Philosophical Issues, 16, Philosophy of Language, 2006

TERMS IN BONDAGE*

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We distinguish to begin with between an expression (e.g., the variable '*x*') occurring in a sentence or formula and the occurrence itself. Equivalently, we draw a sharp distinction between ascribing certain semantic attributes to an expression (of a particular language or semantic system) *per se* and ascribing those attributes to the expression "as it occurs in," or relative to a particular *position* in, a larger expression (e.g., a sentence) or stretch of discourse.[1] *It is essential in what follows that the reader be ever vigilant, paying extremely close attention to the distinction between expressions themselves and their occurrences*. Many philosophers of language who think, habitually and almost instinctively, in terms of expression-occurrences and their semantic values—especially Fregean and linguistics-oriented philosophers—habitually and almost instinctively reinterpret remarks explicitly about expressions occurring in a sentence as concerning not the expressions but their occurrences. Nearly everyone who thinks about expressions at all typically has at least some inclinations of this sort. How many letters are there in the name 'Nathan'? The reader with even the slightest inclination to give the incorrect answer 'six' is implored to remain on the alert and to make every effort in what follows to let intellect overcome inclination, instinct, and habit; else much of what is said will inevitably be seriously misunderstood.[2]

Classical semantics does not abide by Frege's admonition that *one should never ask for the designatum or content of an expression in isolation, but only in the context of a sentence*. Classical semantics imputes semantic designation to expressions (under assignments of values to variables), not to their occurrences in formulae. Yet Frege's Context Principle has a point. One reason for departing from classical semantics—and one possible motivation for the Context Principle—is the desire for universal principles of extensionality for designation and of compositionality for semantic content. Even more important is our intuition concerning what is actually being mentioned in a particular context. Consider, for example, the following fallacious inference:

> In 1999, the President of the United States was a Democrat.
>
> The President of the United States = George W. Bush.
>
> Therefore, in 1999, George W. Bush was a Democrat.

The invalidity is partially explained by noting that whereas the definite description in the second premise designates Bush, there is no mention of Bush in the first premise. Though perhaps incomplete, the explanation is intuitive, even satisfying.

Frege regarded the attributing of semantic values to expressions *simpliciter* as legitimate only to the extent that such attribution is derivative from semantic attribution to those expression's occurrences in sentences. One need not adopt Frege's attitude in order to make sense of attributing semantic values to an expression-occurrence. Semantic attribution to occurrences may be regarded as derivative from the metalinguistic T-sentences (and similar meta-theorems) derived from basic semantic principles. According to Frege, whereas 'Ortcutt is a spy' *customarily* designates a truth value, the *occurrence* in 'Ralph believes that Ortcutt is a spy' instead designates a proposition (*Gedanke*). Similarly we may choose to say that whereas 'the President of the United States' customarily designates Bush, its occurrence in the major premise above instead designates the function that assigns to any time t, the person who is President of the United States at t. The semantic value of the description that bears on the truth-value of the sentence is not Bush, but this function.

Does an occurrence of an individual (objectual) variable in a sentence designate? A standard view is that free variables (and occurrences of compound designators containing free variables) designate, whereas bound variables range over a universe of values and do not also designate. An analogous view is generally assumed with regard to natural-language pronouns: deictic occurrences and some laziness occurrences designate; bound-variable anaphoric occurrences do not. Geach criticizes "the lazy assumption that pronouns, or phrases containing them, can be disposed of by calling them 'referring expressions' and asking what they refer to."[3] He says of anaphoric pronoun-occurrences, "It is simply a prejudice or a blunder to regard such pronouns as needing a reference at all" (*Reference and Generality*, p. 126). This attitude betrays a lack of analytical vision. The prejudice or blunder, I contend, is on Geach's side. He is not alone.

