be forgotten that the frames on which replacement operates must themselves be understood as products of the former sort of substitution operation. What play the substitutionally derivative roles, for instance of sentence frames, can be counted as *expressions* only in an extended sense. They are more like *patterns* discernible in sentential expressions, or sets of such expressions, than like parts of them. Sentence frames are what Dummett calls *complex* predicates, not *simple* ones. A sentence frame is not a prior constituent of a sentence, but a product of analyzing it, in particular by assimilating to other sentences related to it as substitutional variants, when one or more of its actual constituents is substituted for. As a result, relative to such an analysis a sentence can exhibit many occurrences of expressions that can be substituted for, but only one frame resulting from such substitutions. A further difference, which is also a consequence of the substitutionally derivative status of sentence frames, is that replacing sentence frames, or more generally discerning substitutional variants in the second, wider, sense, which involves replacement of derived categories, requires matching argument places and keeping track of cross-referencing among them.13 This

13 This point is distinct from, although related to, the distinction Dummett makes, in Chapter 2 of *FPL*, between simple and complex predicates. Dummett there points out (following Geach's discussion in "Quine on Classes and Properties" *Phil. Review* lxii (1953) pp. 409-12) that there is no simple *part* or subexpression common to "Rousseau admired Rousseau," and "Kant admired Kant," that is not also a part of "Kant admired Rousseau." Yet the first two share with each other a complex predicate that they do not share with the third. One of Frege's great discoveries was that one must be able to discern predicates in this sense (complex, or substitutionally derived ones) in order to appreciate the inferential role of sentences like "Anyone who admires someone admires himself." For one must appreciate the different patterns they

has no analog in substitution for expressions of substitutionally basic categories. So although replacement of derivative expressions is sufficiently like substitution for basic expressions to define syntactic equivalence classes of expressions, they differ in ways that will later be seen to be important.

2

Semantics: Substitution-Inferential Significances

Now let me say something about *semantics*. Following the line of thought introduced in Chapter 1 gives us the clue that raising the issue of the *inferential* significance of the occurrence in a sentence of some kind of subsentential expression is what shifts concern from the syntactic consequences of substitutional relations to their specifically semantic significance.

Inferences that relate substitutionally variant substituted-in sentences as premise and conclusion may be called *substitution inferences*. An example is the inference from

Benjamin Franklin invented bifocals,

to

The first Postmaster General of the United States invented bifocals.

The premised sentence is substituted *in*, and a singular term is substituted *for*, to yield the conclusion. Because Benjamin Franklin is the first Postmaster General of the United States, the inference from the premise to its substitutional variant is truth preserving: in

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instantiate in order to see that in the context of that quantificational claim, "Kant admired Rousseau," entails "Kant admired Kant." Thus the status of predicates as playing derived substitution-structural roles is what lies behind the second of Strawson's stigmata distinguishing predicates from singular terms: that they are subject to quantification. Concern with quantification, in particular with codifying the inferential role of quantificational claims, enforces the distinction between simple and complex predicates, between expressions that can be substituted for and those that are substitutional frames. But the need for this distinction is not, as Dummett claims (pp. 28, 30), simply a consequence of the presence of quantificational locutions in a language. Complex predicates must be discerned by anyone who has mastered the sort of pattern of inference that is typically made explicit by a quantificational expression, such as $(x)(y)[Rxy\_Rxx]$. Such inferential connections can be important already in a language even though quantifiers have not yet been introduced to codify them explicitly as the contents of claims. Nontrivial work must be done (and *STSSD* shows that it can be done, and how), to turn the notion of predicate as equivalence class of substitutionally variant sentences, defined here, into the full-blooded notion of a cross-referenced predicate, as will be required for the introduction of quantifiers. Appendix I discusses some related points.

the appropriate context, commitment to the premise involves commitment to the conclusion.

The substitution inference above *materially involves* the particular singular terms that occur (and are substituted for) in it. The particular predicate is not materially involved. For it is possible to replace that predicate with others without affecting the correctness (in this case, status preservingness) of the inference. Thus if "α invented bifocals," is replaced by "α walked," the substitution inference from

Benjamin Franklin walked,

to

The first Postmaster General of the United States walked,

will be correct under the same assumptions as the original.

The idea of replacing substitutional frames permits, for instance, the substitution instances quantified over in "Anyone who admires someone admires himself," such as

Rousseau admires Montaigne and Rousseau admires Rousseau,

to appear as *frame-variants* of

Rousseau writes about Montaigne and Rousseau writes about Rousseau,

when "α admires *β* and α admires α" is replaced by "α writes about *β* and α writes about α". The notion of substitution inference may be broadened to include inferences whose conclusion results from the premise upon replacement of a substitutional frame or pattern it exhibits. That is, the conclusions of inferences to be called "substitution inferences" may be *either* frame-variants or strict substitutional variants of the premises (corresponding to basic and derived substitutional variation).

