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Vol. 114 · No. 456 · October 2005

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A Century Later

STEPHEN NEALE¹

This is the introductory essay to a collection commemorating the 100th anniversary of the publication in *Mind* of Bertrand Russell's paper 'On Denoting'.

1905 will forever be remembered as Albert's Einstein's *annus mirabilis*, the year in which he submitted his dissertation and published seminal papers on the photoelectric effect, special relativity, and Brownian motion. Philosophers remember 1905 for an additional reason: in that year, Bertrand Russell wrote, and published in this journal, what he regarded as his finest philosophical essay, 'On Denoting'. The present issue of *Mind* commemorates the centenary of that extraordinary work and its most important doctrine, the Theory of Descriptions.² Remarkably, the virtues and vices of this little theory, now a hundred years old, are debated more vigorously today than ever, not only by philosophers but also by theoretical linguists. The articles in this commemorative issue go a long way towards explaining why.³

'On Denoting' appeared in the October 1905 issue, over the initial objections of the editor, G. F. Stout: 'The doctrine struck the then editor as so preposterous,' Russell recalled, 'that he begged me to reconsider it and not demand its publication as it stood. I, however, was persuaded of its soundness and refused to give way.'⁴ Russell was famous for changing his mind, but the Theory of Descriptions was something he never abandoned. Indeed he could be found defending it in the pages of this journal as late as 1957—when he was eighty-five years old. Russell had been moved to respond by the reception of P. F.

¹ I am grateful to Thomas Baldwin, Berit Brogaard, Gilbert Harman, Daniel Rothschild, Stephen Schiffer and especially Gary Ostertag for helpful comments and corrections, and to Rachel Carter and David Harris for their exemplary work on every article in this issue of *Mind*.

² This year also marks the 50th anniversary of the Russell–Einstein Manifesto, a public warning to humanity about the consequences of nuclear war, signed by Russell, Einstein and nine other eminent scientists, as well as the 50th anniversary of Einstein's death.

³ So do the articles in a recent six-hundred page collection called *Descriptions and Beyond*, edited by Anne Bezuidenhout and Marga Reimer (2004).

⁴ Russell (1959), p. 63.

Strawson's 'On Referring', published in this journal in 1950. Strawson's assault on the Theory of Descriptions did not impress Russell:

As I find that some philosophers whom I respect consider that [Strawson's article] has achieved its purpose successfully, I have come to the conclusion that a polemical reply is called for. I may say, to begin with, that I am totally unable to see any validity whatever in any of Mr Strawson's arguments. Whether this inability is due to senility on my part or to some other cause, I must leave readers to judge.⁵

And judge they did, for what appeared to be at stake were two rather different ways of doing philosophy, both of which placed great emphasis on language.⁶ Although Russell and Strawson are sometimes at cross purposes, on certain issues Russell was unquestionably right.⁷ On others, he allowed philosophical prejudice to get the better of him. Importantly, both men made wonderfully instructive mistakes, and analyses of the mistakes and their origins have proved a great boon to our understanding of the structure and use of natural language, and to some extent the nature of thought.⁸ Such is the nature of philosophy.

Whatever Russell's aims were when he hit upon the Theory of Descriptions, and however much is unearthed about how he was led to

⁵ 'Mr Strawson On Referring', p. 385. This piece is incorporated into Russell's 1959 book *My Philosophical Development* (pp. 175–80), which is, I believe, Russell's last published word on descriptions. I believe Strawson's last word on the topic is Strawson (1986) which is reprinted in Strawson (2003). Strawson felt he should not contribute to the present issue of *Mind* on the grounds that he had nothing to add to what he had said in his 1986 paper.

⁶ Strawson concluded 'On Referring' with the following words: 'Neither Aristotelian nor Russellian rules give the exact logic of any expression of ordinary language; for ordinary language has no exact logic' (1950, p. 344). (Bar-Hillel (1954, p. 376) notes that Strawson's use of 'the exact logic ...' with 'no exact logic' conflicts with the position he is defending on non-denoting descriptions!) Two years later Strawson published *Introduction to Logical Theory*, in which he took on the specifics not just of Russell's Theory of Descriptions but also of the entire doctrine governing the use of \wedge , \vee , \supset , $(\forall x)$, $(\exists x)$, and $(\neg x)$ in explicating the actual or improved meanings of the natural language expressions 'and', 'or', 'if', 'every', 'a', and 'the'. To the best of my knowledge, 'On Referring' contained the first full-scale attack on the specifics of Theory of Descriptions. Important discussions of the theory prior to 1950 include Hilbert and Bernays (1934), Quine (1940), Gödel (1944), Moore (1944), Carnap (1947) and Smullyan (1948).

⁷ Contrary to Russell (and Frege), Strawson takes referring (and, with it, meaning, saying, stating, asserting and so on) to be things *people* do with words, making clear-cut battle lines with Russell (or Frege) difficult to draw.

⁸ This and related matters are debated in *Definite Descriptions: A Reader* (Ostertag (ed.) 1998) and in *Descriptions and Beyond: An Interdisciplinary Reader* (Bezuidenhout and Reimer (eds) 2004). My own appraisal of the debate between Russell and Strawson can be found in chapter two of *Descriptions* (Neale 1990/2006) and in my contribution to *Descriptions and Beyond* (Neale 2004).

it or about its relation to the theory of denoting he had put forward two years earlier in *The Principles of Mathematics*, it is undeniable that the theory's impact later in the century and the principal reasons it is still such a lively and fertile topic of philosophical (rather than historical) debate lie in the philosophy of language.⁹ The recurring questions here concern (i) whether the Theory of Descriptions should form part of a theory of meaning for natural language, (ii) if so, how best to capture its essence and state it in such a way that it slots neatly into place, and (iii) if not, what to do about it, given the theory's explanatory power and utility. But interest in the theory is not limited to the semantics of descriptions themselves. For the standard objections to the theory and the standard responses, both of which are still being honed in philosophy and linguistics journals, have raised to great prominence some very general and debilitating problems about the roles of context and syntactic structure in linguistic interpretation.

The philosophers contributing to the present volume range from those who have retired from teaching to those at the beginnings of their philosophical careers; from devoted friends of Russell's Theory of Descriptions to outright foes; from those whose papers have gone through numerous drafts over the last few years, to those whose contributions were prepared from tapes of lectures given only this year. Readers will find rich scholarship, profound insights, radical and original proposals, powerful arguments, formal dexterity, and flashes of sheer philosophical brilliance in the contributions. Their unity lies in the depth of the understanding they display of the philosophical and logical aspects of the Theory of Descriptions, of the role it played in the development of analytic philosophy in the twentieth century, and of its repercussions for the twenty-first. Reading and editing these papers has made this year a most rewarding (and vexing) one (no names, no pack drill), and I am honoured to have participated in putting this commemorative issue together. I had planned to write a very brief introduction to the contributions, but re-reading them in page proof led to several expansions particularly in connection with pressing issues

⁹ It is here that the theory is most often *used*, rather than mentioned, or discussed as an historical entity. As has been argued by, for example, Makin (2000), the pressures that led Russell to the theory were firmly rooted in logic and mathematics, in particular, in the logicist concern to reduce the truths of mathematics to truths of pure logic. (See the preface to the first edition of *The Principles of Mathematics*.) It would be a gross exaggeration, however, to claim that a failure to appreciate how, as a matter of historical fact, Russell was *led* to the Theory of Descriptions is a barrier to understanding and using it (or even a barrier to understanding how the theory's *originator* understood and used it once he had hit upon it). One can learn a great deal from examining the origins of a theory, but providing a revisionary view of the genesis of a theory or of the pressures that opened the door to it is a far cry from providing a revisionary view of the theory itself.

involving descriptions today, one or two of which, I am certain, will be new to most philosophers. To maintain a steady flow and avoid many scores of parenthetical references to the contributors' papers (and to other works) all pointers and citations are contained in appropriately placed footnotes. More technical matters are also confined to footnotes.¹⁰

1. 'On Denoting'

'On Denoting' is a difficult piece, even for those today steeped in the analytic tradition it helped inaugurate. In 1905, readers of *Mind* must have found much of the article incomprehensible, and it is doubtful that many readers outside Russell's immediate circle could have learned much from it. Misunderstandings persist to this day; and outright errors about the Theory of Descriptions or its applications can be found in some of the most famous papers in twentieth century philosophy.¹¹ Despite its complexity, 'On Denoting' is required reading for students today because the distinctions and concepts Russell introduced are so integral to contemporary philosophy and linguistics. Compassionate teachers may also assign one of Russell's later discussions, but nothing quite captures the freshness of 'On Denoting' or the logical urgency of Russell's tone.¹² Besides, a shift in Russell's conception of what sorts of things one can be acquainted with corresponds in these later works to an explicit extension of the Theory of Descriptions to ordinary proper names, which is no part of the explicit doctrine of 'On Denoting'.¹³

¹⁰ Henceforth, the following abbreviations will be assumed for the works of Russell being discussed: *PoM* (*The Principles of Mathematics*, 1903); *OD* ('On Denoting', 1905); *PM* (*Principia Mathematica* 1910/1925); *KAKD* ('Knowledge by Acquaintance and Knowledge by Description', 1910/1912); *PLA* ('The Philosophy of Logical Atomism', 1918); *IMP* (*Introduction to Mathematical Philosophy*, 1919); *RC* ('Replies to Criticisms', 1944); *IMT* (*Inquiry into Meaning and Truth*, 1948); 'MSR' ('Mr Strawson on Referring', 1957); and *MPD* (*My Philosophical Development*, 1959).

¹¹ For discussion, see the contributions by Cartwright, Kaplan, Kripke, and Salmon (this volume). See also Kaplan (1972), Kripke (1977), Makin (2000) and Neale (1990/2006).

¹² The most popular later discussions are in *KAKD* (1910, 1912), Lecture VI of *PLA* (1918), and Ch. 17 of *IMP* (1919). Those seeking a proper formal statement must consult the relevant parts of *PM*, which are reproduced by Ostertag (1998).

¹³ See Cartwright, Kaplan, and Kripke (this volume). I was careful to say 'explicit doctrine' rather than, say, 'commitments' because (a) Russell gives on p. 487 of 'On Denoting' (and again on p. 67 of *Principia Mathematica*) an argument which seems to commit him to treating ordinary names as descriptions, and (b) in the penultimate paragraph of 'On Denoting', Russell is already closing in on the idea that names of other minds and material particles are disguised descriptions. (See below.)

‘On Denoting’ opens with a characterization of the phrases of interest:

By a “denoting phrase” I mean a phrase such as any one of the following: a man, some man, any man, every man, all men, the present King of England, the present King of France, the centre of mass of the solar system at the first instant of the twentieth century, the revolution of the earth round the sun, the revolution of the sun round the earth. Thus a phrase is denoting solely in virtue of its *form*.¹⁴

For many years, linguists called denoting phrases *noun phrases*, or *NPs*. In recent years, a good number have begun to call them *determiner phrases*, or *DPs*, to reflect the idea that the determiners (not only ‘a’, ‘some’, ‘any’, ‘every’, ‘all’, ‘no’ (which Russell brings in later) and ‘the’, but also ‘most’, ‘many’, ‘few’, ‘two’ etc.) are the *heads* of such phrases in a sense that is fundamental to syntactic theory.¹⁵ As often remarked, the ‘D’ in ‘DP’ can be tacitly and conveniently understood as ‘determiner’ or ‘denoting’ as mood dictates.¹⁶

According to Russell, definite descriptions—to a first approximation, DPs headed by ‘the’—are ‘by far the most interesting and difficult

¹⁴ OD, p. 479.

¹⁵ The main impetus comes from Abney (1989).

¹⁶ I do not mean to suggest that Russell and current linguistics are in complete harmony or that the convenience I am exploiting can never lead to exegetical trouble. The word ‘that’ is a determiner, at least when it occurs in DPs such as ‘that man’, and although some semanticists regard it as quantificational, others do not, seeing it as derived from a purported demonstrative pronoun ‘that’. It is an empirical question whether or not the purported pronouns we hear as ‘that’ and ‘he’ themselves function as determiners and also, at the next level up the syntactic tree, complete DPs formed by merging those determiners with aphonetic or dummy nominals; and whether or not what we hear as ordinary proper names themselves function as special nominals and also, at the next level up the tree, DPs formed by merging aphonetic or dummy determiners with those nominals. For discussion, see Elbourne (2001, 2005) and Neale (2005).

Smiley (2004) says that certain ‘neo-Russellians’ have been ‘over-influenced by the similarities between the “the *N* Fs” and the quantified sentences “every *N* Fs”, “some *N* Fs”, “no *N* Fs” etc.’ (p. 153). Presumably such a criticism applies equally to Russell himself, given the list of denoting phrases he gives in the first paragraph of OD and his emphasis (in the final sentence of that paragraph) on a phrase being a DP ‘solely in virtue of its *form*’. I used the common syntactic shape of denoting phrases to motivate a common semantical category of quantifier phrases in *Descriptions* (and quoted the first paragraph of OD, including Russell’s ‘solely in virtue of its *form*’), but for reasons that now seem to me less than compelling, I stopped short of treating ‘that *N*’ as a quantifier phrase. I did not say explicitly that Russell himself was motivated by common syntactic shape, and Kripke (this volume) takes this to mean I believed Russell was *not* so-motivated. Whatever I may or may not have believed back then, I agree with Kripke *now* that it *was* part of Russell’s motivation, and (as Kripke points out) I say as much in a later work (Neale, 1993, p. 130, n. 17). Considerations of common syntactic shape were hardly original with OD, it should be noted, witness the following passage from chapter five of *PoM*:

“All men” and “all numbers” have in common the fact that they both have a certain relation to a class concept, namely *man* and *number* respectively. But it is very difficult to isolate any further element of *allness* which both share, unless we take as this element the mere fact that both are concepts of classes. It would seem, then, that “all *u*’s” is not validly analyzable into *all* and *u*, and

of denoting phrases'.¹⁷ Although much of 'On Denoting' is devoted to singular definite descriptions ('the king of France', 'the author of *Waverley*', etc.) Russell offers a theory of denoting phrases in general.¹⁸ The theory is quite different from (and in large part a response to) the theory of denoting Russell put forward two years earlier in chapter five of *The Principles of Mathematics*.¹⁹ Russell mentions his earlier theory in the first footnote of OD, saying that, 'The theory advocated there is very nearly the same as Frege's'²⁰ which distinguishes the *sense* and the *denotation* of a description.²¹ Of course their accounts of *propositions* are very different (see below). In *PoM*, the meaning of a description 'the ϕ ', or any other denoting phrase '*det* ϕ ' ('*det*' for 'determiner') is a *denoting concept*. And this meaning, this denoting concept—rather than its denotation—is the distinctive contribution '*det* ϕ ' makes to the proposition expressed by a sentence '*C*(*det* ϕ)'.²² In OD, denoting concepts are ostentatiously cast aside, and with them the 'very paradoxical objects' Russell had taken them to denote in *PoM*.²³ So too are

language, in this case as in some others, is a misleading guide. The same remark will apply to *every, any, some, a, and the*. (pp. 72–3.)

According to Kaplan (this volume) there is an important difference between *PoM* and OD here: In *PoM*, the notion of a denoting phrase appears to be, in part, a semantic one; but in OD it appears to be a purely syntactic one, witness the end of the final sentence of the first paragraph again: 'a phrase is denoting *solely* [my italics, SN] in virtue of its *form* [Russell's italics, SN]'.

¹⁷ OD, p. 481. Denoting phrases headed by 'a' (or 'an') are *indefinite* descriptions.

¹⁸ See Kaplan and Kripke (this volume). Definite descriptions turn out to be indefinite descriptions with a uniqueness condition that the Theory of Descriptions makes precise.

¹⁹ See Kaplan and Salmon (this volume). See also Makin (2000) and Urquhart (1994).

²⁰ OD, p. 480, n. 1.