It is indeed a mistake to treat a bound variable (or other bound expression-occurrence) as having its customary, or default, designatum.[4] The value of a variable, under an assignment of values to variables, is what free occurrences of the variable designate. Does a bound variable have a non-standard designatum? It does; it has what I call the variable's *bondage designatum*, on an analogy to Frege's notion of indirect designatum (*ungerade Bedeutung*). In a properly developed semantic theory applicable to expression-occurrences, an occurrence a well-formed expression ζ standing within the scope of occurrences of variable-binding-operator phrases (e.g., quantifier phrases) $\ulcorner(\mathbf{B}_1\alpha_1)\urcorner$, $\ulcorner(\mathbf{B}_2\alpha_2)\urcorner, \ldots,$ $\ulcorner(\mathbf{B}_n\alpha_n)\urcorner$, in that order, designates (as at least a close approximation) the n–ary function that assigns to an n–tuple i_1, $i_2, \ldots, i_n$ of objects from the universes over which the variables $\alpha_1, \alpha_2, \ldots,$ α_n respectively range, the customary extension of ζ under the assignment of precisely those entities, respectively, as values for those variables. In particular, then, the occurrences of 'x' in '$(\exists x)(x$ is a billionaire)', and the 'his' in 'Every male soldier overseas cares about his mother', each designate the identity function on the universe of individuals over which those variables range.[5]

Unlike classical Russell-Tarski expression-based semantics, an occurrence-based semantics conforms to Frege's Context Principle and to (modestly restricted) principles of extensionality, compositionality, and even the strong form of compositionality according to which the semantic content of a compound expression is a function of the contents of the expression's component expression-occurrences.[6] I should nevertheless strongly advise classical semantics to continue disregarding the Context Principle. This is not because I think it incorrect to attribute semantic values to expression-occurrences. The two approaches, though different, are not intrinsically in conflict. Contrary to the Context Principle, semantics may be done either way. Semantics may even be done both ways simultaneously, assigning semantic values both to expressions and to their occurrences within formulae or other expressions, and without prejudice concerning which is derivative from which. Frege's occurrence-based semantics in fact assigns semantic values both to expressions and their occurrences, even while honoring his Context Principle. His notions of customary designatum, indirect designatum, indirect sense, and the like, are semantic values of the expression itself. The customary designatum is the designatum of the expression's occurrences in "customary" settings, i.e., its occurrences that are in extensional position and not within the scope of a variable-binding operator. (See note 4.) The Context Principle is not a blanket injunction against assigning semantic values to expressions. It is restricted to the expression-semantic notions of designatum and content *simpliciter*, as opposed to occurrence-semantic notions like that of customary extension. And despite its pedigree, it is not sacrosanct. Translating the term 'extension' of conventional expression-based semantics into 'customary extension', and so on for the other semantic terms ('designate', 'content', etc.), occurrence-based semantics emerges as a conservative extension of conventional expression-based semantics. Occurrence-based semantics may be unorthodox and unconventional, but it is only somewhat unorthodox and only somewhat unconventional.

The principal reason I advocate expression-based semantics over occurrence-based semantics is that the latter inevitably invites serious confusion.

It led Frege to his view that each meaningful expression has not only a sense, but an indirect sense, and also a doubly indirect sense, and indeed an entire infinite hierarchy of indirect senses.[7] Occurrence-based semantics has also led to the miscataloging of various terms. In particular, it has led to the misclassification of various non-compound singular terms as non-rigid, and of various compound terms (for example, complex demonstratives and 'that'-clauses in attributions of belief) as restricted quantifiers (often mislabeled *generalized quantifiers*). Though not Frege's, these errors have been committed by followers in Frege's footsteps, leading to a current *quantifiermania*. The misclassifications, and other confusions like them, come about when a philosopher of language fails to distinguish sharply between an expression and its occurrences.

I shall here take up the misclassification of compound terms. This arises when a language philosopher erroneously imputes an open expression's customary semantics to the expression's occurrences in a sentence. I have in mind the recent rash of arguments to the effect that compound terms of a certain grammatical category (for example, 'that'-clauses), because they can be quantified into ('Every boy believes *that his dad is tougher than every other boys' dad*'), cannot be singular terms, or cannot be directly referential singular terms, and should be regarded instead as restricted quantifiers.