The substitution inferences (in this broad sense) in which singular terms are materially involved differ in their formal structure from the substitution inferences in which predicates are materially involved. This difference provides another way of distinguishing the characteristic role of singular terms from that of other subsentential expressions, paradigmatically predicates. The point is noted by Strawson, who observes

that predicates, but not singular terms, stand in "one-way inferential involvements". If the inference from "Benjamin Franklin walked," to "The inventor of bifocals walked," is a good one, then so is that from "The inventor of bifocals walked," to "Benjamin Franklin walked." Substitutions for singular terms yield reversible inferences. But it does not follow that the inference from "Benjamin Franklin moved," to "Benjamin Franklin walked," is good one, just because the inference from "Benjamin Franklin walked," to "Benjamin Franklin moved," is a good one. Replacements of predicates need not yield reversible inferences. Substitution inferences materially involving singular terms are de jure symmetric, while all predicates are materially involved in some asymmetric substitution inferences (though they may be involved in some symmetric ones as well).

One way to think about this difference is that where the goodness of a substitution inference is defined by its preservation of some semantically relevant whatsit, reflexivity and transitivity of those inferences is guaranteed by the nature of the preservation relation. The stuttering inference from *p* to *p* preserves any status that *p* might be accorded, while if the inference from *p* to *q* preserves that status, and that from *q* to *r* preserves it, then so must that from *p* to *r*. The symmetry of the relation, however, is assured neither by its status as an inferential relation, nor by its holding accordingly as some status of the premise is preserved or transmitted14 to the conclusion. Predicate substitution inferences may be asymmetric, while singular term substitution inferences are always symmetric.

So singular terms are grouped into equivalence classes by the good substitution inferences in which they are materially involved, while predicates are grouped into reflexive, transitive, *a*symmetric structures or families. That is to say that some predicates are simply inferentially weaker than others, in the sense that everything that

14 It should not be thought that all goodnesses of inference must conform to the preservation model, in that there is a kind of status such that the inference is good iff the conclusion has the same status as the premises (any more than it should be thought that all good inferences have some sort of substitutional goodness). The notion of 'transmission' of status is intended to indicate that the possession of a certain status by the premise (for instance, that S is assertionally committed to it) guarantees or provides the reason for the possession of that status by the conclusion. The remarks in the text apply to commitment preserving inferences (the genus of which deductive inferences are a species), but it is should be noted that they need not apply to *entitlement* preserving inferences (the genus of which inductive inferences are a species). I am grateful to Ernie LePore for pointing this out.

follows from the applicability of the weaker one follows also from the applicability of the stronger one, but not vice versa. The criteria or circumstances of appropriate application of "...walks" form a proper subset of those of "...moves". Singular terms, by contrast, are not materially involved in substitution inferences whose conclusions are inferentially weaker than their premises.15 To introduce a singular term into a language one must specify not only criteria of application, but also criteria of identity, specifying which expressions are intersubstitutable with it.

Each member of such an inferential interchangeability equivalence class provides, symmetrically and indifferently, both sufficient conditions for the appropriate application, and appropriate necessary consequences of application, for each of the other expressions in the class.16 So, when the material substitution-inferential commitments that govern the use of singular terms are made explicit as the contents of assertional commitments, they take the form of identity claims. Identity locutions permit the expression of claims that have the significance of intersubstitution licenses. Weakening inferences, the one-way inferential involvements that collectively constitute the asymmetric substitutional significance of the occurrence of predicate expressions, are made assertionally explicit by the use of quantified conditionals. Thus "Benjamin Franklin is (=) the inventor of bifocals," and "Anything that walks, moves."

3

Simple Material Substitution-Inferential Commitments

The substitution inference from "The inventor of bifocals wrote about electricity," to "The first Postmaster General of the United States wrote about electricity," is a

15 The restriction to substitution inferences is required because one may, for instance, infer asymmetrically from the applicability of a singular term to the applicability of a predicate: from "The inventor of bifocals is Benjamin Franklin," to "The inventor of bifocals is an American." These don't count as substitution inferences even in the extended sense allowing replacement of frames, because they cross syntactic categorial boundaries.

16 Sortals, such as 'dog', and 'mammal', might seem to contradict this claim. For they are distinguished from predicates precisely in having associated with them not only criteria of application, but also criteria of identity, and yet they can be materially involved in weakening inferences: "Thera is a dog, so Thera is a mammal." But their criteria of identity apply not to substitutions materially involving the sortals themselves, but to those materially involving the singular terms to which the sortals are applied.

material inference. Part of my associating the material content I do with the term "the inventor of bifocals" consists in the commitment I undertake to the goodness of the substitution inferences that correspond to replacements of occurrences of that term by occurrences of "the first Postmaster General of the United States" (and vice versa). That commitment has a general substitution-inferential significance, which is to say that the particular material inference endorsed above is correct as an instance of a general pattern. That same material substitutional commitment regarding "the inventor of bifocals" and "the first Postmaster General of the United States" governs also the propriety of the inference from "The inventor of bifocals was a printer," to "The first Postmaster General of the United States was a printer," also that from "The inventor of bifocals spoke French," to "The first Postmaster General of the United States spoke French," as well as a myriad of others. So one simple material substitution-inferential commitment regarding two expressions determines the correctness of a great many substitution inferences materially involving those expressions, across a great variety of substituted-in sentences and residual sentence frames.

Also, the substitution inferences to and from "The inventor of bifocals was a printer," are determined by all the simple material substitution-inferential commitments (*SMSIC*s) that link the expression "the inventor of bifocals" with another. On the other hand, not all occurrences of those expressions have their substitution-inferential significances determined in this way. For instance, it does not settle the propriety of the substitution inference from

> The current Postmaster General of the United States believes that the first Postmaster General of the United States was a printer,

to

> The current Postmaster General of the United States believes that the inventor of bifocals was a printer.17

17 Of course what is at issue here is an inferentialist version of the distinction between extensional and nonextensional (or transparent and opaque) occurrences of, typically, singular terms, as discussed in Section II.