²¹ I follow Russell here in talking about an expression's *denotation* rather than its referent or signification. (Russell uses 'referent' for a quite different notion.)

²² What was I referring to with 'its' in my sentence? The denoting phrase or the denoting concept? It doesn't actually matter. Russell talked of denoting *concepts* denoting their denotations as well as of the denoting phrases expressing those denoting concepts doing so, and the latter is usually understood as parasitic on the former. (My verb phrase anaphora preserves the ambiguity! I intend the so-called sloppy reading of 'doing so': the explicit occurrence of 'their' is bound by 'denoting concepts'; the ellipted occurrence is bound by 'the denoting phrases expressing those denoting concepts'.)

²³ Sweeping away denoting concepts was the *purpose* of OD, Kaplan (this volume) believes. The 'very paradoxical objects' were actually arrangements of objects—the disjunction of all men, for example, which was the denotation of 'some man'. As Kaplan notes, the DP for which the postulation of a very paradoxical object is *not* needed is 'the ϕ '.

fictional objects, which Russell had admitted in *PoM* to serve as the denotations of names such as 'Apollo' and 'Hamlet'.²⁴

In OD, there is no distinctive entity that a denoting phrase '*det* ϕ ' contributes to the proposition expressed by '*C*(*det* ϕ)'—it does not have a *meaning* in Russell's sense. The *meaning* of an expression in OD is simply that entity for which it stands (if it stands for anything); every expression that means something (in this sense) stands for something real.²⁵ The meaning of a genuine name *n* is identified with the particular object that is *n*'s bearer; and *n*'s bearer is *n*'s contribution to the proposition expressed by (a tokening of) any sentence *C*(*n*) containing it. Russell's propositions are language-independent entities; they have structure and contain objects, relations, and complexes thereof as constituents.²⁶ They are what sentences express, the objects of thought, and

²⁴ It is sometimes said that Russell's ontology in *PoM* was 'unrestrained', that he had also admitted non-existent objects in *PoM* to serve as the denotations of empty *descriptions* like 'the king of France' and the 'round square', and that the new theory of denoting in OD was 'provoked by the impossibility of Meinong's impossibles' (Quine 1966) and by the desire to produce a theory of descriptions that guaranteed meaning to sentences containing empty descriptions (Strawson, 1950). But empty descriptions are not even mentioned in *PoM*! Moreover, as Kaplan (this volume) stresses, on the account of descriptions given in *PoM* every description has a meaning, even if it is empty, so their emptiness does not deprive sentences containing them of meanings. Independently of textual evidence one way or the other, the claims of Quine and Strawson should seem doubtful given what Russell says in OD about the theories of descriptions proposed by Frege and Meinong. First, Russell dismisses his old theory on the grounds that it is 'very nearly the same as Frege's', which seeks to explain the utility of empty descriptions by distinguishing the sense and the denotation of such an expression. (For the power of Russell's own counterexamples to Frege's theory (and, pre-emptively, to the theories of Hilbert and Bernays, and Strawson!), see Kripke (this volume). Kripke also provides a rather nice one of his own.) Second, if Russell had admitted such objects, surely he would have drawn attention to a similarity between his old theory and *Meinong's*, which admitted such objects. (For discussion, see Kaplan and Salmon (this volume).) Similarly, there is no mention of any such affinity when he launches into Meinong fourteen years later in *IMP*.

In such theories, it seems to me, there is a failure of that feeling for reality which ought to be preserved even in the most abstract studies. Logic, I should maintain, should no more admit a unicorn than zoology can; for logic is concerned with the real world just as truly as zoology, though with its more abstract and general features A robust sense of reality is very necessary in framing a correct analysis of propositions about unicorns, golden mountains, round squares and other such pseudo-objects. (1919, pp. 169–70)

At the same time, it is important not to go too far in the other direction. If, as seems correct, it was not in attempting to answer questions about empty descriptions, but in attempting, in 1904, to solve a problem in logic and the philosophy of mathematics that Russell came across the Theory of Descriptions (see Makin 2000), it is none the less true that he immediately recognized its power and seized the opportunity to purify his ontology. Denoting concepts were the first to go, of course, but the fictional objects associated with fictional names were not far behind. Indeed, the speed with which Russell gave up fictional entities—in a 1904 review, he had lodged no criticism of any part of Meinong's ontology—suggests he had never been entirely comfortable with them, and to that extent I suppose Quine and Strawson are not quite as far off-target as some maintain.

²⁵ See Cartwright, Kaplan, and Salmon (this volume). See also Sainsbury (1979).

²⁶ See Kaplan (this volume). See also Kaplan (1978). Mont Blanc with, and in spite of, all its snow fields, Russell wrote to Frege, is a constituent of the proposition that Mont Blanc is over 1000 metres high.

the bearers of logical relations.²⁷ These propositions are finer in grain than propositions construed as truth conditions or sets of possible worlds (as they are by some philosophers today); but they are coarser in grain than propositions construed as Fregean thoughts, the constituents of which are *senses*.²⁸ If 'Phosphorus' and 'Hesperus' are both genuine names, then on Russell's construal the proposition that $C(\text{Phosphorus})$ is the proposition that $C(\text{Hesperus})$; not so on the Fregean construal.²⁹ So whereas Frege seems to have machinery with which to at least address the seeming difference in 'cognitive significance' of $a=a$ and $a=b$, where a and b are names of the same thing—the sentences express different propositions—Russell seems not to.³⁰

So why do denoting phrases lack meanings? Here is how Russell characterizes the new theory of denoting in OD:

This is the principle of the theory of denoting I wish to advocate: that denoting phrases never have any meaning in themselves, but that every proposition in whose verbal expression they occur has a meaning.³¹

Obviously a denoting phrase '*det* ϕ ' is 'meaningful' in an intuitive sense because it bears on propositional content, that is, on the identity of the proposition expressed by ' $C(\text{det } \phi)$ '. What Russell means by saying that '*det* ϕ ' has no meaning (in itself) is the proposition expressed by ' $C(\text{det } \phi)$ ' contains no constituent corresponding directly to '*det* ϕ '.³² This is no less the case for ' $C(\text{the } \phi)$ ' than it is for ' $C(\text{every } \phi)$ ' or ' $C(\text{no } \phi)$ '. Descriptions do not have meanings.³³ Russell takes his new

²⁷ See Kaplan (this volume).

²⁸ For an altogether different conception of proposition, see Schiffer (this volume).

²⁹ See Kaplan, Salmon, and Schiffer (this volume).

³⁰ On the fundamental differences between Frege and Russell, see Kaplan (this volume). Unless (as actually seems plausible) Russell held ' $a=b$ ' to be as trivial as ' $a=a$ ' when a and b are both genuine names, he did not actually possess the means even to address Frege's problems constructively using just the Theory of Descriptions until he analysed ordinary proper names as descriptions. (On the use of 'trivial' here, see the discussion of p. 67 of *PM* below.) If names are not disguised descriptions, there is a world of difference between explaining the difference between (i) 'Hesperus = Hesperus' and (ii) 'Hesperus = the second planet from the sun', and explaining the difference between (i) and (iii) 'Hesperus = Phosphorus'. See Cartwright, Kaplan, and Kripke (this volume).

³¹ OD, p. 480.

³² As Kaplan (this volume) puts it, these 'meanings in themselves' (or 'meanings in isolation') that are said not to exist are precisely the *denoting concepts* of *PoM*.

³³ At least one of his arguments against descriptions having meanings (or, at the very least, against them having *denoting concepts* as their meanings), the so-called Gray's Elegy argument, brims with complexities that scholars have been unable to resist, providing their own detailed reconstructions and evaluations. I refer the reader to Salmon (this volume), the latest in a distinguished line of meticulous analyses. (Kaplan plans to expand upon the analysis he presented in Kaplan (1986) in a sequel to his contribution.)

theory of how descriptions bear on propositional content (see below) to provide solutions to a number of problems overlapping those Frege and Meinong were addressing, and to do so without appealing to a distinction between *sense* and *denotation* (Frege), a bivalence-securing but 'plainly artificial' denotation (zero, or the null set) for empty descriptions (Frege), unreal entities as the denotations of certain descriptions (Meinong) or 'paradoxical entities' as the denotations of DPs (the Russell of *PoM*).³⁴ (Although potentially confusing, Russell talks of what we have become accustomed to calling the *sense-reference* or *sense-denotation* distinction in Frege as the *meaning-denotation* distinction, presumably because Fregean 'meanings' are the constituents of Frege's propositions, just as Russell's 'meanings' are the constituents of Russell's.)

So how, exactly, do descriptions work? It is hard to make the question more precise and at the same time avoid certain problems of formulation. The following will have to suffice here: How does a description 'the ϕ ' contribute to (i.e. affect) the proposition expressed by 'C(the ϕ)'? What is the relation between 'the ϕ ' and the identity of the proposition that C(the ϕ)? Or as Russell himself would later put it in *PM*, what is 'the import of propositions in which it occurs'?³⁵ F. P. Ramsey provides a characteristically insightful summary: 'the king of France is

³⁴ As Kaplan (this volume) observes, with definite descriptions, the 'paradoxical' denotation of *PoM* is actually the one case that is completely straightforward.

³⁵ Here we must not identify contributing (or making a contribution) with contributing an object, or any other single entity (simple or complex) to the proposition expressed. As Kaplan puts it, as far as propositional contributions are concerned, nothing stands to a description as a named object (bearer) stands to a name, a seemingly odd idea given the very similar roles names and descriptions play in language, and their almost identical syntactic distributions.

Before we even get to the details of Russell's positive proposal, there is a serious issue about how to *describe* what it is Russell is going to give us. Suppose Russell provides a perfectly good description that uniquely specifies the contribution 'the ϕ ' makes to the proposition expressed by 'C(the ϕ)', the following, for example:

(i) the contribution 'the ϕ ' makes to the proposition expressed by 'C(the ϕ)'.

Suppose we name whatever it is that (i) describes ' m '. If a name's meaning is just its bearer, then whatever it is that (i) describes, namely, m , is the meaning of ' m ', and thereby the contribution ' m ' makes to the proposition expressed by 'C(m)'. So now 'C(m)' and 'C(the ϕ)' seem to express the same proposition, for surely C's contribution is constant! Russell refuted before we even get to the details of his proposal! One issue that comes up here is the introduction of ' m '. Might it not be a disguised description? Or have we learned from Kripke (1980) that a name introduced by description is never *equivalent* to a description? But the real problem must flow from the idea of there being a single entity (simple or complex) that constitutes the propositional contribution of 'the ϕ ' in the same way that there is meant to be a single entity (simple or complex) that constitutes the propositional contribution of a name. Perhaps all the 'refutation' shows is that we cannot, contrary to one of our initial assumptions, *name* whatever it is that (i) seems to *describe*, because there is, in fact, no single entity (simple or complex) that (i) describes. But why should our use of descriptions (and our own powers of description) be so curtailed, given that Russell aims to show us *the way* 'the ϕ '

wise' expresses 'a possibly complex multiple relation between kingship, France, and wisdom', and 'Mr Russell's theory explains exactly what relation it is'.³⁶ On Russell's account, 'the ϕ ' is a denoting phrase along with 'every ϕ ', 'a ϕ ', 'no ϕ ' etc. The way a denoting phrase '*det* ϕ ' impinges upon the identity of the proposition expressed by a sentence '*C*(*det* ϕ)' is certainly systematic; but it can be discerned only by taking into account the *structure* of '*C*(*det* ϕ)', including the structure of '*det* ϕ ' itself, and the meanings of those parts of '*det* ϕ ' that have meanings.³⁷ As Russell likes to put it, 'the ϕ ' has 'no meaning in isolation'. (As he would go on to put it in *PM*, 'the ϕ ' is an 'incomplete symbol'.) He does not mean by this that 'the ϕ ' acquires a meaning once it is slotted into a sentence '*C*(the ϕ)'. He means that only in the context of the whole sentence is it possible to explain the way 'the ϕ ' contributes to the proposition expressed. (Only in this context can the relation between 'the ϕ ' and the identity of the proposition that *C*(the ϕ) be explained.³⁸)

According to OD, The proposition expressed by '*C*(the ϕ)' is *general*. Avoiding, for a moment, a complication involved in a fully general specification, a simple sentence 'the ϕ is ψ ' expresses the proposition that exactly one thing is ϕ , and that one thing is ψ (more perspicuously, the conjunctive proposition that (i) there exists exactly one ϕ and (ii) every ϕ is ψ).³⁹ In short, Russell gives us an *analysis*. For certain purposes, it may be convenient to talk of what 'the ϕ ' *denotes* when ϕ is true of exactly one thing, x let us suppose ('we may then say that the entity x is the denotation'⁴⁰) but the concept of denoting plays no role in the theory of denoting proper, which is not actually a theory *about*

bears on propositional content? — don't the italicized words before the dash constitute a definite description? Ditto 'how "the ϕ " bears on propositional content', 'the relation between "the ϕ " and the identity of the proposition expressed by "*C*(the ϕ)"', and even 'how "the ϕ " works'. There seems to me to be a genuine puzzle here, not unrelated to the one Russell is discussing in the Gray's Elegy passages.

³⁶ Ramsey (1927), pp. 44. See also Salmon (this volume).

³⁷ See Kaplan and Schiffer (this volume).

³⁸ If at all. See n. 36.

³⁹ In OD, Russell uses propositional functions of the form ϕx in his statement of the theory. See Cartwright (this volume). Cleaned up, the idea seems to be that 'the ϕ is ψ ' is to be analysed as 'it is sometimes true of x that ϕx , that ψx , and that it is always true of y that if ϕy then $y = x$ '. In *PM* the theory becomes lucid and its simplicity revealed. On the matter of the precise moment Russell hit on the original analysis, see Cartwright (1987) and Makin (2000).

⁴⁰ OD, p. 488.

denoting at all.⁴¹ Even if 'the ϕ ' has a denotation in this extra-theoretical sense, it still has no *meaning* in Russell's sense: there is no entity for which 'the ϕ ' stands that constitutes its contribution to the proposition expressed by 'C(the ϕ)'.⁴²

If the opening sentences of OD are taken at face value, then, the Theory of Descriptions is motivated in part by formal or syntactic considerations. From a syntactic perspective, 'the author of *Waverley*' is closer to 'every reader of *Waverley*' than it is to 'Scott' (or 'Sir Walter Scott'). It *looks* more like a quantified expression than a name: syntactically, the determiner 'the' appears to be on a par with quantificational determiners such as 'every', 'some', 'no', etc., combining with a nominal expression to form a DP.

In Russell's mind this syntactic similarity appears tied to a semantic one. If n is a genuine name, then the proposition expressed by 'C(n)' depends for its existence upon the existence of an object that n refers to. But the existence of the proposition expressed by 'C(the ϕ)' is not analogously dependent upon the existence of some object 'the ϕ ' stands for. Even if there is no ϕ , a perfectly good proposition is expressed by 'C(the ϕ)', just as perfectly good propositions are expressed by 'C(every ϕ)' and 'C(some ϕ)'. And even if there *is* a unique ϕ , the proposition expressed by 'C(the ϕ)' does not contain this thing as a constituent;⁴³ it contains, rather, constituents expressed by the words making up the denoting phrase.⁴⁴ Relatedly, whereas understanding 'C(n)' requires knowing who or what c stands for, understanding 'C(every ϕ)', 'C(some ϕ)', or 'C(the ϕ)' does not require knowing who or what is ϕ (uniquely or otherwise). These two points, although not strictly congruent, are usually rolled up into the slogan that whereas the proposition expressed by 'C(n)' is *object-*

⁴¹ Kaplan (this volume) calls this a 'very thin' conception of denoting, 'isolated from the body of the logical and semantic theory'. I concur, but only in so far as I take Russell's comment to have an extra-theoretical character. It is a *façon de parler* that plays no part of the theory of denoting proper. (It may still play a role in the accompanying *epistemology*, as Kaplan suggests.) If there is one thing the theory of denoting is *not* about, it is *denoting* (except in so far as it involves banishing the notion except as an extra-theoretical convenience). One might be forgiven for quipping that the title of Russell's article could be the product of a typographer's error, a transposition involving the first two letters.