The general form of the argument evidently originates with Benson Mates, who employed it as an objection to the Fregean (and Strawsonian/anti-Russellian) thesis that definite descriptions are compound singular terms, and that a definite description designates the individual that answers to the description if there is a unique such individual and designates nothing otherwise, yielding a sentence with no truth-value.[8] Although initially plausible, the Fregean thesis apparently falters when a definite description is quantified into, as in:

> *S*: Every [some/at least one/more than one/exactly one/not one] male soldier overseas misses the only woman waiting for him.

If the definite description 'the only woman waiting for him' were a singular term, then (*S*) should not be true—indeed, on the Frege-Strawson theory, it should be neither true nor false—if the description has no designatum. But (*S*) could well be true, Mates argues, even though one cannot assign a designatum to the open definite description 'the only woman waiting for him' as occurring in (*S*), any more "than one can assign a truth-value to 'it is less than 9' as occurring in 'If a number is less than 7, then it is less than 9'."[9]

II

Let us take a close look at the objection. As Mates notes, the definite description 'the only woman waiting for him' occurring in (*S*) is open.

The pronoun 'him' occurring in the description corresponds to a variable bound by an external quantifier. The pronoun may be assigned any one of various soldiers as designatum. If the phrase 'the only woman waiting for him' is indeed a singular term, it designates different women under different such assignments. What about the *occurrence* of the description in (*S*)? Our theory of bondage demonstrates that Mates overstates the case when he says that one cannot assign anything to the occurrence as its designatum. The occurrence has its bondage extension with respect to 'him', and may be regarded as designating the function that assigns to any male the only woman waiting for him, if he left exactly one woman waiting for him, and assigns nothing otherwise. This much may be said, though: the occurrence of the description in (*S*) does not designate any particular woman who answers to the description.

Now suppose (*S*) is true. How does it follow that the description occurring in (*S*) is not a singular term?

It does not—not without the aid of some additional semantic machinery. What does follow is that if definite descriptions are singular terms, the occurrence of the description in (*S*) does not designate the description's customary designatum under any particular designatum assignment. But no one ever said that it did. The Fregean/Strawsonian thesis is that definite descriptions—the expressions themselves—are singular terms. If one is not careful to distinguish between an expression and its occurrences, one might misconstrue this as the thesis that every *occurrence* of a definite description designates the object that answers to the description. (Recall the Cautionary Note in Section I.) But it is well known that Frege, with his doctrine of indirect designation, rejected the latter thesis. For (*S*) to be true, every male soldier overseas must miss the woman who is value of the function designated by the occurrence of the definite description when that soldier is assigned as argument. As long as the function is defined for every male soldier overseas, this presents no particular problem.

To bridge the gap between the current sub-conclusion and the Fregean thesis in Mates's crosshairs, the objection tacitly invokes the following semantic theorem:

> *M*: *Any sentence* ϕ_β *[of a restricted class C], containing an occurrence of a genuine singular term* β *in extensional position, is true [either true or false] only if that same occurrence of* β *designates the customary designatum of* β.[10]

Assuming Mates does not misconstrue the Fregean/Strawsonian thesis, his objection assumes (*M*) (or something very much like it) as its major premise, or assumes that his Fregean opponent is committed to it. As we have noted, if the description 'the only woman waiting for him' is a genuine singular term, its occurrence in (*S*)—since an external quantifier-occurrence quantifies into it—does not designate the description's customary designatum under a particular designatum-assignment. Yet (*S*) may be true. Given (*M*), it directly follows that the description is not a genuine singular term.

The argument is fallacious. Other versions of Mates's objection are equally fallacious. Those other versions make, or require, semantic assumptions analogous, or otherwise very similar, to (*M*).[11] What the proponents of the style of argument generally fail to recognize is that, insofar as there are semantic theorems like (*M*) concerning singular terms, there are analogous semantic theorems concerning quantifiers,[12] as well as other sorts of expressions that have semantic extension. This makes for the possibility of an exactly analogous argument for the conclusion that quantifiers also cannot be quantified into, and therefore definite descriptions (or 'that'-clauses, etc.) are not quantifiers either, *or anything else for that matter*. Something has gone very wrong. Restricted quantifiers can be bound by other quantifiers—as, for example, in 'Every male soldier overseas misses *some woman waiting for him*'. For that matter, so can singular terms—witness the case of the individual variable. Somewhere a serious error has been committed.