These observations motivate the discrimination of certain occurrences of an expression, in a syntactic sense of 'occurrence', as in addition semantically significant occurrences of it. A subsentential expression has a syntactic occurrence as a component of (is exhibited by) a sentence just in case it is replaceable by other expressions of its category (either in the original sense of being substituted for, or in the second-hand sense appropriate to expressions of substitutionally derived categories), saving sentencehood. (Syntactic categories are inter-replaceability equivalence classes, since replacement is reversible and preservation of sentencehood symmetric.) For an occurrence of an expression in this syntactic sense to count also as having primary substitution-semantic occurrence in a sentence, the substitution inferences to and from that sentence, in which that expression is materially involved, must be governed (their proprieties determined) by the set of simple material substitution-inferential commitments that link that expression with another.18

How do *SMSIC*s relating subsentential expressions settle the correctness of the substitution-inferences in which the sentences exhibiting primary substitution-semantic occurrences of those expressions figure as premises and conclusions? According to a general pattern. A material substitution-inferential commitment regarding *A* and *A′* is a commitment to the effect that for any *B* such that *AB* is a sentence in which *A* has primary substitution-semantic occurrence, the inference from *AB* to *A′B* is good. Likewise, a material substitution-inferential commitment regarding *B* and *B′* is a commitment to the effect that for any *A* such that *AB* is a sentence in which *B* has primary substitution-semantic occurrence, the inference from *AB* to *AB′*, is good. Five points may be noted concerning this structure relating substitutional commitments to substitutional inferences.

First, *all* of the substitution inferences in which a sentence such as *AB* figures as premise or as conclusion are determined according to this pattern by all of the *SMSIC*s dealing with expressions having primary substitution-semantic occurrences in *AB* (which might, but need not, be just *A* and *B*). Second, responsibility for those proprieties of

18 It need not be denied that occurrences whose significance is not governed in this way are semantically significant in a secondary sense, which can be explained only once the primary sense is understood. This is discussed further along.

substitution inferences to and from a sentence is apportioned between the various subsentential expressions having primary occurrences in it, with the *SMSIC*s dealing with a particular expression responsible for the inferences in which that expression is materially involved. The content (determiner of material proprieties of inference) of each expression is represented by the set of *SMSIC*s that relate it to other expressions. Only the collaboration of all of the *SMSIC*s corresponding to subsentential expressions having primary occurrence in a sentence settles the correctness of the whole set of substitution inferences it appears in as premise or conclusion. Third, a consequence of this division of labor in the determination of the correctness of material inferences (assigning aspects of it to different sorts of expression) is that material inferential roles are determined thereby for novel compounds of familiar components. So even if no-one has ever encountered the sentence *A'B'*, the *SMSIC*s cited above determine a commitment to the propriety of the inference from *AB* to *A'B'*. Other *SMSIC*s already in place may in the same way license the inference from *A'B'* to *A''B'*, and so on. Accumulating the content (what determines material proprieties of inference) to be associated with subsentential expressions in the form of substitutional commitments regarding pairs of expressions, then, permits the projection of material proprieties of substitution-inference involving a potentially large set of novel sentences from the proprieties involving relatively few familiar ones. Fourth, on this model it is clear how to understand additions to or alterations of content. For when I discover or decide (what would be expressed explicitly in the claim) that the inventor of bifocals is the inventor of lightning rods, and thereby undertake a new simple material substitution-inferential commitment, the substitution-inferential potentials both of sentences in which these expressions have primary occurrence, and of others substitutionally linked to them are altered in determinate and predictable ways. Fifth, for the same reason, it is easy to understand what is involved in introducing new subsentential vocabulary, as expressing novel contents. Such vocabulary will make exactly the same sort of contribution to the strictly inferential contents of sentences that the old vocabulary does, as soon as its use has been tied to that of the old vocabulary by suitable *SMSIC*s.

The criteria of adequacy responded to by these five points jointly constitute the *point* of discerning semantically significant subsentential structure, once the pragmatic, and so semantic, priority of sentences is acknowledged. Against the background of this sort of understanding of the semantically significant decomposition of sentences into their components, the formal difference between the material substitutional commitments governing singular terms and those governing predicates becomes particularly striking. The *SMSIC*s that determine the material inferential significance of the occurrence of singular terms are symmetrical: a commitment to the correctness of the inference that results from substituting *A'* for *A* is also a commitment to the correctness of the inference that results from substituting *A* for *A'*. The set of *SMSIC*s that determine the material inferential significance of the occurrence of any predicate, by contrast, include asymmetric ones. From this point of view, what is special about singular terms is that the simple material substitution-inferential commitments relating pairs of terms partition the set of terms into equivalence classes. This is what it is for it to be (particular) objects that singular terms purport-to-refer-to. An equivalence class of intersubstitutable terms stands for an object. It follows from the substitutional definition of the object-specifying equivalence classes of terms that it makes no sense to talk of languages in which there is just one singular term (*pace* 'the Absolute' as Bradley and Royce tried to use that expression), nor of objects that can in principle only be referred to in one way (by one term). The *SMSIC*s that confer material inferential content on predicates, by contrast, don't segregate those expressions into equivalence classes, and so don't confer a content that purports to pick out an object. The asymmetric structure conferred on the material contents of predicates is quite different.