⁴² See Cartwright, Kaplan, and Schiffer (this volume). Of course, for some sentences 'C(the ϕ)', the thing satisfying ϕ will be a constituent of the proposition expressed but contributed by *another* expression. 'Scott is the author of *Waverley*' is an example. Furthermore, there may be an entity for which *part* of a description stands that serves as that *part's* contribution to the proposition expressed. The underlined parts of 'the king of France' and 'the author of Waverley', for example.

⁴³ As Salmon puts it, the proposition is *about* that thing only in an attenuated sense.

⁴⁴ OD, p. 492.

dependent (or *singular*), the propositions expressed by ‘C(every ϕ)’, ‘C(some ϕ)’, and ‘C(the ϕ)’ are *object-independent* (or *general*).⁴⁵

The general principle underlying the epistemic point is usually called the Principle of Acquaintance, which emerges in the penultimate paragraph of ‘On Denoting’:

One interesting result of the above theory of denoting is this: when there is anything with which we do not have immediate acquaintance, but only by definition by denoting phrases, then the propositions in which this thing is introduced by means of a denoting phrase do not really contain this thing as a constituent, but contain instead the constituents expressed by the several words of the denoting phrase. Thus in every proposition that we can apprehend (i.e. not only in those in whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance.⁴⁶

Why Russell should think the Principle of Acquaintance is a *result* of the theory of denoting itself is a mystery.⁴⁷ Nonetheless he has now arrived at the intuitive distinction he mentioned in the second paragraph of the article when stressing the importance of the subject of denoting to the theory of knowledge: the distinction between things known to us by acquaintance and things known to us by description, or as he puts it on that first page, ‘things we have presentations of’ and ‘things we reach only by means of denoting phrases’.⁴⁸

The question of what sorts of things we can and cannot be acquainted with is not taken up in earnest in OD, although we do find in the penultimate paragraph an expansion of something said in the second paragraph—‘we have acquaintance with the objects of perception’ but not ‘with other people’s minds, seeing that these are not directly perceived’—that seems to reveal the direction Russell is likely to go in.⁴⁹

Now such things as matter (in the sense in which matter occurs in physics) and the minds of other people are known to us only by denoting phrases, i.e. we are

⁴⁵ See Buchanan and Ostertag, Kaplan, Schiffer, and Szabó (this volume). See also Neale (1990) and especially Kaplan (1978, 1989), the impetus behind much recent work.

⁴⁶ OD, p. 492.

⁴⁷ See Cartwright (this volume).

⁴⁸ OD, p. 479. Russell picks an example of something we can know *only* by description (the centre of mass of the Solar System at the first instant of the twentieth century), hence the appearance of the word ‘only’ in the second phrase. He does not mean to be denying that there can be things we know by description and fail to realize we also know by acquaintance. See Kaplan (this volume).

⁴⁹ The question *is* taken up in earnest in KAKD. See Kaplan (this volume).

not acquainted with them What we know is “So-and-so has a mind which has such and such properties” but we do not know “A has such and such properties,” where A is the mind in question. In such a case, we know the properties of a thing itself without having acquaintance with the thing itself, and without, consequently, knowing any single proposition of which the thing itself is a constituent.⁵⁰

Neither the thesis that the only particulars with which we are acquainted are sense data nor the allied thesis that ordinary proper names are disguised descriptions is explicitly stated in OD, but it is not difficult to see why people sense their presence there: (i) names of fictional characters are treated as disguised descriptions; (ii) names of other minds (other people?) must be disguised descriptions; and (iii) whatever Russell may have intended, in OD he committed himself, as we shall see, to the position that at least one of two purported names *a* and *b* is a disguised description if a true statement $a=b$ is not ‘trivial’.

2. *Principia Mathematica*

The specific quantificational semantics Russell assigns to descriptive phrases in OD was informally clear, but its most formal statement there was a messy affair involving propositional functions.⁵¹ It was improved upon dramatically in 1910 with the publication of the first volume of *PM*. As Russell later put it, ‘the whole of my theory of descriptions is contained in the definitions at the beginning of *14 ... the two definitions which embody the theory of descriptions (*14.01.02).’⁵² With *14.01.02, the theory’s precise quantificational character became more transparent, and (consequently) so did the way it was meant to explain ambiguities of scope such as those arising when descriptions interact with intensional and even truth-functional operators.⁵³

Descriptions are added to Russell’s system in *14 as quasi-singular terms by way of what he calls *contextual definition*.⁵⁴ Where $(\iota x)(\phi x)$ does duty for ‘the ϕ ’, the first of the two definitions is this:

⁵⁰ OD, p. 493.

⁵¹ See Cartwright, Kaplan, Kripke, and Schiffer (this volume).

⁵² RC, pp. 690–1.

⁵³ See Kripke (this volume). The ambiguities in intensional contexts that Russell considers involve propositional attitudes. (‘Propositional attitude’, ‘scope’ and ‘transparent’ are Russell’s labels.) Russell himself did not consider ambiguities in modal, temporal or causal contexts such as those discussed later by (e.g.) Smullyan (1948), Prior (1963), and Føllesdal (1965).

⁵⁴ Russell is explicit (*PM*, p. 11) that the *definienda* in such definitions are ‘mere typographical conveniences’ serving a practical but no theoretical purpose: ‘If we introduced no definitions, our

$$*14.01 \quad [(\lambda x)(\phi x)]\psi(\lambda x)(\phi x) =_{df} \exists x(\forall y(\phi y \equiv y=x) \wedge \psi x).$$

The *scope* of an expression is the smallest sentence containing it; and the square-bracketed copy of $(\lambda x)(\phi x)$ in *14.01 is a scope-marker, placed at the beginning of a sentence (open or closed) to indicate the description's scope, making it possible to distinguish say, $\sim[(\lambda x)(\phi x)]\psi(\lambda x)(\phi x)$ and $[(\lambda x)(\phi x)]\sim\psi(\lambda x)(\phi x)$.⁵⁵ As stated, the ana-

formulae would very soon become so lengthy as to be unmanageable, but theoretically all definitions are superfluous' (*PM*, p. 11). (On Russell's contextual definitions, see Gödel (1944), Kaplan (1972), Neale (2001), and Ostertag (1998).) Nonetheless, sometimes a definition 'contains an analysis of a common idea, and may therefore express a notable advance In such cases, a definition is a "making definite": it gives definiteness to an idea which had previously been more or less vague.' (*PM*, p. 12). Russell gives Cantor's definition of the continuum as an illustration; it is an interesting question whether he viewed *14.01.02 in the same way, and an answer would seem to bear on the matter of the extent to which Russell construed the Theory of Descriptions as relevant to what we call the semantics of natural language. See Buchanan and Ostertag, Kripke, and Szabó (this volume).

⁵⁵ As is customary, I have used the conjunction sign \wedge where Russell can get away with his ghastly dots. In OD, Russell talked about *primary* and *secondary* occurrences of descriptions. (See Kaplan and Kripke (this volume).) In *PM*, he talked about *scope*. It should be stressed that scope ambiguities were hardly Russell's principal concern: for his mathematical purposes he (and following him Quine) was interested in descriptions with small scope (often quantified into), so it comes as no surprise that when the scope-indicating conventions are introduced in *PM*, the dropping of the square-bracketed copy of the *iota*-compound is for *small* scope. (It is no doubt the focus on mathematics that led several prominent logicians, including Church, Quine, and Hintikka, to see the scope ambiguities predicted by the Theory of Descriptions as a *defect*! (See Kripke (this volume).) Those with a keener interest in natural language see it as a virtue. See Kripke, Szabó (this volume), and Neale (1990, 2002).

According to Szabó, the *particular* truth conditions Russell advances in *14.01 do 'no explanatory work in Russell's writings', all the work is done by descriptions being 'scope-bearing elements' (and not being referring expressions, of course), and, as a result, the uniqueness implication can be dropped, leaving an analysis that is still 'Russellian'. Considerations of scope were certainly not the impetus for the Theory of Descriptions. (The discovery that certain genuine ambiguities involving definite descriptions might be explained in terms of scope surely *was* a discovery once the theory was almost completely before Russell's mind, and to this extent it should surely be regarded as the piece that finalized the theory.) So Szabó's claim will founder unless 'explanatory work in Russell's writings' is restricted to explanatory work in solving the specific puzzles about denoting given in OD, for the uniqueness implication was crucial to Russell's philosophy of mathematics, given his aversion to many-valued functions. (See Oliver and Smiley (this volume), and also Makin 2000 and Smiley 2004.) Russell was concerned with the semantics of descriptions in *PoM*, before his discovery of scope ambiguities involving them (see Kaplan (this volume), Ostertag 1998, and Makin 2000), and obviously the original concern continued in *PM*. The importance to Russell of descriptions did not suddenly change in OD when ambiguities of scope came to light under the new analysis. As far as Russell's philosophy of mathematics is concerned—in particular, the attempted logicist reduction—the descriptions of interest are those that logicians often construe as standing for functions, i.e. those seemingly composed of descriptive functors such as 'the successor of ()', 'the *sin* of ()', and 'the sum of () and ()'. (Though even these are further contextually defined in *30 of *PM*; see next footnote.) Hence Russell's genuine concern with *uniqueness* and his adaptation of Peano's *iota* notation. It is not surprising, then, as Oliver and Smiley (this volume) point out, that Russell's favourite natural language examples involve what seem to be descriptive functors: 'the king of', 'the author of', and 'the father of'. See also Smiley (2004).

lysis is not yet in truly primitive notation because \exists , \equiv , \wedge , and even $=$ (*13.01) are defined symbols in *PM*: \forall is the sole quantifier (though not in this form), and \sim and \vee the sole connectives.⁵⁶ In the Introduction to the second edition, Russell suggests replacing \sim and \vee by Scheffer's incompatibility stroke: $\phi|\psi$ is equivalent to $\sim\phi \vee \sim\psi$.⁵⁷ I have never actually seen 'the ϕ is ψ ' in the suggested primitive notation—nor would I care to; remember, for Russell identity is defined too!⁵⁸

On Russell's account, an expression is not a referring expression unless it has a meaning (in his sense), so he needs no existence predicate letter in the language of *PM*. But the English sentences ' n exists' and 'the ϕ exists' appear to express propositions. Russell has a story about the latter: it is just making explicit the existential quantification implicit in definite descriptions. He introduces an abbreviatory symbol $E!$ that may combine with a description $(\lambda x)(\phi x)$ to form a quasi-formula $E!(\lambda x)(\phi x)$, understood as 'the ϕ exists', and provides the obvious contextual definition:

$$*14.02 \quad E!(\lambda x)(\phi x) =_{\text{df}} \exists x \forall y (\phi y \equiv y = x).$$

The promise of the Theory of Descriptions is that any well-formed formula containing $(\lambda x)(\phi x)$, regardless of the complexity of ϕ , can be replaced by an equivalent formula that is description-free.⁵⁹

⁵⁶ The analysand is not the end of the line either as Russell abbreviates further. The *iota*-notation is a half-way house 'being chiefly required to lead up to another notation' (*PM*, p. 31), namely the inverted comma *of*-notation of *30: $R'z$ is used as shorthand for 'the object that bears R to z ' and is introduced by a further definition (*not* stated in terms of whole sentences): $R'z =_{\text{df}} (\lambda x)(Rzx)$. (If R stands for the father relation, $R'z$ is understood as 'the father of z '.) $R'z$ expresses a function of z , which Russell calls a *descriptive function*. (If R expresses a relation, $R'z$ expresses the associated descriptive function.) All the ordinary functions of mathematics (e.g. $\sin z$, $\log z$) are said to be of this kind. (See previous footnote.) Subsequent logicians did not adopt the inverted comma notation, but Russell's adaptation of Peano's *iota* notation caught on, and many logicians have used it in their logical systems, some construing the description operator as primitive, others as defined contextually in Russell's or some other way. (See e.g. Hilbert and Bernays 1934, Quine 1940, Carnap 1947, Grandy 1972, Lambert 1972, and a host of free logicians.)

⁵⁷ See Kripke (this volume).

⁵⁸ Kripke (this volume) points out that where we have only one occurrence of each of ϕ and ψ in the analysis in *14.01 as it is actually stated in *PM*, in Russell's primitive notation there will be very many if $|$ is the sole connective. (Something as seemingly simple as the $\sim\phi$ now becomes $\phi|\phi$.) The consequences of this are explored in his paper (and in more detail in a promised sequel).

⁵⁹ See Kripke (this volume). It is common, following Russell, to talk of 'elimination' in connection with contextual definition. But we must separate *linguistic* and *ontological* elimination here. Russell managed to confuse Gödel (1944) and Quine (1966) about this. I get the impression Quine's general position on the role of the Theory of Descriptions in ontological elimination and commitment has been absorbed by many as logico-philosophical fact, so I want to expand upon a point I have made elsewhere. (Neale 2001, 2002. See also Oliver and Smiley (this volume), who

In *PM*, Russell presents what he undoubtedly saw at the time as his most important demonstration that descriptions have ‘no meaning in isolation’, that they are ‘incomplete symbols’. A version of the argument first appeared in *OD*, and its simplicity is striking. Here is the *PM* version, which I shall call the Triviality Argument:

It can easily be shown that $(\lambda x)(\phi x)$ is *always* an incomplete symbol. Take for example, the following proposition: “Scott is the author of *Waverley*.” [Here “the author of *Waverley*” is “ $(\lambda x)(x \text{ wrote } Waverley)$ ”.] This proposition expresses an identity; thus if “the author of *Waverley*” could be taken as a proper name, and supposed to stand for some object c , the proposition would be “Scott = c .” But if c is anyone except Scott, this proposition is false; while if c is Scott, the proposition is “Scott is Scott,” which is trivial, and plainly different from “Scott is the author of *Waverley*.” Generalizing, we see that the proposition

$$a = (\lambda x)(\phi x)$$

is one which may be true or may be false, but is never merely trivial, like $a = a$; whereas if $(\lambda x)(\phi x)$ were a proper name, $a = (\lambda x)(\phi x)$ would necessarily be either false or the same as the trivial proposition $a = a$. We may express this by saying that $a = (\lambda x)(\phi x)$ is not a value of the propositional function $a = y$, from which it follows that $(\lambda x)(\phi x)$ is not a value of y . But since y may be anything, it follows that $(\lambda x)(\phi x)$ is nothing. Hence, since in use it has a meaning, it must be an incomplete symbol.⁶⁰

press the point hard and rightly stress that Russell himself is responsible for much of the confusion.) Contextual definitions concern *expressions*, and what Russell contextually defines in *14 and *20 are, respectively, singular descriptions (expressions that purport to pick out individuals) and class abstracts (expressions that purport to pick out classes). The latter definition makes it possible for Russell to eliminate reference to *classes* themselves (so to speak); so, in effect, he defines away a whole *category* of entities. By contrast, contextually defining definite descriptions did not give him a way of defining away *objects* themselves (there is no *categorical* elimination): In the complex quantifications that result from the contextual elimination of descriptions—which, as Kripke points out, is constrained by notation and the choice of primitive symbols—apparent singular terms are replaced by a scattered but systematic arrangement of variables, quantifiers, connectives, and the identity sign, and there is no categorical elimination because the entities the variables range over belong to the same category as the entities that are the meanings of genuine singular terms. (There is, of course, an important *theory-internal* categorical elimination that comes with the Theory of Descriptions: denoting concepts are swept away.) The Theory of Descriptions did not give Russell a way of avoiding commitments to objects *per se*, but it did give him a new way of avoiding commitment to an object here or there (as it were) whose existence may have seemed problematic, or at least more problematic than it had once seemed. At the same time, although it is true that Russell wanted to avoid postulating a winged horse, a round square, a king of France, and so on, this does not appear to be what led him to give up the theory of denoting from *PoM*. In summary, the contextual elimination of an expression may facilitate an attempt to dispense with some ontological category or other, or it may merely facilitate an attempt to dispense with specific entities belonging to an otherwise acceptable category. In *20 we find the former, in *14 at most the latter.