In every application of which I am aware, the assumed semantic "theorem" is in fact false and the proponents of the target thesis (e.g., that definite descriptions or 'that'—clauses are singular terms) do not endorse it. If (*M*) were sound, it would establish more generally that the very notion of an occurrence of an open singular term bound ("quantified into") by an external quantifier is semantically incoherent. Despite the objection's popularity, ordinary mathematical notation is rife with counter-examples to its major premise—for example the 'x^2' in '$(\exists x)(x^2 = 9)$'. The most glaring counter-example is the paradigm of an open singular term: the individual variable. To use Mates's own example, if the occurrences of '*y*' in the true sentence '$(y)(y < 7 \supset y < 9)$' (let this be ϕ_β, with $\beta =$ '*y*') designate anything, they designate not the customary designatum of '*y*' under a particular value-assignment, but the bondage extension with respect to '*y*' itself: the identity function on the range of '*y*'. Yet the variable '*y*' is a genuine singular term if anything is.[13]

The mistake directly results from imputing the semantic attributes of an expression to its occurrences, including even bound occurrences. The mistaken "theorem" can be corrected, and even generalized:

> M': *An assignment s of values to variables satisfies a formula* ϕ_β*, of the restricted class C, containing a free occurrence of a singular term* β *in extensional position, only if that same occurrence of* β *designates the customary designatum of* β *under s.*

This corrected version effectively blocks the objection.[14] Fregean theory may also countenance a second variation of (*M*):

> M'': *Any sentence* ϕ_β *[of a restricted class C], containing an occurrence of a genuine singular term* β *in extensional position, is either true or false only if that same occurrence of* β *designates.*

As mentioned earlier, according to the occurrence-based semantics sketched above, the occurrence of the open definite description in (*S*) designates a particular partial function.

It is a trivial matter to extend our theory of bondage to include definite descriptions as singular terms, which, if open, can be quantified into. We let a definite description $\ulcorner(\iota\alpha)\phi_\alpha\urcorner$ customarily designate under a value-assignment s the unique object i that is an element of the class characterized by the extension of its occurrence of ϕ_α, if there is a unique such i, and customarily designate nothing under s otherwise. A free occurrence of a definite description in extensional position designates the description's customary designatum. The extension of a bound occurrence in extensional position is then the appropriate bondage extension. Let a particular $(n+1)$-ary function f from objects to truth values be the $(n+1)$-fold bondage extension of a formula ϕ_α with respect to a sequence of variables $<\beta_1, \beta_2, \ldots, \beta_n, \alpha>$, under a value-assignment s. Then the n-fold bondage extension of the definite description $\ulcorner(\iota\alpha)\phi_\alpha\urcorner$ with respect to $<\beta_1, \beta_2, \ldots, \beta_n>$, under s, is the n-ary partial function f_{I} that maps $j_1, j_2, \ldots, j_n$ to the unique element i from the range of α such that $f(j_1, j_2, \ldots, j_n, i) =$ truth, if there is a unique such i, and is undefined otherwise. One may consistently add the corrected Mates theorem (M') into the mix. On this theory of bondage, quantification into singular terms is not only permitted, it is encouraged.

Saul Kripke has sermonized, "It is important, in discussions of logico-philosophical issues, not to lose sight of basic, elementary distinctions by covering them up with either genuine or apparent technical sophistication."[15] The distinction between an expression and its occurrences is elementary and fundamental. The Fregean/Strawsonian thesis that Mates aims to refute is that definite descriptions are singular terms. It is no part of the Fregean thesis that every *occurrence*—even a bound occurrence—of a definite description in extensional position in a sentence designates the description's customary designatum. The latter thesis is neither Frege's nor Strawson's; it is Strawman's.