There are, then, two fundamental sorts of substitution-inferential significance that the occurrence of expressions of various subsentential categories might have: symmetric and asymmetric. The claim so far is that it is a necessary condition for identifying some subsentential expression-kind as predicates that expressions of that kind be materially involved in some asymmetric substitution inferences, while it is a necessary condition for identifying some subsentential expression-kind as singular terms that expressions of that kind be materially involved only in symmetric substitution inferences. These paired

necessary semantic conditions distinguishing singular terms from predicates in terms of substitution-inferential significance (*SIS*) may be laid alongside the paired necessary syntactic conditions distinguishing singular terms from predicates in terms of substitution-structural role (*SSR*). The suggestion then is that these individually necessary conditions, symmetric *SIS* and substituted-for *SSR*, are jointly sufficient to characterize the use of a kind of expression that distinguishes it as playing the role of singular terms. In the rest of this lecture, the expression 'singular term' is used to signify expressions that play this dual syntactic and semantic substitutional role. It is to whatever expressions play this role that the argument is addressed.

Section III *Why Are There Singular Terms?*

1
Four Alternative Subsentential Analyses

So here is an answer to the question "What are singular terms?": They are expressions that are substituted for, and whose occurrence is symmetrically inferentially significant. The question "Why are there any singular terms?" can now be put more sharply. Why should the expressions that are substituted for be restricted to symmetric inferential significance? What function does this arrangement serve?

It is clear enough why the use of a substitutional scalpel to dissect sentential contents into subsentential components requires distinguishing expressions substituted for from substitutional frames. But why should any sort of subsentential expression have a symmetric *SIS*? And if some sort for some reason must, why should it be what is substituted for rather than the corresponding substitutional frames?

What are the alternatives? They are structured by the previous pair of distinctions, between two sorts of substitution-structural syntactic role and between two sorts of substitution-inferential semantic significance. So the possibilities are:

i)	*substituted for is symmetric;*	*substitutional frame is symmetric*
ii)	*substituted for is asymmetric;*	*substitutional frame is symmetric*
iii)	*substituted for is asymmetric;*	*substitutional frame is asymmetric*
iv)	*substituted for is symmetric;*	*substitutional frame is asymmetric*

The final arrangement, (iv) is the one actualized in languages with singular terms. One way to ask why this combination of syntactic and semantic roles is favored is to ask what is wrong with the other ones. What rules out the combinations (i), (ii), and (iii)? What sort of consideration could? The strategy pursued here is to look at the constraints on the expressive power of a language that are imposed by each of those varieties of complex substitutional roles.

The first alternative is a good place to begin, for it is fairly easily eliminated from contention. The semantic point of discerning subsentential structure substitutionally is to codify an antecedent field of inferential proprieties concerning sentences, by associating material contents with recombinable subsentential expressions so as to be able to derive those proprieties of inference, and to project further ones, according to a general pattern of substitution-inferential significance of material substitutional commitments. But the substituted-in sentences whose inferences are to be codified themselves stand in "one-way inferential involvements". The goodness of an inference may require that when the conclusion is substituted for the premise(s) some status (doxastic or assertional commitment, truth,...) is preserved. But the converse replacement need not preserve that status. Substitution inferences are not always reversible, saving correctness. Conclusions are often inferentially weaker than the premises from which they are inferred. A restriction to sentential contents conferrable by exclusively symmetrically valid material inferences is a restriction to sentential contents completely unrecognizable as such by us. But if both substituted-for expressions and the substitutional frames that are the patterns according to which they assimilate substituted-in sentences are significant only according to symmetric *SMSIC*s, then asymmetric inferential relations involving substituted-in sentences can never be codified as substitution inferences materially involving subsentential expressions, and so licensed by the *SMSIC*s regarding those expressions. Since the inferences to be codified include asymmetric ones, either the substituted-for expressions or the substitutional frames, or both, must be assigned asymmetric substitution-inferential significance.

The other two alternatives, (ii) and (iii), are alike in assigning the substituted for expressions asymmetric substitution-inferential significance. If a good reason can be found for ruling out this combination of syntactic and semantic substitutional roles, then the employment of singular terms and their corresponding sentence frames will have been shown to be necessary. For if it can be shown that what is substituted for must have symmetric substitution-inferential significance, then since by the argument just offered the expressions playing some substitution-structural role must be asymmetric it will follow that the substitution frames must permit asymmetric substitution. And this is just

the combination of roles that has been put forward as characteristic of singular terms and predicates.

The first task was to answer the question "What are singular terms?". The answer that has emerged is that they are expressions that on the syntactic side play the substitution-structural role of being substituted for, and on the semantic side have symmetric substitution-inferential significances. The second task is to answer the question "Why are there any singular terms?", by presenting an explanation of why the inferential significance of the occurrence of expressions that are substituted for must be symmetric (and so segregate expressions materially into equivalence classes whose elements accordingly jointly purport to specify some one object). It takes the form of an argument that certain crucial sorts of expressive power would be lost in a language in which the significance of substituted-for expressions were permitted to be asymmetric.