⁶⁰ *PM*, 2nd edn, p. 67. The penultimate and antepenultimate sentences contain material and formal mode shifts, but their import is clear. Russell is frequently accused of use-mention confusions,

A great deal of work is being done here by the word 'trivial', and we have to look back to the OD version of the argument to see exactly what Russell means:

The proposition "Scott was the author of *Waverley*" has a property not possessed by "Scott was Scott," namely the property that George IV wished to know whether it was true. Thus the two are not identical propositions.⁶¹

Two things seem clear. First, since Russell takes the argument to show that 'the author of *Waverley*' is not a name, he must be assuming that ' $a=b$ ' is as trivial as ' $a=a$ ' when a and b are both genuine names. Second, it was Russell's view, as it was Frege's, that if one can believe that p whilst not believing that q , the proposition that p is not identical to the proposition that q . But, surely one can believe that $a=a$ without believing that $a=b$? Frege certainly thought so. There would appear to be only one way out for Russell: if this situation arises, at least one of a and b is not a name after all. In short, whatever Russell actually thought about ordinary proper names when he was writing OD, the presence in the article of the argument above virtually committed him to treating them as disguised descriptions. To that extent, philosophers who cite OD in connection with descriptive accounts of ordinary, proper names are not quite as wide of the mark as some commentators claim.⁶²

and whilst he does sometimes slip up, I do not think the problem is as widespread as is sometimes made out. For example, since the only way Russell had to specify propositions was using sentences of natural language, it seemed natural to him to switch between formal and material mode, and so use linguistic terminology for non-linguistic entities. Thus he might talk of the denoting phrase 'the king of France' being the subject of the *sentence* 'the king of France is bald' in one place, and of 'the king of France' not being the subject of the *proposition* 'the king of France is bald' in another. It can be irritating trying to establish how Russell is using, say, 'subject' or 'verb' or a given occasion, but often enough it is clear upon reflection what he means. On Russell's use of propositional functions, see Cartwright (this volume).

⁶¹ OD, p. 487.

⁶² The idea that ordinary proper names are disguised descriptions is not original with Russell. Whether or not it is in Plato's *Cratylus*, it crops up periodically in the Stoics, and what is often called the cluster theory seems to find full expression in the work of Basil of Caesarea (c. 330–79), who says, for example, that,

A name is not actually a signifier of a substance, but of the distinctive properties which characterize the individual. So when we hear 'Peter', we do not from the name think of his substance (by 'substance' I mean now the material substrate, which the name in no way signifies), but we are imprinted with the notion of the distinctive properties which are observed concerning him. For immediately from this utterance we think of Jonah's offspring, the man from Bethsaida, the brother of Andrew, the man called forth from the fishermen into the service of the Apostolate, the man pre-eminent through faith who received upon himself the edifice of the church; none of these properties is substance, which is conceived of hypostasis. So the name

If Russell had thought about anaphora he would surely have thought he could provide an ancillary argument to the same conclusion by taking into account the fact that the meanings of *parts* of descriptions may sometimes be ‘passed on’ to serve as the meanings of other expressions.⁶³ There are surely readings of the following sentences, for example, upon which recognizing the anaphoric links between ‘it’ and ‘*Waverley*’, and ‘there’ and ‘Greece’ is crucial to comprehension (imagine (2) uttered during the King’s exile in World War II):

- (1) the author of *Waverley* was unhappy with it
- (2) the king of Greece doesn’t live there at present.

Since Russell sees the propositions expressed by ‘Scott is Scott’ and ‘Scott is the author of *Waverley*’ as distinct, and their distinctness evidence that ‘the author of *Waverley*’ does not have a meaning (in his sense), he would have seen the contrasts between (1) and (1’), and (2) and (2’) as adding grist to his mill:

- (1’) Scott was unhappy with it
- (2’) He [pointing] doesn’t live there any more.

The proposition expressed by (2) would contain Greece (no doubt with, and in spite of, all its islands) as a constituent, perhaps twice over. The proposition expressed by (2’) would be lucky to have it in there once!⁶⁴

3. Today

It is sometimes said that Russell had no interest in what we today call the semantics of natural language, and that the Theory of Descriptions was not meant to apply to uses of descriptions in natural language, or was meant to apply only when such phrases are being used in some special strict way.⁶⁵ *Russell* certainly thought natural language defective

marks out for us the character of Peter, but in no way stands for the substance itself. (*Against Eunomius* 2.4.1–26. Translation adapted from Sorabji (2004), pp 227–8.)

Of course, in Basil the names as descriptions thesis is intimately connected to a separation of a person and his material substance, the former construed as the entity satisfying the cluster of descriptions. For discussion of Basil’s theory of names, see Kalligas (2002).

⁶³ See Geach (1961).

⁶⁴ The contrasts above are, I believe, reflexes of a deep fact about the grammar of anaphora in natural language. See below.

⁶⁵ The former claim is made by Quine, the latter by Szabó.

from a logician's perspective, but it is difficult to make sense of either Strawson's criticism of Russell in 'On Referring' (and elsewhere) or certain passages of Russell's own response in MSR if either of the aforementioned claims is true.⁶⁶ Moreover, there is no great pressure to construe Russell's wish to focus on reality itself (in PLA, for example) coupled with his worries about the imperfections and nuances of natural language obscuring or distorting his view of it, as indicating a lack of interest in natural language semantics. Whatever Russell's intentions, it is beyond doubt that interest in the Theory of Descriptions today does not revolve around the logicist reduction or any doctrine about acquaintance.⁶⁷ It centres on the theory construed as (a) a contribution to natural language semantics (made more viable by advances in logic and generative grammar), and (b) a handy philosophical tool that can be used to reveal the logical forms of sentences and expose or avoid fallacies of scope and substitution in arguments whose statements involve various sorts of epistemic, modal, temporal, or deontic expressions. The theory's role as (b) is surely only as good as its role as (a): to the extent the theory ascribes to descriptions in natural language properties they do not possess or misses certain properties they *do* possess, its role as a philosophical tool is diminished.⁶⁸

Debates about the Theory of Descriptions have raised some very general issues that have made philosophers and linguists acutely aware of the role of 'context' and 'pragmatic factors' in utterance interpretation. Much of the scene was set in the 1950s by Strawson's original paper and the reaction to it, including Russell's (in MSR), which drew on his own earlier discussion of indexical ('egocentric') words (in *IMT*).⁶⁹ But subsequent work on indexicality,⁷⁰ the saying–meaning distinction,⁷¹

⁶⁶ See Kripke (this volume), who rejects the claim made by Quine (and other 'friends' of Russell) that Russell was 'merely proposing an artificial symbolic convention' as unfaithful to the text of 'On Denoting' and to Russell's true contribution. Equally, Kripke rejects the occasional, suggestive remarks to this effect Russell himself made in MSR. Szabó takes the opposite view, seeing in these remarks (and in Russell's use of 'strict' and 'strictly' in OD) compelling evidence of Russell's original intentions.

⁶⁷ See Szabó and Kaplan (this volume).

⁶⁸ Neale (2001, 2002). There is an onus on anyone who wishes to appeal to the theory in explicating the logical forms of statements of English to be explicit about its place within a systematic semantics for English.

⁶⁹ Strawson (1950, 1954), Bar-Hillel (1954), Sellars (1954), Russell (1948, 1957). For discussion, see Neale (2004, 2006).

⁷⁰ See e.g. Kaplan (1978, 1989).

⁷¹ See e.g. Grice (1989), Sperber and Wilson (1986).

and referential uses of descriptions,⁷² has sharpened further issues about context and speakers' intentions, whilst developments in mathematical logic and generative linguistics have raised and sharpened issues about quantification, logical form, and anaphora.⁷³ The net result of all this is a raft of difficult, unresolved, and often horribly intertwined debates about context, object-dependence, possession, uniqueness, plurality, existence, quantification, scope, logical form, and anaphora. Most of these debates are well represented in the papers that follow.⁷⁴ Those that are more clearly within the province of generative linguistics are not; so I shall attempt to develop towards the end of this final section certain points which are more familiar to linguists than they are to philosophers, points that are important because of the ways they illustrate the necessary intrusion of theoretical linguistics in any serious attempt to get clear about the semantics of descriptions (and, indeed, the semantics of many other expressions that have long attracted the attention of philosophers). As philosophers who regularly find themselves working in linguistics can attest, smoothing and condensing ideas in linguistic theory for broad philosophical consumption is quite a challenge. More often than not, it fails. But it will have been worth it here, if it encourages philosophers to be less complacent about their semantic analyses.

3.1 Plurality

The theory of descriptions presented in OD and in *14 of *PM* is a theory of *singular* descriptions, of course, and Russell nowhere claimed that it was meant to apply to plurals or that it could be reworked so as to encompass all forms of descriptions in a uniform way.⁷⁵ A theory of plural descriptions comes later in *30 of *PM*.⁷⁶ Once purged of its apparent reliance on classes, its connection to the theory of singular descriptions is transparent: talk of exactly one ϕ is replaced by talk of more than one ϕ .⁷⁷ But subsequent work, especially on the difference between distributive and collective predication, has demonstrated the severe limitations of this theory and, quite possibly, the need to return

⁷² See e.g. Donnellan (1966), Kaplan (1978), Kripke (1977).

⁷³ See e.g. Barwise and Cooper (1981), Chomsky (1977, 1981), Evans (1977), Heim (1988), Higginbotham and May (1981), May (1985).

⁷⁴ See also the papers in Bezuidenhout and Reimer (2004).

⁷⁵ Back in *PoM*, Russell makes 'every ϕ ' do duty for 'the ϕ s' in distributive contexts, and 'all ϕ s' do this in collective contexts. See Oliver and Smiley (this volume).

⁷⁶ See also *IMP* Ch. 17.

⁷⁷ See Chomsky (1975), Evans (1982), Neale (1990).

to a doctrine in *PoM*: a term may stand for more than one thing.⁷⁸ Mass descriptions ('the water') and the existence of generic readings ('the whale is a mammal') raise further problems.⁷⁹

3.2 Object-dependence

The object-dependence issue principally concerns the semantic significance of so-called referential uses of descriptions.⁸⁰ Once we take into account distinct utterances of the same sentence '*C*(the ϕ)' produced at different times, by different people, with different communicative intentions, aren't we led inexorably to the conclusion that descriptions *sometimes* function as referring expressions? Even the most hardened Russellian must concede that getting the hearer to fasten on the right object is the speaker's main aim in very many cases in which 'the ϕ ' is used. The Russellian needs to explain referential uses, which seem very similar to uses of demonstratives.⁸¹ If he cannot, then Russell's semantics provides at most half the story, the other half supplied by the referentialist thesis that, on some occasions, '*C*(the ϕ)' is used to express an object-dependent proposition. Distinctions between semantic reference and speaker's reference, primary and secondary speech acts, and propositions expressed and propositions non-deductively inferred, have been marshalled in defence of a unitary Russellian analysis.⁸² Ingenious arguments and counterarguments abound, and there is certainly nothing like consensus on the matter after forty years of discussion.⁸³ The issues here are complex, and there would seem to be no hope of resolution without first resolving some very general issues about sentences, utterances, contexts, quantification, anaphora, ellipsis, uniqueness, communicative intentions, and inference. The matter raises and intersects with so very many other

⁷⁸ See Oliver and Smiley (this volume), who argue that within the framework of OD, an adequate treatment of plural descriptions would seem to require an account of plural terms. Oliver and Smiley would like a theory that makes sense of ' $\sqrt{4}$ '. Unlike Frege and Russell, they embrace many-valued functions and see ' $\sqrt{4}$ ' as a plural term denoting both 2 and -2, better rendered in ordinary English as 'the square roots of 4' than as 'the square root of 4'.

⁷⁹ See Oliver and Smiley (this volume).

⁸⁰ See Buchanan and Ostertag, and Schiffer (this volume). The label 'referential use' comes from Donnellan (1966).

⁸¹ See Schiffer (this volume). See also Kaplan (1978), Wettstein (1981), and Devitt (2004).

⁸² For discussion, see Buchanan and Ostertag, and Schiffer (this volume). The distinctions mentioned are appealed to by, respectively, Kripke (1977), Searle (1979), and Neale (1990).

⁸³ See Buchanan and Ostertag, Schiffer (this volume), and also many of the papers in Ostertag (1998), and Bezuidenhout and Reimer (2004).

issues in the philosophy of language and mind, that it is hardly surprising it has attracted so much attention.

3.3 *Scope and logical form*

The reductionist urge is no longer what it was in philosophy, and on the matter of logical form, surely no-one today feels compelled to take Russell's own formalism as the last word about the underlying structure of natural language sentences containing denoting phrases. Work on quantification has opened up the way to more perspicuous formalisms that bear a much closer resemblance to the grammatical structures of the natural language sentences they are meant to illuminate, and it is now common to think of 'the' as a quantifier in its own right (just as it is common to think of 'and' as a connective in its own right). This is reflected in common formalisms. Where Russell used $\psi(\iota x)(x)$, we are now inclined to use $[\iota x: \phi x]\psi x$ or $[the\ x: \phi x]\psi x$, construed as formulae of a language containing restricted quantifiers.⁸⁴ No special scope conventions are needed in this language; the ambiguities in 'George IV wondered whether Scott was the author of *Waverley*', 'the king of France is not bald', 'the first man on the moon might have been Russian', 'the president used to be a democrat', and 'the bride should decide that issue' are captured by distinct sentence pairs, abstractly ⑧ $[the\ x: \phi x]\psi x$ and $[the\ x: \phi x]$ ⑨ ψx .⁸⁵

⁸⁴ Barwise and Cooper (1981), Higginbotham and May (1981), Neale (1990). (Alternatively, we use $[the\ x](\phi x; \psi x)$ or $[\iota x](\phi x; \psi x)$, construed as formulae of a language containing binary quantifiers. See Evans 1977, 1982 and Wiggins 1980.) Evans (1982, p. 59) claims the binary approach is forced upon us by the anaphoric link in donkey sentences such as 'the only man who owns a donkey beats it'. This claim is false; see Neale (1990, 1993). For certain purposes, Russell's formalism is actually more useful, for example when doing proofs or examining collapsing arguments such as the one Gödel (1944) alluded to in his discussion of the relation between Russell's Theory of Descriptions and his Theory of Facts.

⁸⁵ Discussion of ambiguities where descriptions and modal operators come together arose naturally in Smullyan's (1948) response to Quine's (1943, 1947) objections to quantification into modal contexts. Though Quine endorsed the Theory of Descriptions in many places, in his discussions of modal contexts he appears not to have fully grasped its core idea, namely, that descriptions are simply not singular terms and so not covered by the substitutivity of identity but only by derived rules such as *14.15.16, which Whitehead and Russell proved for truth-functional contexts. Famously, co-denoting descriptions cannot be substituted for one another *salva veritate* in non-extensional contexts, i.e. *within the scopes* of non-extensional connectives (as Quine himself pointed out as early as his 1943 paper). Yet Quine (1953) simply assumes (for purposes of reductio) in his slingshot argument against non-extensional sentence connectives (a) that descriptions are singular terms, and (b) that the semantics of these alleged singular terms guarantees the logical equivalence of ϕ and $a = (\iota x)(x = a \wedge \phi)$. (Davidson makes the same assumptions in his slingshot arguments.) Certain complexities aside, it should be intuitively clear that the only way to draw any conclusions from slingshot arguments involving embedding is to recast them with special substitution principles for co-denoting descriptions occurring within the scopes of the relevant connectives, i.e. for co-denoting descriptions that take *small scope*, for otherwise such

On Russell's account, the scope of a connective or quantifier is just the smallest formula containing it. This definition mirrors syntactic composition and is the standard, workaday definition we use when explaining the languages of the propositional and predicate calculi (and extensions containing modal operators). This is perfectly adequate for a language in which the smallest non-atomic expression is a whole sentence (open or closed); but it is a mistake to think the workaday definition gets to the heart of the *concept* of scope. Developments in grammatical theory have made it possible to see clearly the general concept that spawns the workaday definition for simple formal languages. Native speakers spot the ambiguity in 'small children and pets are not permitted' without any theoretical training; and armed with a smidgen of grammatical vocabulary they will say the ambiguity arises because the adjective 'small' might apply to 'children' or to 'children and pets'. When they say this, they are talking about the adjective's *scope*. (Similarly, they will talk about the scope of the complex 'under four years old' in 'pets and children under four years old are not permitted'.)