There remain significant differences between the Fregean theory sketched above and the Russellian theory that Mates and company prefer. If every male soldier overseas left exactly one woman waiting for him, and he does indeed miss her, then contrary to Mates, Frege's theory no less than Russell's deems (*S*) true. If every male soldier overseas left exactly one woman waiting for him, but at least one male soldier overseas does not miss the woman he left behind, then both Frege and Russell deem (*S*) false. But suppose at least one male soldier overseas left no woman, or two women, waiting for him. On Russell's theory, (*S*) is false in this third case as well as the second. On Frege's theory it is not, although it is not true either. This verdict is a straightforward result of (M') together with the theory's other semantic principles. The third case, not the first, is the deciding case. To this day, it remains unclear whether the falsity verdicts of Russell's theory, or those of Frege's, are the correct ones.

Notes

* I thank Alan Berger for comments and discussion. I am also grateful to my audiences at the UCLA Workshop in Philosophy of Language during Spring 2004, at the 2005 European Conference in Analytic Philosophy 5 in Lisbon, Portugal, and at the Universities of Groningen and of Amsterdam, the Netherlands, for their reactions to some of the material presented here.

1. An expression-occurrence standing within a formula must not be confused with a token of the expression, such as an inscription or an utterance. A token is a physical embodiment, physical event, or other physical manifestation of the expression (type). An occurrence of an expression is, like the expression itself, an abstract entity. For most purposes, it may be regarded as the expression together with a position that the expression occupies within a larger sequence of expressions.

   In contemporary philosophy of language it has become a common practice to attribute semantic values neither to expressions themselves nor to their occurrences but to expression-utterances. I regard this *speech-act centered conception of semantics* a giant leap backward, lamentable in the extreme. See my "Two Conceptions of Semantics," in Z. G. Szabo, ed., *Semantics versus Pragmatics* (Oxford Univerity Press, 2005), pp. 317–28.
2. The letters in 'Nathan' are four: 'A', 'H', 'N', and 'T'. Two of these occur twice, making six letter-occurrences in all.

   With some trepidation, I follow the common vernacular in speaking of "bound variables" in a sentence where what are mentioned are actually bound occurrences, or of "the initial quantifier of," or "the 'his' in" a sentence, etc., where what is mentioned is actually an occurrence of a quantifier or the pronoun. I have taken care to see that my usage unambiguously decides each case. For example, there is only one lower-case, italic letter '*x*', and only one English word 'his', but there are infinitely many occurrences of either, so that any talk of "the bound variables" (plural) of a formula containing no variable other than '*x*', or of "the 'his'" (with definite article) in a sentence, can only sensibly concern occurrences.
3. Geach, "Ryle on Namely-Riders," *Analysis*, 21, 3 (1960–1961); reprinted in *Logic Matters* (Oxford: Basil Blackwell, 1972), pp. 88–92, at 92.
4. When a quantifier (or other variable-binding operator) "quantifies into" an open expression, I say that the external quantifier-occurrence, in addition to binding the variable occurrence, also binds the containing open-expression occurrence itself. Positions within quotation marks and similar devices, including 'believes that', are not extensional. An occurrence of a wfe ζ is said to be *within the scope of* an occurrence of a variable-binding-operator phrase $\ulcorner(\mathbf{B}\alpha)\urcorner$, where $\mathbf{B}$ is a variable-binding operator and α is a variable, if the latter occurrence is the initial part of an occurrence of a wfe of the form $\ulcorner(\mathbf{B}\alpha)\phi\urcorner$, where ϕ is a formula, and the former occurrence stands within that occurrence of $\ulcorner(\mathbf{B}\alpha)\phi\urcorner$. (It may be assumed that the universal quantifier is '∀', and as a notational convenience is routinely deleted, so that a universal-quantifier phrase written $\ulcorner(\alpha)\urcorner$ is of the form $\ulcorner(\mathbf{B}\alpha)\urcorner$.)
5. A justification for this claim is offered in my "A Theory of Bondage" (forthcoming)