2
The Argument

What is wrong with substituted-for expressions having asymmetric inferential significances? An asymmetric simple material substitution-inferential commitment linking substituted-for expressions *a* and *b* is a commitment to the goodness of all the inferences that are instances of a certain pattern. Where *Pa* is any sentence in which *a* has primary occurrence, the inference from *Pa* to *Pb* (the result of substituting *b* for *a* in *Pa*) is a good one, though perhaps its converse is not. The point of discerning primary occurrences of substituted-for expressions depends on these generalizations. For they provide the link that permits the projection of proprieties of substitution inference, based on associating particular substituted-fors with material contents in the form of determinate sets of simple substitution-inferential commitments relating their use to that of other substituted-fors. Whether the generalizations that animate asymmetrically significant substitutional commitments regarding substituted-fors make sense or not depends on the contents expressed by the sentences substituted in, and it is this fact that

in the end turns out to mandate symmetric substitutional significances for what is substituted for.

In order to see how one might argue against admitting asymmetrically significant substituted-for expressions, consider what happens if there is a general recipe for producing, given any frame $Q\alpha$, a frame $Q'\alpha$ that is inferentially complementary to it, in the sense that each $Q'\alpha$ is to be so constructed that whenever the inference from Qx to Qy is good, but not vice versa (intuitively, because y is inferentially weaker than x, the way 'mammal' is inferentially weaker than 'dog'), the inference from $Q'y$ to $Q'x$ is good, but not vice versa, for any substituted-for expressions x and y. Such a situation precludes discerning *any* primary substitution-semantic occurrences of any substituted-for expressions. There would then be no syntactic occurrences of any substituted-for expressions whose substitution-inferential significance is correctly captured by an asymmetric *SMSIC* (the symmetric ones are not currently at issue). For an asymmetric substitution-inferential commitment relating a to b governs inferential proprieties via the generalization that for *any* frame $P\alpha$, the inference from Pa to Pb is a good one, though not in general the converse.

Under the hypothesis being considered, no matter what particular instance $P\alpha$ is chosen, it is possible to construct or choose a complementary predicate, $P'\alpha$ for which only the complementary pattern of substitution-inferential proprieties obtains. In the presence of a recipe for producing for arbitrary substitution-frames other frames that are inferentially complementary to them, then, no proprieties of substitution-inference can be captured by asymmetric *SMSIC*s, and so no primary substitution-semantic occurrences of substituted-for expressions corresponding to them. The upshot of this line of thought, then, is that the existence of asymmetrically significant substituted-for expressions is incompatible with the presence in the language of expressive resources sufficient to produce, for arbitrary sentence frames, inferentially complementary ones. To explain why substituted-for subsentential expressions have symmetric substitution-inferential significances, which on the current understanding is to explain why there are singular terms, then, it will suffice to explain what sort of expressive impoverishment a language

is condemned to if it eschews the locutions that would permit the general formation of inferentially complementary sentence-frames.

When it has been seen that the particular constellation of syntactic and semantic roles characteristic of singular terms is necessitated by the presence in the language of vocabulary meeting this condition, it becomes urgent to see what locutions make possible the production of arbitrary inferentially complementary frames, and how dispensable the role they play in linguistic practice might be. What locutions have this power? Examples are not far to seek. The one to focus on is the *conditional*. Because conditionals make inferential commitments explicit as the contents of assertional commitments, inferentially weakening the antecedent of a conditional inferentially strengthens the conditional. Endorsing all the inferences from sentences exhibiting the frame "α is a dog," to the corresponding "α is a mammal," does not involve commitment to the goodness of the inferences from sentences exhibiting the frame "If α is a dog, then α belongs to an anciently domesticated species," to those exhibiting the frame "If α is a mammal, then α belongs to an anciently domesticated species". Instances of the first conditional are true claims expressing correct inferences, while instances of its substitution-variant are false conditionals expressing incorrect inferences. Quite generally, let *Qa* be a particular sentence in which the substituted-for expression a has primary occurrence, and *Qb* be a substitutional variant of it, and let *r* be some other sentence. Then $Qa \rightarrow r$ is a sentence in which *a* has primary occurrence, and the symbol $Q'\alpha$ may be introduced for the sentence frame associated with its occurrence, writing the conditional above as *Q'a*. If *a* is inferentially stronger than *b*, asymmetrically, then the inference from *Qa* to *Qb* is good, but not its converse (Thera is a dog, so Thera is a mammal19). But if that is so, then the

19 These examples can only represent the asymmetries at the level of sentences. Singular terms *don't* behave asymmetrically, so real examples of asymmetrically behaving substituted-fors are not forthcoming. Probably the closest one can get in real grammar is sortals. Since they have associated with them criteria of identity for the singular terms they qualify, they are more term-like than predicates. Yet they do have proper inclusions and a straightforward notion of inferential weakening applies to them, as to predicates. [The objection may now occur that these examples show that expressions like predicates, whose occurrences *do* have asymmetric significances, *can* occur embedded in inferentially inverting contexts, showing that something must be wrong in the analogous argument to the conclusion that substituted-for expressions must have symmetric substitution-inferential significances. This legitimate worry is addressed further along, where the distinction between basic subsentential expressions, which can be substituted for,

inference from *Q'a* to *Q'b* can't be good. For inferentially weakening the antecedent of a conditional inferentially strengthens the conditional.