The general idea about scope is this (putting aside, for a moment, scope ambiguities involving quantifiers): The scope of an expression—any expression—is the smallest expression properly containing it. Equivalently, for expressions α and β , if α merges with β to create $[\alpha\beta]$, then $[\alpha\beta]$ is both α 's scope and β 's scope. (Given the empirical facts about which categories of expression merge with which others, there is no interpretive worry about α and β being in one another's scopes. We never get a situation, for example, in which occurrences of 'and' and 'or' are found within one another's scopes; or a situation, in which two DPs, or a DP and a sentence connective occur within one another's scopes. The reasons for this will soon become clear.) On this general definition of scope, the direct object of a sentence is within the scope of the subject, but not vice versa. In the sentence [_S George [_{VP} respects

arguments (on at least their connective versions) are easily dispelled, as Kripke (this volume) recognizes. This is precisely what I did in *Facing Facts* (Neale, 2001, pp. 178–9). When Gödel's (1944) version of the slingshot is recast in this way, modest but precise conclusions about non-extensional connectives and facts do, in fact, follow, but they are intuitively acceptable to anyone working with any of the non-extensional logics of which I am familiar, and very likely also acceptable to a good number of fact theorists, though certainly not all. (See Neale 2001, Chs 9–11 and also the postscript to the paperback edition.) As I stress throughout *Facing Facts*, anyone who works with a Russellian conception of facts (according to which such entities have objects and properties as constituents) and Russell's Theory of Descriptions is immediately off the hook. Gödel realized this, but Davidson did not. That said, Gödel was suspicious of this way of avoiding the slingshot because he was suspicious about eliminating descriptions in Russell's fashion. This suspicion was, I believe, partly the result of confusing linguistic and ontological elimination (see below) and partly the result of not having investigated the possibility of generalized quantifiers.

[Scott]], for example, the scope of 'George' is the whole sentence and so includes 'Scott'; but the scope of 'Scott' is just the VP 'respects Scott' and so does not include 'George' — 'respects' and 'Scott' are within each other's scopes, but this creates no problem. Quite generally, then, the subject DP of a sentence *S* is not within the scope of any other DP in *S*.

A more interesting example is (3):

- (3) [_{DP} the [_{NP} man drinking [_{DP} a [_{NP} martini]]]
 [_{VP} hasn't paid for it].

The description in subject position merges with the VP to form the whole sentence. So the whole sentence is the description's scope. The description itself has the structure [_{DP}[_D the] [_{NP} ϕ]]. That is, the determiner 'the' merges with the NP 'man drinking a martini' to form a DP. So the scope of 'the' is the whole DP, which contains another DP, 'a martini' as a constituent. (Thus 'the' and 'the ϕ ' have different scopes.) More interestingly, the pronoun 'it' is within the scope of the DP 'the man drinking a martini' but not within the scope of the DP 'a martini', which one would like to be able to treat as the pronoun's antecedent. This is important, as we shall see later.

A Chomskyan distinction between two levels of grammatical description is required in order properly to see scope (thus construed) at work in quantified sentences of natural language, to see how, for example, superficial ambiguities of the sort we characterize abstractly with a pair of logical forms ⑧ [*the* *x*: ϕx] ψx and [*the* *x*: ϕx] ⑧ ψx can be explained in terms of their underlying parsings. But we can already explain scope ambiguities *within* descriptions, such as the one turning on the scope of the word 'former' in 'my former colleague and friend, Jones', which is just like the one in 'small children and pets.' It will pay to spell it out in order to make a follow-up point. The ambiguity is attributable to two different parsings:

- (4a) [_{DP} my [_{NP} [_{NP} former [_{NP} colleague]] and [_{NP} friend]]]
 (b) [_{DP} my [_{NP} former [_{NP} [_{NP} colleague] and [_{NP} friend]]]].

In (4a) the scope of 'former' is small, namely, [_{NP} former [_{NP} colleague]], and the scope of 'and' is large, namely, [_{NP} [_{NP} former [_{NP} colleague]] and [_{NP} friend]]. In parsing (4b) the scope of 'former' is large, namely, [_{NP} former [_{NP} [_{NP} colleague] and [_{NP} friend]]], and the scope of 'and' is small, namely, [_{NP} [_{NP} colleague] and [_{NP} friend]]. A scope, then, is something every occurrence of an expression has; and the more complex the syntax the greater the possibility of scope distinc-

tions that are truth-conditionally significant. With the predicate calculus, one needs to monitor only the scopes of sentence operators (connectives and quantifiers). But in natural language there is much more to monitor. In the calculus, \wedge is used only to conjoin two whole sentences to form a larger sentence. In English, however, 'and' is used to conjoin two phrases of the same syntactic category more generally (S, DP, NP, VP, etc.) to form a phrase of that same category. (In (4a) and (4b), for example, it conjoins two NPs.) Linguists sometimes state the generalization using a schematic phrase structure rule:

$$XP \rightarrow [_{XP} XP \text{ and } XP].^{86}$$

This fact will be important later.

Those who maintain that descriptions are singular terms sometimes suggest we mimic Russellian distinctions of scope using predicate abstraction. Where the neo-Russellian distinguishes $\textcircled{3}[\textit{the } x: \phi x]\psi x$ and $[\textit{the } x: \phi x]\textcircled{3}\psi x$, the singular term theorist might distinguish $\textcircled{3}\psi(\textit{the } \phi)$ and $(\lambda x\textcircled{3}\psi x)(\textit{the } \phi)$.⁸⁷ The distinction between these sentences is still one that crucially involves scope, of course. In $\textcircled{3}\psi(\textit{the } \phi)$, the description occurs within the scope of $\textcircled{3}$; in $(\lambda x\textcircled{3}\psi x)(\textit{the } \phi)$, by contrast, $\textcircled{3}$ occurs within the scope of the description.⁸⁸

3.4 Syntax

Many linguists (and a growing number of philosophers) today hold that the grammatical structure of a sentence needs to be factored into two tightly connected representations, one relevant to interpretation, the other relevant to pronunciation, often called the sentence's LF (or

⁸⁶ Quantified sentences falsify the claim that every English sentence containing 'and' is semantically equivalent to (and, perhaps, syntactically derived from) a sentence in which 'and' conjoins sentences: 'some man loves Mary and Jane' is not equivalent to 'some man loves Mary and some man loves Jane', for example. If one permits predicate abstraction, however, one might posit a level of semantic analysis at which sentential conjunction is doing the work, the predicate $\lambda x(x \textit{ loves Mary} \wedge x \textit{ loves Jane})$ emerging from rules of composition (which would have to be supplied). For discussion of a generalized notion of conjunction, see Partee and Rooth (1983).

⁸⁷ See e.g., Smiley (2004).

⁸⁸ Smiley (2004) is prepared to say the difference involves the scopes of $\textcircled{3}$ and 'predicate formation', but adds that 'there is absolutely no need to invoke a notion of scope' for the description (p. 155). I am not sure if Smiley is claiming (as some have) that singular terms are the wrong *sorts* of expressions even to *have* scopes. But certainly that confused claim, and the confused claim that *predicates* are also the wrong sorts of expressions to *have* scopes can be found in recent journal articles. ('People, Kripke and Dummett for two, freely ascribe *scopes* to singular terms, which is incoherent since only operators have scopes' (Patton, 1997, p. 251). 'Intuitively, predicates, unlike quantifier phrases, are not the kinds of expressions that *have* scope' (Graff, 2001, p. 14).) There is nothing at all incoherent about a singular term or a predicate (or a determiner or any other expression) having scope, as Dummett and Kripke realize, and as Smiley recognizes for *predicates* at least. Identifying the scope of the predicate 'small' in 'small children and pets prohibited' is crucial

‘Logical Form’) and PF (or ‘Phonetic Form’), respectively.⁸⁹ On such accounts (the details are unimportant here), if descriptions are quantifier phrases (5) and (5′) might be used to characterize the PF and LF of a single sentence:

(5) [_S George [_{VP} respects the author of *Waverley*]]

(5′) [the author of *Waverley*]_x [_S George respects *x*].

(5) and (5′) are related by a syntactic operation of *quantifier movement* (lowering or raising, depending upon one’s point of departure, which will depend upon the general shape of the proposed grammar). The main point is that the restricted quantifier in (5′) binds a variable, *x*, serving as the direct object of the verb (cf. ‘the author of *Waverley* is such that George respects him’). An important problem of semantic composition is solved by this Chomsky-factorization, as we might call it, the problem of the interpretation of quantifier phrases in object position. Suppose one rejected the factorization and insisted that the surface form of a sentence (more or less what we just called a PF) is the object of compositional semantic interpretation. Explaining the interpretation of (6) in Frege-style function-argument fashion would be easy:

(6) [_S George [_{VP} respects Scott]].

Working down from the top down: (i) The sentence as a whole stands for a truth-value (let us suppose); (ii) the name ‘George’ stands for an individual, George; (iii) the VP ‘respects Scott’ stands for a (first-level) function from individuals to truth-values; (iv) the name ‘Scott’ stands for an individual, Scott; (v) the transitive verb ‘respects’ stands for a (first-level) function from individuals to (first-level) functions from

—are pet elephants allowed? Similarly for the description (a singular term for Smiley) in the ‘the president used to be a democrat’ (which Smiley can read as $\exists \psi(\text{the } \phi)$ or as $(\lambda x \exists \psi x)(\text{the } \phi)$.) To claim that only operators have scopes, or to claim that predicates or singular terms do not have scopes, is to misunderstand the geometric aspect of the concept, to possess a frozen conception based on the limited syntax of the first-order predicate calculus, where the smallest non-atomic expression is a whole formula. Once λx is added to the calculus this changes, of course, and a reason for caring about the scopes of predicates is immediately revealed (as Smiley recognizes). But once the concept of scope is clear there is no need to play the game of eternal, incremental catch-up in the face of increasingly more complex languages. The linguist can lead the logician from the cave here so he may see quite generally what scope is, rather than allowing him to rest content gazing at the wall of formulae to which he is accustomed, objects that are pale imitations of the forms of natural language sentences.

⁸⁹ See e.g. Chomsky (2001). Below I skate over the fact that for Chomsky himself syntactic labels have fallen away in a full-fledged PF. Because I have retained labels in what I am calling PFs here, they might be closer to what some linguists call *surface structures*, or to what others call *S-Structures*. None of this matters here.

individuals to truth-values. Now replace the subject expression in (6) by a quantifier phrase such as 'every poet' or (assuming descriptions are quantifier phrases) 'the king of England':

(7) [_S the king of England [_{VP} respects Scott]].

Since 'the king of England' is not a singular term and does not stand for an individual, the compositional machinery grinds to a halt with (7) until we say how quantifiers work. The Fregean answer—though, of course, Frege himself doesn't treat descriptions as quantifier phrases—is that quantifiers are second-level predicates: they stand for second-level functions. (The general idea comes quickly into focus if one thinks of 'every ϕ ψ ' as predicating of ψ that it is true of every ϕ .) Whereas in (6) the (first-level) function that the VP stands for operates on the individual that 'George' stands for, in (7) that (first-level) function is itself the operand of the (second-level) function that 'the king of England' stands for. That is, 'the ϕ ' (and also 'every ϕ ', 'some ϕ ' etc.) stands for a (second-level) function from (first-level) functions from individuals to truth values, to truth-values.⁹⁰

But when we turn our attention back to (5), where the quantifier is in direct object position, famously we reach an impasse. We have already taken the transitive verb 'respects' to stand for a (first-level) function from individuals to functions from individuals to truth-values. This is fine if the direct object is a name as in (6) and (7), but useless if it is a quantifier as in (5).

Three ways of getting things moving again can be found in the literature (perhaps there are others). (a) Standardize everything by treating names as quantifiers (perhaps as Russellian descriptions);⁹¹ (b) Allow for what linguists call *type-shifting* by permitting the semantic type to

⁹⁰ As Smiley (2004) points out, viewing Russell's Theory of Descriptions through the lens of Frege's account of quantifiers as second-level predicates goes back to at least Geach (1952, p. 51), who notes that 'the ϕ ' will stand for a second-order concept 'within which a concept falls if and only if there falls under it' a ϕ and apart from which nothing else is a ϕ . The question might arise whether, in such a system, descriptions are still incomplete symbols (though contrary to what Geach suggests, there is no connection between Russell's talk of incomplete symbols and Frege's talk of incomplete (i.e. unsaturated) expressions). (i) Salmon (this volume) says that Russell himself was concerned with refuting only the view that descriptions stand for their denotations and not the view that there is no possible semantic framework within which denoting phrases taken entities of some sort (but not their denotations) as their meanings (I am inclined to agree with Salmon); (ii) whether or not a quantifier (restricted or otherwise) is an incomplete symbol does not turn on notation (see Neale 2002); (iii) restricted quantifiers may be treated in a Tarskian rather than Fregean way, and on such a treatment they are still incomplete symbols (see Neale 1993, 2002).

⁹¹ For a version of this, see Montague (1973), where DPs are uniformly of type $\langle\langle e, t \rangle, t \rangle$. Notice this gives Montague the means to interpret co-ordinations like 'Dr Jones and every student in

which a quantifier belongs to shift systematically with its structural position (subject, object, etc.) (or permitting the semantic type to which a transitive verb belongs to shift systematically according as its object is a singular term or a quantifier);⁹² (c) Factorize in the Chomskyan way, running interpretation on the LF (5') where the direct object of the verb is a variable, and hence a *bona fide* singular term, just as it is in (6) and (7). (This is the solution I have always assumed in my own work, but not for any reason I find overwhelmingly compelling.)

Syntactic theory itself has revealed important structural facts about descriptions. It is common for logicians to construe strings of word such as 'the square of' and 'the father of' as functors, as syntactic and semantic units. (i) They construe them as genuine expressions (i.e. *constituents* or *syntactic units* of English sentences) which operate syntactically on other expressions to form larger expressions ('the square of two', 'the father of Charles II', etc.). (ii) They construe the semantic values of these larger expressions as determined in function-argument fashion from the semantic values of the purported functor ('the square of', 'the father of') and its argument ('two', 'Charles II')⁹³. But there is strong evidence from linguistic theory that the driving syntactic assumption is false as a matter of empirical fact. (Similarly the analo-

the class', where two expressions of the same type are co-ordinated. The two other solutions have the same property, for we are really dealing with a unitary phenomenon, the uniform merging of constituents.

⁹² See e.g. Montague (1973) and Partee (1986). (We saw the syntactic side of type-shifting earlier in connection with 'and'. The semantic side is fraught with notorious difficulties, and more machinery is required to bring one close to the general idea that in a structure $[_{XP} XP \text{ and } XP]$, 'and' stands for a function from pairs of whatever things XPs stand for to things that XPs stand for. On this matter, see Partee and Rooth (1983).) Partee (1986) distinguishes three ways in which a DP may be interpreted: (i) *referentially* (as type e), (ii) *predicatively* (as type $\langle e, t \rangle$), and (iii) *quantificationally* (as type $\langle \langle e, t \rangle, t \rangle$). On her account, all DPs have $\langle \langle e, t \rangle, t \rangle$ interpretations, but only some have e and $\langle e, t \rangle$ interpretations. Definite descriptions have all three. On this matter see 3.9, including note 149.