6. An actual proof that a modestly restricted principle of strong compositionality is satisfied (or falsified) must await a suitable theory of concepts analogous to Zermelo-Frankel set theory.
7. My attitude resonates to some extent with Rudolf Carnap's in *Meaning and Necessity* (University of Chicago Press, 1947, 1956), chapter III, especially §§29–32, pp. 124–44. Carnap calls expression-based semantics *the method of extension and intension,* and Frege's occurrence-based semantics the *method of the name-relation*. Carnap saw Frege's occurrence-based semantics as flowing naturally from his assimilation of semantic extension to "the name-relation" between a singular term and its designatum. Cf. *ibid*., §28, especially at p. 123. (Occurrence-based semantics *per se* does not require this assimilation. I believe the Context Principle also flows fairly naturally from a "truth-conditional" semantics that does not assimilate extension to designation. I have set out occurrence-based semantics without assuming the assimilation.) A resolute advocate of the expression-based semantic method over Frege's occurrence-based semantics, Carnap points out that the expression-semantic notion of extension and Frege's notion of designation ("nominatum," *Bedeutung*), though they are very similar, are not to be identified; and likewise the expression-semantic notion of content ("intension") and Frege's notion of sense, though very similar, are not to be identified. "A decisive difference between our method and Frege's consists in the fact that our concepts, in distinction to Frege's, are independent of the context" (p. 125). Still, Carnap noted, the expression-semantic notions of extension and content coincide, respectively, with Frege's notions of customary designatum and sense. (*Cf*. Carnap's principles 29–1 and 29–2, pp. 125–26.) Carnap advises against doing semantics both ways simultaneously (pp. 128–29), and complains that Frege's method led him to postulate an insufficiently explained notion of indirect sense (p. 129), and leads ultimately to Frege's infinite hierarchies (pp. 131–32). (Russell had previously blamed the Fregean hierarchy not on occurrence-based semantics, but on the expression-semantic thesis that definite descriptions are singular terms. My own view is that the hierarchy discredits neither the Context Principle nor the thesis that definite descriptions are singular terms, and is to be blamed instead on the union of two fundamental principles of Fregean theory: that any expression-occurrence that has a designatum also has a sense, which is a concept of the designatum; and that the indirect designatum of an expression is the customary sense. See my "On Designating," Mind, forthcoming issue celebrating the centennial of "On Denoting"; and also my "On Indirect Sense and Designation.")

   There is an analog to the Fregean hierarchy in Church's elegant Logic of Sense and Denotation (LSD), in Henle, Kallen, and Langer, eds, Structure, Method and Meaning (New York: Liberal Arts Press, 1951), pp. 3–24; *Noûs* (1973), pp. 24–33, 135–56. As Carnap recognizes (pp. 132, 137–38), however, the hierarchies in *LSD* are not semantic values of single expressions. They are the senses of infinitely many *different* expressions.
8. Mates, "Descriptions and Reference," *Foundations of Language*, 10 (1973), pp. 409–18, at p. 415. The general form of argument has been employed or endorsed by several others during the past twenty-five years. The following is a chronological partial bibliography: Gareth Evans, "Reference and Contingency," *Monist*, 62 (1979), pp. 161–89, at pp. 169–70; Stephen Neale, *Descriptions* (Cambridge,

Mass.: MIT Press, 1990), at p. 56n28; Neale, "Term Limits," in J. Tomberlin, ed., *Philosophical Perspectives: Logic and Language*, 7 (Atascadero, Ca.: Ridgeview, 1993), pp. 89–123, at p. 107; Jeffrey King, "Are Complex 'That' Phrases Devices of Direct Reference?" *Noûs*, 33 (1999), pp. 155–82, at pp. 157–58, 161–62; Ernest Lepore and Kirk Ludwig, "The Semantics and Pragmatics of Complex Demonstratives," *Mind*, 109 (2000), pp. 200–41, at pp. 205–6, 210–22, and *passim*; King, *Complex Demonstratives* (Cambridge, Mass.: MIT Press, 2001), at pp. xi–xii, 1, 10–11, 20–22; Kent Johnson and Ernest Lepore, "Does Syntax Reveal Semantics? A Case Study of Complex Demonstratives," in J. Tomberlin, ed., *Philosophical Perspectives: Language and Mind*, 16 (Atascadero, Ca.: Ridgeview, 2002), pp. 17–41, at p. 31; and Jason Stanley, Review of Jeffrey King, *Complex Demonstratives, The Philosophical Review*, 111 (2002), pp. 605–9. Cf. my "Being of Two Minds: Belief with Doubt," *Noûs*, 29 (1995), pp. 1–20, at p. 18*n*26, and "Demonstrating and Necessity," *The Philosophical Review*, 111 (2002), pp. 497–537, at pp. 534–535*n*47.