This last formulation suggests another example. Inferentially weakening a claim inside a negation inferentially strengthens the compound negation. If the substitution inference from *Qa* to *Qb* is good, but the converse not, then the substitution inference from ~*Qa* to ~*Qb* cannot be good. Embedding as a negated component, like embedding as the antecedent of a conditional, reverses inferential polarities. The conclusion is that any language containing a conditional or negation thereby has the expressive resources to formulate, given any sentence frame, a sentence frame that behaves inferentially in a complementary fashion, thereby ruling out the generalizations that would correspond to asymmetric simple material substitution-inferential commitments governing the expressions that are substituted for in producing such frames.

3

The Importance of Logical Sentential Operators

The conditional and negation are fundamental bits of *logical* vocabulary. Is it just a coincidence that it is logical sentence-compounding locutions that permit the systematic formation of inferentially inverting sentential contexts? The sentence *q* is inferentially weaker than the sentence *p* just in case everything that is a consequence of *q* is a consequence of *p*, but not vice versa (consequences are not preserved, but pruned). It is an immediate consequence of this definition that inferentially weakening the premises of an inference can turn good inferences into bad ones. The defining job of the conditional is to codify inferences as claims (make it possible to express inferential commitments explicitly in the form of assertional commitments). It is essential to doing that job that embedded sentences that can play the role of premises and conclusions of inferences appear as components, antecedents and consequents, in the conditional. The contexts in which component sentences occur as antecedents accordingly must be inferentially inverting. Notice that this argument presupposes very little about the details of the use of

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and derived subsentential expression-patterns (frames, of derived substitutional category), which can only be replaced (as outermost, hence never embedded) will be invoked.]

the conditional involved. It is enough, for instance, if the conditional has the designated (semantic or pragmatic) status in case the inference it expresses preserves the designated status. As the defining job of the conditional is to codify inferences, that of negation is to codify incompatibilities. The negation of a claim is its inferentially minimal incompatible--~*p* is what is entailed by everything materially incompatible with *p*.20 These underlying incompatibilities induce a notion of inferential weakening: "Thera is a dog," incompatibility-entails, and so is inferentially stronger than, "Thera is a mammal," because everything incompatible with "Thera is a mammal," is incompatible with "Thera is a dog," but not vice versa (incompatibilities pruned, not preserved). It follows that incompatibility-inferentially weakening a negated claim incompatibility-inferentially strengthens the negation. "It is not the case that Thera is a mammal," is incompatibility-inferentially stronger than "It is not the case that Thera is a dog," just because "Thera is a mammal," is incompatibility-inferentially weaker than "Thera is a dog,". Thus negation also enables the formation of arbitrary inferential complements. I argued in Chapter 1 that what makes both conditionals and negation, so understood, specifically logical vocabulary is that the material inferences and material inference-inducing incompatibilities of which they permit the assertionally explicit expression play a central role in conferring material contents on pre-logical sentences. It is a direct result of this defining semantically expressive function that they form semantically inverting contexts.

Since it is the availability of such contexts that rules out asymmetrically significant substituted-for expressions, it follows that a language can have either the expressive power that goes with logical vocabulary or asymmetrically substitution-inferentially significant substituted-for expressions, but not both. It is leaving room for the possibility of logical locutions that enforces the discrimination of singular terms (and as a consequence, of predicates) rather than some other sorts of subsentential expression.

20 Recall that to take it that *q* is incompatible with *p* is to take it that commitment to *q* precludes entitlement to a commitment to *p*. In this way acknowledgments of material incompatibilities are implicit in the practices governing adopting attitudes (for instance, undertaking or attributing) towards the same pragmatic statuses of commitment and entitlement that inferences can be distinguished as preserving.

Notice that the only logical locutions required for that argument are those whose roles are definable solely in terms of the behavior of *sentences*, before any sort of subsentential substitutional analysis has been undertaken. The argument does not depend on any particular features of the sentential contents that are available to begin with, determining the proprieties of material inference that provide the targets for substitutional codification in (implicit or explicit) *SMSIC*s. All that matters is the availability of the expressive power of logical sentential connectives.

But having to do without logical expressions would impoverish linguistic practice in fundamental ways. The use of any contentful sentence involves implicit commitment to the (material) correctness of the inference from the circumstances of appropriate application associated with that sentence to the consequences of such application. Introducing conditionals into a language permits these implicit, content-conferring, material inferential commitments to be made explicit in the form of assertional commitments. This is important at the basic, purely sentential, level of analysis for the same reason it becomes important later at the subsentential level, when identity and quantificational locutions can be introduced to make explicit the *SMSIC*s that confer distinguishable material inferential content on subsentential expressions. In each case, once made explicit in the form of claims, those content-conferring commitments are brought into the game of giving and asking for reasons. They become subject to explicit objection, for instance by confrontation with materially incompatible assertions, and equally to explicit justification, for instance by citation of materially sufficient inferential grounds. The task of forming and nurturing the concepts we talk and think with is brought out of the dim twilight of what remains implicit in unquestioned practice into the daylight of what becomes explicit as controversial principle. Material contents, once made explicit, can be shaped collectively, as interlocutors in different situations, physically and doxastically, but in concert with their fellows, provide objections and evidence, claims and counter-claims, and explore possible consequences and ways of becoming entitled to assert them. Logic is the linguistic organ of semantic self-consciousness and self-control. The expressive resources provided by logical vocabulary make it possible to criticize, control, and improve our concepts. To give this up is to give

up a lot.21 Yet, it has been argued, it is a direct (if unobvious) consequence of leaving open the possibility of introducing such inferentially explicitating vocabulary that the subsentential expressions that are substituted for will be singular terms, and their corresponding sentence frames will be predicates, as judged by the symmetric and asymmetric forms of their respective substitution-inferential significances.22