⁹³ I suspect these ideas have been inherited from Frege, 'Function and Concept' (1891), pp. 31–2. Frege talks of splitting 'the capital of the German Empire' into the parts 'the capital of' and 'the German Empire'. The former is the expression of a function: 'If we take the German Empire as the argument, we get Berlin as the value of the function' (p. 32). (On this account, 'the capital of' is of type $\langle e, e \rangle$.) Interestingly, in 'On Sense and Reference' (1892), Frege suggests a different parsing, essentially the one arrived at much later by generative linguistics on the basis of empirical considerations (one of which I am about to discuss). Of the expression 'the negative square root of 4', Frege says it is 'a compound proper name constructed from the expression for a concept with the help of the singular definite article' (p. 71). (Jason Stanley informs me that the same parsing is to be found in *Grundgesetze* (1893).) This later parsing is compatible with treating 'the' as of type $\langle \langle e, t \rangle, \langle \langle e, t \rangle, t \rangle \rangle$ (in a 'Russellian' vein) or as of type $\langle \langle e, t \rangle, e \rangle$ (which seems to be Frege's idea in the remark just quoted from 'On Sense and Reference', and also (Jason Stanley informs me) in *Grundgesetze*. Many logicians appear to work with the earlier 'Function and Concept' parsing. See also n. 94.

gous assumptions about the first three words of ‘no multiple of two’ and ‘some relative of Charles II’ etc.) One standard test for constituent structure is coordination. As noted earlier, syntactic constituents of the same category may be coordinated using ‘and’ to form constituents belonging to the same category. By this test, the grammaticality of (8c) below shows that ‘king of France’ is a constituent of ‘the king of France’, and the ungrammaticality of (8d) below (indicated with ‘*’) shows that ‘the king of’ is not:

- (8a) [_{DP}[_{DP} the king of France] and [_{DP} the queen of France]] are here
- (b) the [_{NP}[_{NP} king] and [_{NP} queen]] of France are here
- (c) the [_{NP}[_{NP} king of France] and [_{NP} queen of Spain]] are here
- (d) * [_{?P} [_{?P} the king of] and [_{?P} the queen of]] France are here.⁹⁴

It seems, then, that we must abandon the idea that the apparent functors ‘the king of’ and ‘the successor of’ are constituents of English sentences. And unless we give up the assumption that it is syntactic units that compose semantically in function-argument fashion, it would seem the semantic value of ‘the king of France’ (whatever it is) is not obtained by function-argument application involving the semantic values of ‘the king of’ and ‘France’ because ‘the king of France’ is the syntactic result of combining ‘the’ with ‘king of France’.⁹⁵

⁹⁴ These results are readily replicated with ‘the square of two and the cube of two’, ‘every relative of Charles and every friend of Charles’, ‘no brother of Charles or sister of Charles’, etc. Lest one think there is wiggle room here, compare (8e) and (8f) as possible parsings of the string ‘the king and the queen of France are here’:

(8e) [[_{DP}[_{DP} the king] and [_{DP} the queen of France]] are here.

(8f) * [[_{?P}[_{?P} the king] and [_{?P} the queen]] of France] are here.

The unavailability of the reading that would be associated with (8f)—i.e. the reading we associate with both (8a) and (8b) above, available here only as a *performance patch*—reveals that (8f) is not a genuine parsing of the string, which in turn reveals that ‘the queen’ is not a constituent of *any* parsing of the string and scotches any hope of blaming the ungrammaticality of (8d) on distributional facts about semantically vacuous prepositions occurring in PPs (prepositional phrases) forming constituents of DPs.

⁹⁵ This would seem to undermine Smiley’s (2004) nested description argument against Russellian analyses of descriptions—the Argument from Functors, as I call it—and also Smiley’s own theory, which assumes ‘the father of’ is a syntactic and semantic unit. Oliver and Smiley (this volume) note that Smiley objects to Russell’s account of singular descriptions on the grounds that ‘its elimination of functional terms makes even the simplest mathematical manipulations (e.g. solving a quadratic equation) humanly impossible’. I am unaware of any empirical results underpinning this claim, so I pass over it and turn to the morals that can be teased out of Smiley’s explicit argument against Evans’s (1982) ‘neo-Russellian’ theory. According to Evans, ‘the ϕ ’ (like ‘some ϕ ’ and ‘every ϕ ’) is a quantifier phrase, construed as a second-level predicate. (Smiley, 2004, p. 136.) (Scholars

(Of course, there is nothing to prevent a logician inventing an artifi-

of Evans will recognize that, strictly speaking, this is *not* Evans's theory but a theory he explicitly rejects a single page after mentioning it on the basis of spurious considerations involving donkey anaphora. (See Neale, 1993.) It may well have been the position Evans *wanted* to hold, but his error involving donkey sentences led him to believe and claim that 'the' could not be a 'unary quantifier former' (a device that combines with a predicate to form a quantifier phrase (which itself combines with a predicate to form a sentence)), but must instead be a binary quantifier (a device that combines directly with two predicates to form a sentence). Since there was no reason for Evans to give up the theory Smiley attributes to him, let us harmlessly call it 'Evans's theory'. According to Smiley, Evans's theory crumbles under the weight of nested descriptions such as (i):

- (i) the father of the father of Charles II.

In the categorial grammar Evans works with, the name 'Charles II' belongs to the category N of genuine singular terms (corresponding to Montague's type e), and VPs belong to the derived category S/N (corresponding to type $\langle e, t \rangle$) where S is the category of sentences (corresponding to type t). Descriptions are second-level predicates for (Smiley's) Evans, belonging to the category S/(S/N) (corresponding to $\langle \langle e, t \rangle, t \rangle$). Smiley objects that this makes it 'impossible for "the father of" to be fitted consistently into any category' (2004, p. 136). Why? Because the second occurrence of 'the father of' in (i) combines with a name ('Charles II') to form a second-level predicate, which requires it to belong to the category (S/(S/N))/N; whereas the first occurrence combines with a second-level predicate ('the father of Charles II') to form a second-level predicate, which requires it to belong to the category (S/(S/N))/(S/(S/N)). It is 'torn', says Smiley, between belonging to (S/(S/N))/N and belonging to (S/(S/N))/(S/(S/N)) (p. 136, n. 8). Smiley's medicine: (a) accept that descriptions are singular terms after all, and (b) treat 'the father of' as a functor that uniformly combines with a singular term to form another singular term, i.e. as uniformly of the category N/N. (Smiley rejects an alternative medicine: (a') accept that names are disguised Russellian descriptions after all (or, in the fashion of Montague, some other type of quantifier phrase), and (b') treat the 'the father of' as a functor that uniformly combines with a second-level predicate to form another second-level predicate, i.e. as uniformly of the category (S/(S/N))/(S/(S/N)).)

(1) A crucial premiss in Smiley's Argument from Functors is that 'the father of' constitutes a genuine constituent belonging to some particular category, and this we have already rejected on good empirical grounds. (That is, Smiley assumes Frege's (1891) parsing of descriptions (which is good empirical grounds) as it does not, as stated, explain how 'the', 'father' and 'of' combine). On Frege's (1892, 1893) parsing, which comports with current syntactic theory (see note 93), 'the' will be of the category N/(S/N) and 'the ϕ ' of category N.) Doubtless Evans was familiar with the standard tests for constituent structure (given his pioneering work on grammatical constraints on anaphora); but either way, Evans's theory does not assume the rejected syntactic structure, and so is untouched by the Argument from Functors as presented.

(2) Suppose Evans *had* assumed the rejected syntactic structure. Would anything of special interest about descriptions have followed? No; but a well-known fact about different approaches to quantification, discussed earlier in connection with object-position quantifier phrases, would have been displayed nicely. Reflection on examples (ii)–(v) makes it clear that whatever Smiley's argument would demonstrate about descriptions it would demonstrate about all quantifier phrases:

- (ii) every enemy of every enemy of Nixon
- (iii) some denigrator of some denigrator of Nixon
- (iv) the mayor of every former capital of Germany
- (v) every former lover of some former lover of Casanova.

We would not be inclined to conclude from the existence of, say, (ii), that 'every enemy of Nixon' cannot be a second-level predicate, that it is in fact a singular term; but these are precisely the con-

cial language containing functors stipulated to be constituents of its formulae (for example, a language containing $s(o)$, $s(s(o))$, $s(s(s(o)))$ etc.), but that is not the issue at hand.)

3.5 *Anaphora*

It was noted earlier in connection with (1) and (2) that Russell might have seen support for his theory in the fact that descriptions may contain the antecedents of exterior pronouns. This raises a question for the referentialist. Consider an utterance of (3) in which the subject description is being used referentially and the pronoun 'it' is anaphoric on 'a martini':

- (3) [_{DP} the [_{NP} man drinking [_{DP} a [_{NP} martini]]]]
 [_{VP} hasn't paid for it].

On this use, recognizing the anaphoric link is crucial to comprehension. If the man drinking a martini (or at least the man the referentialist takes to be the description's referent) is Scott, then treating the description as a device that simply refers to Scott would make (3) equivalent to 'Scott hasn't paid for it.' The contrast between these sentences illustrates where there is work to be done by the referentialist. If, for example, a referring expression n contributes just an object to the proposition expressed,⁹⁶ then there will be no constituent of the proposition corresponding to 'a martini' (no martini, no property of being a martini)

clusions Smiley's overall argument would encourage us to draw! (Similarly, 'and' may conjoin two singular terms, two quantifiers, or one of each ('John and the woman he loves', 'Dr Jones and every student in the class'); yet we would not be inclined to conclude from this that that 'every student in the class' cannot be a second-level predicate, that it is in fact a singular term; but these are precisely the conclusions an argument parallel to Smiley's would encourage us to draw!) So the Argument from Functors 'proves' too much to be worrying. And once we get the parsing right, we can see the real issue, which has nothing especially to do with descriptions, but with something dealt with earlier. A preposition such as 'of' may combine with either a singular term or a quantifier phrase to form a PP. And a nominal such as 'father' or 'enemy' may combine with a PP ('of Nixon' or 'of every man') to form an NP—let us agree to put aside differences between argument and adjuncts for present purposes.

We are now in familiar territory, covered earlier in connection with the interpretation of quantifier phrases in object position. The name 'Mary' (category N) may combine with the VP 'respects Nixon' (category S/N) to form the sentence 'Mary respects Nixon' (category S). The VP is the functor, and 'Mary' is its argument. When we replace the singular term in *subject* position by a quantifier phrase, we are replacing an expression of category N with one of category S/(S/N), and *this* is the functor with the VP as its argument. The problem arises when we replace the *direct object* by a quantifier phrase. To what category does the verb 'respects' belong? Is it 'torn' between belonging to (S/N)/N and (S/N)/(S/(S/N))? Three common solutions to this familiar problem, which is what Smiley's objection to Evans's theory reduces to (but with quantifier phrases as the objects of *prepositions* rather than of verbs) have already been discussed.

⁹⁶ This view, inspired by Kaplan (1978, 1989), is widely held.

'already' in the proposition to be 'passed along' in a way that helps fix the propositional contribution of 'it'. Equally, if the propositional contribution of 'it' is determined without recourse to anything contributed by 'a martini', there will be nothing in the proposition for the propositional contribution of 'it' to be hooked up to.

Variable binding, as standardly understood, is not really the issue here. For while (3), on the intended reading, may be paraphrased as (3'):

- (3') [there is a martini]_x such that the man drinking it_x hasn't paid for it_x

with 'it' bound by an existentially quantified expression with large scope, it might equally well be paraphrased by interpreting 'it' as a (loosely) disguised definite description, as in (3''):

- (3'') [the man drinking a martini]_y hasn't paid for *the martini* he_y is drinking.

Here 'he' is bound by 'the man drinking a martini'.⁹⁷ What is so important about that? Isn't it well known that third-person pronouns are often replaceable by definite descriptions? Indeed, it is; but that seemingly innocent observation has led some linguists and philosophers to explore the idea of a deep theoretical connection. The most general thesis, first explored in linguistics in the 1960s, drawing upon syntactico-semantic considerations, is that *all* third-person pronouns are, in fact, truncated or incomplete descriptions.⁹⁸ A more limited thesis, explored by both linguists and philosophers, is that a pronoun anaphorically dependent upon, yet outside the scope of (and hence not bound by), a quantified expression requires a *D-type* analysis: it is understood exactly as if it were an utterance of a Russellian definite description constructible from linguistic (and perhaps conversational) context.⁹⁹ An ultimately, more complex, and less Russellian thesis holds that such a pronoun is, in fact, a referring expression and requires an *E-type* anal-

⁹⁷ Russell's theory straightforwardly predicts the existence of descriptions that are quantified into.

⁹⁸ Postal (1969). The thesis has made a resurgence of late: see Elbourne (2005) and Neale (2005). The idea that certain 'minimum' definite descriptions—e.g. 'the man', 'the woman', and 'the thing'—might function like the pronouns 'he', 'she' and 'it' is entertained by Quine (1960, pp. 102–3, 112–3). I doubt he was the first to point this out.

⁹⁹ See e.g. Cooper (1979), Davies (1981), Elbourne (2001, 2005), Ludlow and Neale (1991), Neale (1990/2006).

ysis: it has its reference fixed rigidly by the same constructible description.¹⁰⁰ After uttering (9),

(9) A man stepped on my foot

I might continue with any of the following, perhaps in descending order of likelihood:

- (a) He said nothing.
- (b) The man said nothing.
- (c) The man in question said nothing.
- (d) The man who stepped on my foot said nothing.¹⁰¹

Sometimes, a description is required to avoid ambiguity:

- (10) Scott owns a yacht. It cost £25,000.
- (11) ? Scott owns a yacht and a motorbike. It cost £25,000.

All of this has led naturally to the idea that the subject expressions ‘he’, ‘the man’, and ‘the man in question’ in (a)–(c) are (in the imagined scenario) understood as if they were elliptical (in a sense that needs to be explained) for the description ‘the man who stepped on my foot’.¹⁰²

A pronoun situated where ‘it’ is situated in (3) in relation to its antecedent—a so-called ‘donkey position’—is predicted to require a descriptive rather than a bound analysis as it does not occur within the

¹⁰⁰ See e.g. Evans (1985), who regards such pronouns as forming a special semantic class with names whose references are fixed rigidly by description. (‘Let’s call whoever invented the zip *Julius*. Julius didn’t have to invent the zip.’)

¹⁰¹ Similarly where we have plurals: ‘The men stood on my foot.’ ‘They said nothing.’ ‘The men said nothing,’ etc.

¹⁰² The battle lines over whether the E-type or the D-type analysis is correct will mirror those in the debate over whether descriptions are referring expressions. Kripke’s (1980) arguments against the thesis that names are disguised descriptions ought to shed some light here; and whereas ambiguities of scope might provide evidence for the D-type analysis, their absence, and the possibility of pronominal contradiction (‘A man walked in—actually he didn’t walk, he *ran*’) might provide evidence the other way. See Davies (1981), Neale (1990). Given the lengths Kripke goes to to distinguish clearly the thesis that an expression is a disguised description from the thesis that the expression has its reference fixed by description, it is rather surprising that many linguists do not separate D-type and E-type analyses. (Elbourne (2005) is a notable exception.) Whichever way is chosen, however, it is clear such pronouns can be quantified into (see example (12)). This might incline some philosophers against treating them as referring expressions. There is no *formal* problem with open singular terms (even when directly referential, as Salmon (this volume) stresses), and it is easy enough to introduce them into formal languages. Nonetheless it is an empirical question whether natural languages actually contain open singular terms, directly referential or otherwise.

scope of its antecedent.¹⁰³ That the pronoun is not bound by ‘the man drinking a martini’ in a general theory of data of this type becomes clear once we consider parallel examples involving determiners other than ‘the’. Treating ‘it’ as bound by an existentially quantified expression with large scope in (12), for example, yields (12’):

(12) every man drinking a martini paid for it.