9. Before Mates, Geach had drawn a somewhat different conclusion from the same data: that the occurrence of the definite description in (1), since it does not designate, does not "have the role of a definite description." See his "Ryle on Namely-Riders," at pp. 91–92 of *Logic Matters*; also "Referring Expressions Again," *Analysis*, 24, 5 (1963–1964), reprinted in Geach's *Logic Matters*, pp. 97–102, at 99–100.
10. See note 4. The bracketed material represents variations or restrictions that Mates might have in mind. The restricted class *C* excludes such problematic sentences as ⌜β does not exist⌝ and things that entail it.
11. The assumed semantic theorem is not generally stated precisely, if it is stated at all. In some applications a somewhat stronger semantic theorem is employed, for example: ($M+$) *Any sentence* ϕ_β*, of the restricted class C, containing an occurrence of a genuine singular term* β *in extensional position, is true if and only if the designatum of that same occurrence of* β *satisfies the formula* ϕ_α*—where* ϕ_β *is the result of uniformly substituting occurrences of* β *for the free occurrences in extensional position of a variable* α *in* ϕ_α.

    King, as cited in note 8 above, applies a version of Mates's objection against the thesis that demonstratives are directly referential singular terms. Quantification into a complex demonstrative is odd at best. Although King assumes it is permissible, almost all his examples involve, or appear to involve, a stylistically altered definite description rather than a genuine demonstrative, e.g., 'Every professor cherishes that first publication of his'. (Compare with (1).) Where the phrase 'that first publication of his' occurs as a genuine demonstrative, it should be possible to delete the word 'first' by pointing to the publication in question. But this is problematic with King's example.

    The issue is significant, but set it aside. King explicitly aims to establish the conclusion that at least some complex demonstratives (the expressions) are not singular terms at all, let alone directly referential singular terms. His argument employs the following tacit premise: ($K1$) *Any sentence* ϕ_β *containing a directly referential occurrence of singular term* β *in extensional position expresses as its semantic content a singular proposition in which the designatum of that same occurrence of* β *occurs as a component.* The conclusion King derives using this premise is that bound occurrences of complex demonstratives are not *directly referential occurrences*, in the sense that the occurrence's semantic content is not the expression's customary designatum. Although King evidently believes this refutes the target thesis, strictly speaking the target thesis is perfectly compatible with this conclusion—just as Mates's sub-conclusion before invoking (M) is compatible with the Fregean thesis that definite descriptions are singular terms. An additional premise is required to validate King's argument against the target thesis: ($K2$) *If a singular term* β *is directly referential, then every occurrence of* β *in extensional position in a sentence is a directly referential occurrence.*

King has confirmed in correspondence that he accepts ($K2$) as well as ($K1$). He adds that he believes both are partly stipulative, by virtue of the meaning of 'directly referential'. (He also adds that ($K2$), because it concerns expressions as well as expression-occurrences, is likely to confuse.) Taken together, ($K1$) and ($K2$) yield the direct-reference analog of Mates's semantic theorem: (K) *Any sentence* ϕ_β *containing an occurrence of a directly referential singular term* β *in extensional position, expresses as its semantic content a singular proposition in which the designatum of that same occurrence of* β *occurs as a component.* This theorem may be taken as premise in place of ($K1$) and ($K2$).

12. Thus, for example: *Any sentence [of a restricted class C], containing an occurrence of universal generalization* $\ulcorner(\alpha)\phi_\alpha\urcorner$ *in extensional position, is true only if the extension of that same occurrence of* $\ulcorner(\alpha)\phi_\alpha\urcorner$ *is truth if the extension of its occurrence of* ϕ_α *is the function that assigns truth to everything in the range of the variable* α*, and is falsehood otherwise.*
13. Let ϕ_α in ($M+$) be the open formula '$(y)(y < 7 \supset x < 9)$', with $\alpha =$ 'x'. The customary designatum of 'y' under the assignment of 10 as value does not satisfy it.