21 Indeed it could be argued that possession of this reflexive expressive capacity and all that goes with it makes so much difference that it provides a plausible place to draw the line between the linguistic and the non-linguistic. The line between logical and prelogical languages is in any case important enough that researchers investigating what sorts of languages chimps and dolphins can be taught would be well advised to postpone trying to teach them an extra 200 terms and predicates, and instead try to teach them to use conditionals and quantifiers. But there are important cases where it seems to be worth paying the expressive price for dropping logical sentence compounding devices. In conversation my colleague Ken Manders suggested the language of projective geometry as an example in this connection. Sometimes 'general points' are appealed to, whose projective properties form a proper subset of the projective properties of other points and so are asymmetrically inferentially related to each other in the way sortals can be: particular points have all the properties of general points, but not *vice versa*. How is this possible? Projective properties are not closed under Boolean operations such as complementation, and one cannot introduce conditional properties—a restriction that has sometimes been seen as puzzling. The present argument explains the unobvious connection between the introduction of general points and the exclusion of negation and the conditional from the language in which projective properties are specified.

22 Notice that this characterization of the conclusion could be accepted even by someone who was not persuaded by the expressive approach to understanding the demarcation of specifically logical vocabulary and so the function of logic.

Section IV *Conclusion*

The title of this chapter asks the double question: what are singular terms, and why are there any? The strategy of the answer offered to the first query is to focus on substitution. The fundamental unit of language is the sentence, since it is by uttering free-standing sentences that speech acts are performed. Thus sentences are fundamental in the sense that it is coherent to interpret a community as using (its practices conferring content on) sentences but not subsentential expressions, while it is not coherent to interpret any community as using subsentential expressions but not sentences. But in fact there are good reasons why any community that uses sentences should also be expected to use subsentential expressions, indeed subsentential expressions of particular kinds.

The notion of substitution provides a route from the discrimination of the fundamental sentential expressions to the discrimination of essentially subsentential expressions. To carve up sentences substitutionally is to assimilate them accordingly as occurrences of the same subsentential expressions are discerned in them. Such a decomposition is accomplished by a set of substitution transformations. The functional significance of discerning in a sentence an occurrence of one out of a set of expressions that can be substituted for is to treat the sentence as subject to a certain sub-class of substitution transformations relating it to other, variant sentences. So the expressions that are substituting and substituted for can be used to index the transformations.23 Two sentences are taken to exhibit the same substitutional sentence frame in case they are substitutional variants of one another, that is, are accessible one from the other by substitution transformations. These substitutional assimilations define two basic substitution-structural roles that essentially subsentential expression kinds could play. The first half of the answer to the first question, "What are singular terms?", is then that *syntactically*, singular terms play the substitution-structural role of being substituted *for*, while predicates play the substitution-structural role of sentence frames.

The second half of the answer to that question is that *semantically*, singular terms are distinguished by their *symmetric* substitution-inferential significance. Thus if a

23 Or the singular terms can be individuated by the transformations. This is the route taken in *STSSD*.

particular substitution transformation that corresponds to substituting one singular term for another preserves some semantically relevant sentential status (commitment, entitlement, truth, or whatever) when only primary occurrences are involved, no matter what the sentence frame, then the inverse transformation also preserves that status, regardless of frame. By contrast, every sentence frame is involved in weakening inferences, where there is some other frame such that replacing primary occurrences of the first by the second always preserves the relevant sentential status, no matter what structure of substituted for expressions is exhibited, while the converse replacement is not always status preserving. Because the simple material substitution-inferential commitments that articulate the semantic content associated with singular terms are symmetric, their transitive closure partitions the set of singular terms into equivalence classes of intersubstitutable substituted-for expressions. It is in virtue of this defining character of their use that singular terms can be said to "purport to refer to just one object".

The full answer to the question "What are singular terms?" is then that singular terms are substitutionally discriminated, essentially subsentential, expressions that play a dual role. Syntactically they play the substitution-structural role of being substituted *for*. Semantically their primary occurrences have a *symmetric* substitution-inferential significance. Predicates, on the other hand, are syntactically substitution-structural *frames*, and semantically their primary occurrences have an *asymmetric* substitution-inferential significance. This precise substitutional answer to the first question supplies a definite sense to the second one.

To ask why there are singular terms is to ask why expressions that are substituted for (and so of the basic substitution-structural kind) should have their significance governed by symmetric commitments, while sentence frames (expressions of the derivative substitution-structural kind) should have their significance governed in addition by asymmetric commitments. The strategy pursued in answer to this question is to focus on the use of logical vocabulary to permit the explicit *expression*, as the content of sentences, of relations among sentences that are partly constitutive of their being

contentful. To say that subsentential expressions are used by a community as substituted-fors and substitution-structural frames is to say that the contents conferred by the practices of the community on the sentences in which those expressions have primary occurrence are related systematically to one another in such a way that they can be exhibited as the products of contents associated with the subsentential expressions, according to a standard substitutional structure. The problem of why there are singular terms arises because that structure need not, for all that has just been said, assume the specific form that defines singular terms and predicates.