(12’) [there is a martini]_x such that every man drinking it_x paid for it_x.

Whether or not (12’) is a genuine reading of (12), it is not the reading we are after, namely, the one that results from interpreting ‘it’ as the relevant description:¹⁰⁴

(12’’) [every man drinking a martini]_y paid for the martini he_y is drinking.

As in (3’), ‘he’ is bound by the subject quantifier. Uniqueness is relative to choice of man drinking a martini, exactly as Russell’s theory predicts.¹⁰⁵

3.6 Existence

Strawson took issue with the existence implication of Russell’s analysis. Existence is merely *presupposed* according to Strawson: the truth or falsity of ‘C(the ϕ)’ presupposes the existence of a ϕ (perhaps a uniquely relevant ϕ); if that presupposition is false, then ‘C(the ϕ)’ lacks a truth-value.¹⁰⁶ In principle, that idea might be cashed out by saying no proposition is expressed or by saying that a proposition that is neither true nor false is expressed. Despite an occasional passage that might suggest otherwise, Strawson’s view is that when the existence implication fails

¹⁰³ See e.g. Evans (1985), Neale (1990).

¹⁰⁴ Languages which distinguish possessives and genitives — the labels must be taken with a pinch of salt — provide a useful diagnostic here. In Icelandic, for example, different translations are needed for ‘his’ (*sína* or *hans*) in ‘every man who has a son loves his wife’ according as it is functioning as a variable bound by ‘every man who has a son’ (*sína*) or is merely anaphoric on the embedded quantifier-phrase ‘a son’ (*hans*) in the sense in which ‘it’ is anaphoric on ‘a martini’ in (4) and (10). For details, see Neale (2005).

¹⁰⁵ It is not all plain sailing here. In ‘every man who owns a donkey vaccinates it’ the meaning of the rest of the sentence suggests a number-neutral interpretation of the pronoun (‘the donkey or donkeys he owns’); in ‘every man who owns a horse should ride it here at dawn’ (imagine putting together a posse) it suggests an indefinite interpretation (‘one of the horse or horses he owns’). See Heim (1990) and Neale (1990).

¹⁰⁶ Strawson did not use the label ‘presupposition’ in ‘On Referring’; it first appears in his *Introduction to Logical Theory* (1952).

no proposition is expressed, as he makes clear in later work.¹⁰⁷ It has seemed clear to many philosophers (including, finally, Strawson himself) that in many cases clear and robust judgements of truth or falsity *are* forthcoming in connection with uses of non-denoting descriptions.¹⁰⁸ Despite Strawson's philosophical outlook, and his evident hos-

¹⁰⁷ Strawson (1974). For a bold twist on this idea, see Buchanan and Ostertag (this volume). Strawson's positive proposals underwent considerable modification over the quarter of a century between 'On Referring' and *Subject and Predicate in Logic and Grammar*. I reported in *Descriptions* that Strawson had informed me the 'no proposition' picture was the one he had in mind at the time of 'On Referring'. (Kripke reports being told the same in his contribution. In conversation, Paul Grice, Stuart Hampshire, and Colin McGinn have reported the same.) The 'occasional passages' of possible dissent mentioned above are in Strawson (1952, 1954). In those works, Strawson holds that presupposing is a *logical* relation between propositions (rather than a pragmatic relation between, say, speakers and propositions). It may well have been this that lured him into contemplating propositions lacking a (standard) truth-value. Grice thought so and raised a problem he thought had pushed Strawson in that direction. Suppose (a) no proposition is expressed by 'C(the ϕ)' because of the falsity of what is presupposed ('there is a ϕ '), and (b) presupposing is a logical relation between propositions. *What is it*, Grice asks, in the case of 'C(the ϕ)' that presupposes the truth of 'there is a ϕ '. Not the proposition that C(the ϕ) since, by hypothesis (a), there is no such proposition—'C(the ϕ)' expresses no proposition. Strawson (1952, 1954) avoids Grice's problem by allowing an utterance of 'C(the ϕ)' to express a proposition that is neither true nor false (a position Grice himself thought untenable); later, Strawson (1964) appears to want to avoid Grice's problem by dropping the line that presupposition is a logical relation between propositions. Non-denoting descriptions do not themselves seem to provide much of a reason to give up bivalence (there may be better reasons). Strawson (1974) appears to concur and makes it clear his position is that no proposition is expressed when the presupposition fails. But by that time he had already conceded there were counterexamples to the general position. (See next footnote.)

¹⁰⁸ See Kripke (this volume) for Russell's own examples. In *Descriptions* I gave (i) as an example containing an empty description but nonetheless expressing something incontrovertibly false (1990, p. 27):

- (i) This morning my father had breakfast with the king of France.

The following were used to undermine the view that clear judgements depend upon such things as subject-object asymmetry, passive voice, and non-empty expressions elsewhere in sentences:

- (ii) The king of France was interviewed on *the Tonight Show* last night
- (iii) The king of France shot my cat last night
- (iv) The king of France shot himself last night.

Notice (iv) makes the point whether 'himself' is meant to inherit its reference from its antecedent or whether it is bound by it.

Smiley (2004) has argued that whilst clear-cut judgements of *falsity* are easy to come by, clear-cut judgements of *truth* are more elusive. Truth will require defeating the existence assumption with negation or some other defeating operator, modal, temporal, attitudinal, for example. Examples are not hard to find:

- (v) the round square does not exist
- (vi) the king of France used to live in Versailles
- (vii) the king of France was not interviewed on the *Today* show last night
- (viii) John thinks the largest prime number is 97 [construct the relevant scenario].

tility to much of formal semantics, quite a few linguists have explored adaptations of his positive proposals for use within their own formal semantics.¹⁰⁹

3.7 Possessives and Context

In OD, Russell treats possessives such as ‘my son’ and ‘Scott’s horse’ as definite descriptions. He says nothing about the possessive relation itself but remarks that people use possessives when the descriptive condition applies to more than one thing.¹¹⁰

Attempting to explain the propositional contributions of the possessive marker on particular occasions of use highlights a crucial fact bearing on the matter of uniqueness implications. Whilst *ownership* may be the marker’s contribution in many cases, it is easy enough to find cases in which it is not. I may use ‘Scott’s horse’, ‘his horse’, and ‘my horse’, to describe the horses Scott and I were riding this afternoon, the horses we have to shoe tonight, or the horses we have staked money on in the Cheltenham Gold Cup; and it would be far-fetched to say that such uses are non-literal. The truth of the matter is that the relation the speaker intends with the possessive marker on a given occasion of use—the relation that contributes to the proposition expressed and impinges upon truth conditions—must always be *inferred* pragmatically on the basis of such things as contextual and background knowledge.¹¹¹

It might be suggested that the possessive marker makes no specific contribution to the proposition expressed, that no particular relation impinges upon truth conditions on a given occasion of use. This view amounts to either truth-conditional *existentialism* or truth-conditional

¹⁰⁹ See e.g. von Stechow (2004). Strawsonian *sensibilities* are widespread in the philosophy of language, even among those who see little virtue in Strawson’s positive proposals concerning descriptions.

¹¹⁰ He seems to view this as some sort of defect of ordinary usage which should not be tolerated in scientific or other formal studies. See Szabo (this volume).

¹¹¹ See Sperber and Wilson (1986). It is sometimes claimed (for example, by Barker (1995) in an excellent full-length study of possessive descriptions) that certain nominals fix a unique relation. But this is surely incorrect. The relation the speaker intended may well be the one inherent in the meaning of the noun (‘wife’, ‘mother’, ‘murderer’, ‘teacher’, and ‘mayor’, for example), but this is not always so. At a school sports day, John and I may decide to bet on the outcome of the teachers’ three-legged race or the mothers’ egg and spoon race; at a prison sports day we might bet on the outcome of the cat burglars’ high jump or the murderers’ 100 metres. In recounting the day’s results I may use ‘John’s murderer’, ‘my murderer’, ‘his mother’, ‘my teacher’, and so on perfectly felicitously to talk about the contestants we have bet on. (Such uses are no more non-literal than those involving ‘my horse’ and ‘Scott’s horse’.) Does this mean I can use the sentence ‘my mother is not my mother’ to say something true? Probably, in the right circumstances. Someone whose birth mother is not his familial mother or legal mother could also do this. Of course we might be asked to expand on our respective remarks, and this leads us straight into the matter of uniqueness.

nihilism.¹¹² On its existentialist construal, the doctrine at hand has it that the proposition expressed when I token 'my cup is empty' is an existential proposition whose truth conditions are given by ' $(\exists R)(\text{the cup bearing } R \text{ to me is empty})$ '. But this proposition is true whenever there is at least one empty cup in the world, since every cup bears *some* relation or other to me, and this flies in the face of our intuitive grasp of the conditions of truth or falsity of specific tokenings of the sentence.¹¹³ On its nihilist construal, the doctrine has it that the proposition expressed is that my cup is empty *punkt*. If, as we are assuming, propositions *per se* are things that are true or false, the nihilist doctrine is hopeless. The proposition that the cup currently nearest to me is empty has a truth-value (false, as it happens). So does the existentialist's proposition (true, presumably). But the nihilist's proposition that my cup is empty *punkt*? Is this true or false? The reason we don't answer 'true' or 'false' is that the only way we can construe the question as worthy of one of these answers is if we construe it not as a *punkt* question at all, but as a question about the truth-value of a proposition whose identity turns on a particular relation (or restricted class of relations).¹¹⁴ Existentialism is false; nihilism isn't yet a theory. Turning nihilism into a theory requires taking truth or falsity to be properties not of propositions *per se*, but of propositions relative to parameters that need to be supplied and explained.¹¹⁵

3.8 Uniqueness and Context

Like the issues involving anaphora, those involving uniqueness illustrate how much overlap there is today between the philosophy of language and generative linguistics. There are three sorts of uniqueness issues to take up.

(a) *Act and Attitude Issues*. It is usually a good idea to test a theory that works well for assertions by considering other speech acts, questions and orders for example. Correspondingly, it is usually a good idea to test a theory that works well for sentences ascribing beliefs by considering sentences ascribing other attitudes, desires and hopes for example. Suppose George IV does not know who wrote *Waverley*. And

¹¹² The labels are from Neale (forthcoming), where they are used to separate analogous positions on weather statements such as 'It's raining'.

¹¹³ Perhaps existentialism can be rescued by calling upon domain restrictions on quantifiers in the manner of what is called the *hybrid* approach to incomplete descriptions below.

¹¹⁴ Similarly for the nihilist's proposition that it is raining *punkt*, and the proposition that I am ready *punkt* (ask yourself, are you ready?).

¹¹⁵ See the discussion of the implicit approach to incompleteness below.

suppose he wonders whether the author of *Waverley* is present (at a dinner party). Suppose he expresses himself thus: 'Is the author *Waverley* present?' There is an interesting issue here that the Russellian needs to address, but it is not the one many people think it is. Let us put aside the reading of 'George IV wonders whether the author of *Waverley* is present' upon which the description has large scope. (It is not relevant to the point at hand.) The following objection to Russell's theory (which one hears with alarming frequency) involves a logical mistake: On Russell's account, 'the author of *Waverley* is present' is equivalent to 'exactly one thing authored *Waverley* and that person is present'; so if George IV wonders (and asks) whether the author of *Waverley* was present, he wonders (and asks) whether exactly one person authored *Waverley* and that person is present'; but (the objection goes), the analysis is incorrect because George IV is not wondering (or asking) whether exactly one person authored *Waverley*! The mistake is this: 'George IV wonders whether *p* and *q*' does *not* entail 'George IV wonders whether *p*'. Obviously, Russell recognized this, which is why he felt free to say explicitly that 'when we say "George IV wished to know whether Scott was the author of *Waverley*," we normally mean "George IV wished to know whether one and only one person authored *Waverley* and Scott was that man"'.¹¹⁶ The real issue for the Russellian is this: if

¹¹⁶ OD, p. 489. Kripke (this volume) seems to make the logical mistake I am talking about. Prior (1968), Grice (1989), and Kaplan (this volume) recognize that it is, indeed, a mistake. (As Kaplan points out in his discussion of Russell's example, 'Diogenes wished to know whether there were honest men. This does not imply that he wished to know whether there were men.') In an interesting twist, where Kripke sees a problem with Russell's analysis because it implies that George IV wished to know whether there was exactly one author of *Waverley*, Kaplan sees an epistemic problem with Russell's analysis in the context Russell describes because it does *not* have this implication. (Prior's discussion (to which I was alerted by Christopher Peacocke) concerns an indefinite description: An FBI agent would like to catch a communist, though there is no particular communist he would like to catch. The Russellian will say that, on the intended understanding, the agent would like it to be the case that there is a communist whom he catches, and this does *not* imply that he would like it to be the case that there are communists.) Kripke is not alone in making this mistake (which I have encountered many times orally). It is made (in an excellent, recent book) by Elbourne (2005), who attributes the objection (and hence, I suppose, the error upon which it is based) to Heim (1991), a paper in German that I have not read. The same form of bad objection is sometimes made in connection with examples such as the following (from Grice, 1989):

- (i) Give your wife flowers.
- (ii) Is your wife here?
- (iii) Have you checked to see if the roof is leaking?

The logical mistake mentioned in the text (which Grice does not make) is being made by anyone claiming that on Russell's theory someone uttering (i) is instructing a man to ensure he is non-bigamously married; that someone uttering (ii) is inquiring whether the person he is addressing is non-bigamously married; that someone uttering (iii) is asking if you have checked to see if you have exactly one roof.

p is the proposition that exactly one man authored *Waverley*, and q is the proposition that every author of *Waverley* is present, why is it that someone being asked 'Is the author of *Waverley* present?' will normally be confident that once the speaker knows whether q he will no longer wonder whether p and q ?¹¹⁷ It seems to me there is much work to be done on descriptions occurring in sentences ascribing attitudes other than belief and in sentences used to do things other than assert.¹¹⁸

(b) *Incompleteness Issues*. How can the Russellian explain the fact that no implication of uniqueness of precisely the sort Russell's theory predicts seems to attach to many uses of many descriptions, for example, to uses of the so-called incomplete descriptions 'the man' and 'the table'?¹¹⁹ The uniqueness implication in Russell's analysis drew Strawson's fire, and it has been seized upon by referentialists who point out, quite correctly, that incomplete descriptions are regularly used to draw attention to a unique object without themselves specifying a unique condition.¹²⁰

Historically, there have been two broad approaches to the problem of incomplete descriptions that Russellians have pursued, the *explicit* approach and the *implicit* approach; but recently a third, *hybrid* approach has emerged. On all three approaches the uniqueness implication is treated as genuine and accommodated by paying attention to the practicalities of language use.¹²¹ According to the explicit approach, (also known as the *ellipsis* approach), the nominal attaching to a quantificational determiner is often understood as replaceable by a longer nominal the speaker could have used or would be prepared to fall back on if pressed to be more explicit, hence the label.¹²² If asked to elaborate on utterances of 'everyone left at midnight' or 'the king left at midnight', a speaker might come out with 'everyone who came to my party last night left at midnight' and 'the king of Norway left at midnight'. The connection between possessive descriptions and incomplete descriptions is clear: just as the hearer has to infer which relation a speaker intended by the possessive marker in order to identify the prop-

¹¹⁷ See Grice (1989). More convoluted versions of the issue arise for the examples in the previous footnote involving questions and commands.

¹¹⁸ Some light has been shed here by Grice (1989) and Graff (2003).

¹¹⁹ The question (and an answer) goes back at least to Quine (1940) and Sellars (1954).

¹²⁰ See Buchanan and Ostertag, Jónsson and Schiffer (this volume). See also Devitt (2004) and Wettstein (1981).

¹²¹ See Buchanan and Ostertag, Schiffer and Szabó (this volume). See also the papers in Ostertag (1998) and Bezuidenhout and Reimer (2004).