See notes 8 and 11 above. Stanley has confirmed in correspondence that in his review he interprets King's objection as tacitly invoking (K) as a stipulative premise—or alternatively, ($K1$) and ($K2$). Stanley, *ibid.*, maintains that whereas Mates's original argument and others like it fail—essentially on the same grounds argued here—King's variant of Mates's argument is nevertheless decisive against the thesis that demonstratives are directly referential singular terms. Stanley's position is based on his contention that an intensional semantics of content (as opposed to classical, extensional semantics in the style of Tarski) does not relativize content to assignments of value to variables. Contrary to Stanley, wherever there is quantification the natural method of systematically assigning contents involves doing so under value-assignments. Church's "The Need for Abstract Entities in Semantic Analysis" and the Russellian intensional semantics sketched in Section III both do so explicitly. *Cf.* also my *Frege's* Puzzle (Atascadero, Ca.: Ridgeview, 1986), at pp. 144–147. Mates's argument cannot be made to succeed simply by choosing to speak of the semantic *content* of a definite-description occurrence and the individual of which that content is a *concept*, rather than speaking of the occurrence designating the individual.

Contrary to King and Stanley, (K) is not an analytic or stipulative truth. In fact, it has extremely dubious consequences, for example that variables are not directly referential—assuming that a bound variable, since its semantic content is not the variable's customary designatum, is not a "directly referential occurrence".

(This is how both King and Stanley understand the phrase.) More specifically, both ($K2$) and (K) are evidently falsified by the same paradigm-case as (M): bound variables. Furthermore, proponents of the direct-reference theory, though they may accept ($K1$), do not endorse either ($K2$) or (K)—witness the case of bound variables. King's argument and Mates's original argument thus evidently fail for the same general reason.

Stanley responds that both ($K2$) and (K) are true despite bound variables because the lower-case letter *'x'* (*qua* variable) ambiguously represents two distinct expressions: *'x'*-bound and *'x'*-free. (He maintains that this alleged ambiguity is in fact a corollary of (K).) The bondage extension of a variable is indeed distinct from its customary extension, and one might choose to express this—albeit misleadingly—by saying that the variable is *ambiguous*, having a *bondage reading* distinct from its *customary* or *default reading*. (It is incorrect to express this by saying that a bound occurrence and a free occurrence of *'x'* are occurrences of different *expressions*.) Expressing the point in terms of an "ambiguity" between customary and bondage readings, however, is ineffective as a defense of King's objection. The bondage semantics of any open expression deviates from the customary semantics, e.g., 'the only woman waiting for *him*', '*his* first publication', etc. Insofar as open expressions are deemed *ipso facto* ambiguous, the thesis that King's argument aims to refute is that demonstratives *on their customary readings* are directly referential singular terms. The alleged bondage reading is irrelevant.

14. There are likewise corrected versions of the more elaborate assumptions mentioned in note 11 above. Thus:

    $M+^z$ *An assignment s of values to variables satisfies a formula* ϕ_β, *of the restricted class C, containing a free occurrence of a genuine singular term* β *in extensional position, if and only if the modified value-assignment* s' *that assigns the designatum of that same occurrence of* β *under s as value for a variable* α *and is otherwise the same as s, satisfies the formula* ϕ_β*–where* ϕ_β *is the result of uniformly substituting free occurrences of* β *for the free occurrences of* α *in extensional position in* ϕ_β.

    Similarly: ($K2'$) *If a singular term* β *is directly referential, then every free occurrence of* β *in extensional position in a sentence is a directly referential occurrence*. Each of these corrected versions effectively blocks the objection.

15. "Is There a Problem about Substitutional Quantification?" in G. Evans and J. McDowell, eds, *Truth and Meaning* (Oxford University Press, 1976), pp. 325–419, at p. 408.