But suppose the condition is added that the sentences whose proper use must be codifiable in terms of the proper use of their subsentential components is to include (or be capable of being extended so as to include) not only logically atomic sentences, but also sentences formed using the fundamental sentential logical vocabulary, paradigmatically conditionals and negation. This condition turns out to interact in intricate ways with the possibility of substitutional codification of sentential contents by subsentential ones--ways that when followed out can be seen to require just the combination of syntactic and semantic substitutional roles characteristic of singular terms and predicates. So the answer offered is that the existence of singular terms (and so of their complementary predicates) is the result of a dual expressive necessity: On the one hand, the material inferential and material incompatibility commitments regarding sentences must be implicitly substitutionally codifiable in terms of material inferential and material incompatibility commitments regarding the subsentential expressions that can be discerned within them or into which they can be analyzed, if the contents of novel sentences are to be projectable. On the other hand, those same commitments regarding sentences must be explicitly logically codifiable as the contents of assertional commitments, if the contents of nonlogical (as well as logical) sentences are to be available for public inspection, debate, and attempts at improvement. It is these two expressive demands, each intelligible entirely in terms of considerations arising already at the sentential level, that jointly give rise to the structure of symmetrically significant substituted-fors and asymmetrically significant substitution-structural sentence frames that defines the functional roles of singular terms and predicates.

This argument may be called an *expressive deduction* of the necessity of basic subsentential structure taking the form of terms and predicates. A language must be taken to have expressions functioning as singular terms if essentially subsentential structure is (substitutionally) discerned in it at all, and the language is expressively rich enough to contain fundamental sentential logical locutions, paradigmatically conditionals--which permit the assertionally explicit expression of material inferential relations among nonlogical sentences--and negations--which permit the assertionally explicit expression of material incompatibility relations among nonlogical sentences.

Logical vocabulary has the expressive role of making *explicit*, in the form of logically compound assertible sentential contents, the *implicit* material commitments in virtue of which logically atomic sentences have the contents that they do. Logic transforms semantic practices into principles. By providing the expressive tools permitting us to endorse in what we say what before we could endorse only in what we did, logic makes it possible for the development of the concepts by which we conceive our world and our plans (and so ourselves) to rise in part above the indistinct realm of mere tradition, of evolution according to the results of the thoughtless jostling of the habitual and the fortuitous, and enter the comparatively well-lit discursive marketplace, where reasons are sought and proffered, and every endorsement is liable to being put on the scales and found wanting. The expressive deduction argues that subsentential structure takes the specific form of singular terms and predicates because only in that way can the full expressive benefits of substitutional subsentential analysis--codifying material correctnesses implicit in the use of sentences in material correctnesses implicit in the use of subsentential expressions--be combined with those afforded by the presence of full-blooded logical vocabulary of various sorts, performing its task of making explicit in claims what is implicit in the practical application of concepts.

In other words, languages have singular terms rather than some other kind of expression so that logic can help us talk and think in those languages about what we are doing, and why, when we talk and think in those languages. The full play of expressive power of even purely sentential logical vocabulary turns out to be incompatible with

every sort of substitutional subsentential analysis save that in which essentially subsentential expressions playing the substitution-structural role of being substituted-for have a symmetric substitution-inferential significances, and those playing the substitution- structural role of sentence frames have asymmetric substitution-inferential significances. For to play its inference-explicitating role, the conditional, for instance, must form compound sentences whose antecedent substitution-position is inferentially inverting. Only symmetrically significant expressions can be substituted for, and so form sentence frames, in such a context. That is why in languages with conditionals, subsentential structure takes the form of singular terms and predicates.

At the beginning of this chapter I pointed out that the principle that singular terms are used to talk about particular objects can be exploited according to two complementary directions of explanation. One might try to give an account of what particulars are, without using the concept *singular term*, and then proceed to define what it is to use an expression as a singular term by appeal to their relations to particulars. Or one might try to give an account of what singular terms are, without using the concept *particular*, and then proceed to define what it is for something to be a particular by appeal to their relations to expressions used as terms. (It should of course be admitted that in either case the talking about relation will require substantial explanation, though that explanation may have to look quite different depending on which explanatory strategy it is conceived as abetting.) The answer presented here to the question "What are singular terms?" does not appeal to the concept of objects. So it provides just the sort of account required by the first stage of the second, Kant-Frege strategy for explaining the concept of objects.

It is worth pointing out that in the context of this order of explanation, to explain why there are singular terms is in an important sense to explain why there are objects—not why there is something (to talk about) rather than nothing (at all), but rather why what we talk about comes structured as propertied and related objects. "...[T]he limits of language (of that language which alone I understand) means the limits of my world."24 To ask the question "Why are there singular terms?" is one way of asking the question

24 *Tractatus*, 5.62.

"Why are there objects?" How odd and marvelous that the answer to both should turn out to be: Because it is so important to have something that means what *conditionals* mean!