¹²² Notice the modals: 'replaceable', 'could', 'would'. See Neale (2004).

osition expressed, so the hearer has to infer a satisfactory completion to identify the proposition expressed when an incomplete description is used. The difference must not be played down, however: with the possessive description there is an explicit item in morpho-syntax signalling the inferential requirement; with the incomplete description the cue comes from contextual considerations.¹²³

As Russell himself noted in his reply to Strawson, there may be incomplete possessive descriptions, indeed overtly indexical, incomplete, possessive descriptions: 'my son', uttered by a man with two sons (assuming the relation implicit in 'son' is the one intended here by the possessive marker). The existence of such descriptions underscores just how important inference is in identifying the proposition expressed on a given occasion. In connection with the description alone, identifying the proposition expressed on a given occasion by 'Scott is riding his horse' requires (i) identifying the referent of the pronoun;¹²⁴ (ii) identifying the relation intended by the possessive marker; and (iii) providing

¹²³ If, as Stanley (2000) and Stanley and Szabó (2000) maintain, a nominal carries with it (or includes) an aphonic expression that is assigned an interpretation in context and intersects with the interpretation of (the overt part of) the nominal, and if this intersection is all that completion consists in, then the difference diminishes. Various sorts of examples cast doubt on the simple intersection story. One, due to Geoffrey Nunberg, concerns a waiter who says to another,

- (i) the hamburger on table six wants her coffee.

In this context, the description appears to be understood as something like 'the customer who ordered a hamburger on table six' (Neale 2004). Notice the use of the anaphoric pronoun 'her', and contrast the example with 'the hamburger on table six wants it rare.' Another nice example is provided by Jónsson (this volume), who discusses

- (ii) Lotta was reminded of the bike and got angry.

The context is one in which Lotta wished for but did not receive a bike for her fifth birthday, and is later angered when she sees her old tricycle. Jónsson runs through the options for explaining the use of the incomplete description 'the bike' (including treating it the way I treat Nunberg's hamburger example) and finds each lacking. The moral I draw from examples such as those produced by Jónsson and Nunberg is one to which I suspect they are sympathetic: the gap between what is said and what is given by word meaning and syntax is far, far greater than many philosophers and linguists think, and only a linguistic *pragmatism* can hope to make sense of our intuitive ascriptions of truth and falsity. In Jónsson's example, 'the bike' seems to be interpreted as something like 'the fact that she had wanted a bike for her birthday and didn't get one'—an interpretation that can be inferred only by someone familiar with the facts of the story. If this is right, the example is closer to the hamburger example than Jónsson thinks. Nonetheless, the example is a powerful one and underscores the severity of pragmatic intrusion in identifying what is said. The problem goes well beyond the interpretation of descriptions, of course.

¹²⁴ Actually, identifying whether the pronoun is bound or referential will be required. Some languages cut the workload here (whilst increasing it elsewhere). In Icelandic, for example, *sínum* would be used to signal the bound reading (Scott is an x such that x is riding x 's horse) and *hans* would be used to signal the unbound/referential reading (Scott is an x such that x is riding y 's horse (for some value of y to be inferred)). See Neale (2005).

a suitable completion (at least in the case where identifying the intended relation does not secure uniqueness).

The explicit approach still needs to explain how incomplete descriptions are used to draw attention to a unique object without themselves specifying a uniquely satisfied condition. A simple—perhaps *worryingly* simple—answer is this: Where descriptions are used in a demonstrative-referential way, a *standardized* form of demonstrative completion is taken for granted: ‘the man’ is understood just as ‘the man identical to *him*’ would be understood in the same scenario (with ‘him’ understood as a demonstrative referring expression). On such an account, ‘the ϕ ’ used referentially would (perhaps as a matter of implicit convention) amount to a Gödelian description $(\lambda x)(\phi x \wedge x=a)$.¹²⁵ If this is a plausible story, then the debate between the Russellian and the ambiguity theorist grinds to a compromise: when ‘the ϕ ’ is used referentially, ‘ $C(\text{the } \phi)$ ’ is used to express a proposition that is both Russellian *and* object-dependent in the relevant way.¹²⁶ (As Russell might put it, the denotation of ‘the ϕ ’ gets into the proposition expressed as part of its meaning!)

The implicit approach to incompleteness involves a radical change in perspective: truth and falsity are not properties of propositions *per se* but of propositions relative to quantifier domains (or situations).¹²⁷ In our two examples above, the restriction might be to persons at my party last night. In order to mimic what the explicit approach is able to capture when it treats an utterance of, say, ‘the Russian voted for the Russian’ as if it were an utterance of ‘the Russian judge voted for the Russian boxer’, the implicit approach would have to permit a quantifier domain (or situation) to change as the speaker is talking, indeed before he finishes a single clause!¹²⁸

¹²⁵ Gödelian because Gödel (1944) alludes to descriptions of this form in connection with a suggested proof that if descriptions are not incomplete symbols, all facts would collapse into one. See Neale (2001) for discussion.

¹²⁶ Buchanan and Ostertag, and Schiffer (this volume) criticize the version of this idea found in Neale (2002, 2004). We have seen several times that descriptions may be quantified into. Gödelian descriptions are no exception. Drawing on hitherto unpublished work of Kripke, I tried to motivate the idea that those descriptions some philosophers, e.g., Wilson (1991), have argued are understood as bound variables, are, in fact, understood as Gödelian descriptions that are bound-into, i.e. understood as descriptions of the form $(\lambda x)(\phi x \wedge x=y)$ with y bound by a higher quantifier. As Kripke notes, ‘ $x=y$ ’ here functions rather like ‘in question’ in English.

¹²⁷ See Barwise and Perry (1983) and Recanati (2004). For an extension of this idea into other realms, and a novel twist on the notion of a circumstance of evaluation, see MacFarlane (2004).

¹²⁸ See e.g. Westerståhl (1985), Soames (1986), Stanley and Williamson (1997), Neale (2004). If domains are replaced by situations, then the situations with respect to which utterances are evaluated for truth or falsity will have to shift as we speak too, even within clauses. Whilst it may be poss-

The *hybrid* approach follows the implicit approach in appealing to quantifier domains; but it follows the explicit approach in taking propositions themselves to be true or false, and in taking the proposition expressed by ‘the Russian voted for the Russian’ on a particular occasion to be more complex than surface form would suggest.¹²⁹ Assuming that surface syntax and LF are the levels of syntactic representation relevant to sound and meaning, respectively, the idea is that every nominal in a sentence co-occurs with a variable, visible at LF but not in surface syntax (a ‘hidden indexical’ as it is sometimes put). Invisibility in surface syntax means being aphonetic (whereas invisibility at LF amounts to being asemanitic, like ‘it’ in ‘it’s raining’). The aphonetic variable co-occurring with a nominal is contextually assigned a domain of quantification, or perhaps a property of such a domain. The hybrid approach avoids collapsing into a syntactically implemented version of the explicit approach as long as these aphonetics are not understood as surrogates for strings of words the speaker could have used, but as genuine expressions of a (broadly) indexical nature. This may turn out to be harder than imagined, as hybrid approach analyses are always stated using the sorts of completions the explicit approach postulates.¹³⁰

Unlike the implicit approach, the explicit and hybrid approaches posit a richer compositional structure than can be gleaned from surface syntax. This opens both up to charges that specific analyses ascribe precise contents to the psychological states of speakers that there is every reason to doubt.¹³¹ Clearly there is a great deal of work to do in connection with all three approaches, some of which will involve linguists and psychologists.

(b) *Contrast Issues*. What about dropping the idea of a truth-conditional uniqueness implication altogether, construing definite descriptions as existentially quantified devices, and seeking a discourse-theoretic explanation of the difference between definite and indefinite descriptions, perhaps even in a way that resurrects some notion of pre-

ible to produce situation-theoretic machinery capable of getting the intuitively correct results, a feeling that semantics has lost contact with the realities of actual utterance interpretation is the price. Parallel complications will arise for applications of the same basic idea such as those suggested by MacFarlane (2005)

¹²⁹ See Stanley (2000) and Stanley and Szabó (2000).

¹³⁰ Some see this sort of appeal to domain restrictions in a theory of utterance interpretation as either an inappropriate application of an idea in mathematical logic or else a needlessly formal way of mirroring what the explicit approach captures rather naturally. (See Neale 2004.) This complaint now seems to me misguided in certain respects, but not entirely without force.

¹³¹ See Buchanan and Ostertag, Schiffer (this volume), and Wettstein (1981).

supposition?¹³² The existential proposal would retain one Russellian characteristic: definite descriptions would still be scope-bearing devices of quantification rather than singular terms.¹³³ But it would be decidedly non-Russellian in another: for even if dropping the uniqueness implication turns out to have certain benefits in connection with natural language semantics, it would not be acceptable to Russell given his purposes.¹³⁴

On a simple application of Russell's theory, it seems that if I sincerely assert,

(13) the man who denounced Catiline in the Senate was Cicero

I commit myself to there being exactly one man who denounced Catiline in the Senate, perhaps in some period of time the explicit, implicit or hybrid approach can explain (63 BC, for example). But if 'the' automatically carries a uniqueness implication, why is there no whiff of redundancy in (13')?

(13') the *only* man who denounced Catiline in the Senate was Cicero.¹³⁵

The apparent absence of redundancy in (13') might be thought to support the existential analysis of 'the', the uniqueness implication being carried by 'only'. (Similarly, 'unique', 'sole', 'solitary', and 'one'.) But now the existential analysis must explain why replacing 'the' in (13') by 'some' or 'an' (or indeed any other simple determiner) produces an unacceptable string—'some only man', 'an only man', 'no only man', etc., are all bad.¹³⁶ This might be thought to tell against the existential analysis, Russell's uniqueness implication licensing 'only' in (13'). Furthermore, both parties need to explain the difference between (13') and (13''):

(13'') the only man who *ever* denounced Catiline in the Senate was Cicero.

¹³² See Szabó (this volume). See also Heim (1982) and Ludlow and Segal (2004), and Szabó (2000). For objections, see Abbott (2003).

¹³³ See Szabó (this volume).

¹³⁴ See n. 56. See also Cartwright, Kaplan (this volume), and Makin (2000).

¹³⁵ Descriptions of this form are used routinely by Russell, Geach, and Evans.

¹³⁶ Is 'an only child' an exception? No. As Gary Ostertag has observed, 'only' has a different use in 'only child', which is an idiom of some sort. Cf. 'the only only child I know is my cousin Henry' and 'no only child goes hungry'.

And both need to explain why removing 'only' from (13'') produces a sentence that can be improved considerably by then removing 'ever'. Clearly 'only' and 'ever' are connected in some way.¹³⁷

In the context of a discussion of the Catiline conspiracy of 63 BC, (13'') might be used after (13') to undo the contextual restriction on the time frame. Does (13') stand to (13) in some similar relation? That would be the hope of the Russellian, perhaps.¹³⁸ But even if this is right, it does not explain why dropping 'only' in (13'') produces a sentence that sounds odd. It would seem that it is the presence of 'only' ('unique', etc.) that licenses 'ever' in (13''). And notice that no oddness results if 'only' in (13'') is replaced by a superlative, such as 'first', or 'most rhetorically gifted'.¹³⁹ By their nature, superlatives express uniqueness. Another point in favour of the existential analysis, it would seem. And yet, this analysis does not explain why we cannot use 'some only' and 'an only'. The plot thickens when we consider infinitivals. Why is (14) better than (14')?

(14) the only (first, etc.) man to denounce Catiline in the Senate was Cicero

(14') ? the man to denounce Catiline in the Senate was Cicero.

It should now be clear that philosophers will need to talk to linguists if they are to fully understand the semantics of descriptions. That point is reinforced as soon as one begins looking at languages other than English.¹⁴⁰ In some there is no lexical distinction between definite and indefinite articles. Indeed some lack one or both altogether (at least if surface syntax is any guide).

I shall conclude with a quick appraisal of issues that linguists have drawn upon in dealing with puzzles related to those involving (13), (13'), and (13''). To avoid distracting side issues involving identity (covered in 3.9), let us replace 'was Cicero' by 'orated well'. The main contrast to be explained is between (15) and (15'), in both singular and plural forms:

(15) the only (first) man (men) who *ever* denounced Catiline orated well

(15') ? the man (men) who *ever* denounced Catiline orated well.

¹³⁷ See Rothschild (forthcoming).

¹³⁸ This idea is due to Gary Ostertag.

¹³⁹ See Rothschild (forthcoming).

¹⁴⁰ See Szabó (this volume).

Linguists call the word ‘ever’ a negative polarity item (*npi*). And they often suggest that *npi*’s can appear only in \downarrow (‘decreasing’) environments, citing the stark contrast between (16) and (16’):¹⁴¹

(16) no man (men) who *ever* denounced Catiline orated well

(16’) ? some man (men) who *ever* denounced Catiline orated well.

A determiner *D* is \downarrow on the nominal phrase ϕ with which it merges (to form a DP ‘*D* ϕ ’) if, and only if, replacing ϕ by an expression that is semantically less inclusive preserves truth.¹⁴² So *D* is \downarrow on ϕ if, and only if, (17) entails (17’), for example:

(17) *D* animal(s) snored $\quad (\downarrow)$

(17’) *D* dog(s) snored $\quad (\uparrow)$

By contrast, *D* is \uparrow (‘increasing’) on its nominal phrase ϕ if, and only if, replacing ϕ by an expression that is semantically more inclusive preserves truth, i.e. if, and only if, (17’) entails (17). We might extend our terminology: let us say that if *D* is \downarrow (or \uparrow) then *D* itself governs (and creates) a \downarrow (or \uparrow) context. Thus, contexts governed by ‘no’ and ‘every’ are \downarrow , whereas those governed by ‘some’ are \uparrow . Russell’s theories of singular and plural descriptions entail that contexts governed by ‘the’ are \nmid (‘non-increasing’) but not actually \downarrow (they are $\nmid\uparrow$ (‘non-monotonic’)); so the generalization about \downarrow contexts predicts the purported infelicity of (15’) if Russell’s accounts are assumed.¹⁴³

Is this a problem for the existential analysis? If definite descriptions are existential but do not themselves give rise to uniqueness implications, then shouldn’t contexts be governed by ‘the’ be \uparrow and pattern with ‘some’ and ‘a’? Shouldn’t (17’) entail (17) when *D* is ‘the’? The advocate of the existential analysis has room to manoeuvre. The basic idea is not that there is *no* semantic difference between ‘the’ and ‘a’, that they are mere stylistic variants; it is, rather, that they differ in some

¹⁴¹ The suggestion is made by Ladusaw (1981) for example. The properties of quantifiers discussed here are from Barwise and Cooper (1981).

¹⁴² For immediate purposes we are concerned with the $\uparrow\downarrow$ properties only of contexts *inside* descriptions and other denoting phrases. Talk of contexts ‘governed by’ or ‘under’ determiners is to be understood as talk of contexts within the scope of those determiners, not talk of contexts within the scope of the restricted quantifiers they head. More precisely, we are concerned with the $\uparrow\downarrow$ properties of the *first* position of quantifications, i.e. of the formula ϕ a determiner *D* combines with to form a restricted quantifier $[Dx: \phi]$, and not with the formula ψ the restricted quantifier combines with to form a formula $[Dx: \phi]\psi$. So my use of, say, ‘ \downarrow ’ is here shorthand for ‘ $\downarrow 1$ ’ rather than ‘ $\downarrow 2$ ’. The particular style of arrow notation used here is found in Neale (2000a, 2004) and Westerståhl (2001).

¹⁴³ See Neale (2000a, 2004).

non-truth-conditional, discourse-theoretic fashion, perhaps by way of a presupposition of uniqueness or familiarity (or, perhaps, some other notion). This could have a subtle bearing on how we would have to think of entailment relations between (17) and (17') when D is 'the'.¹⁴⁴

There is another issue here. (15') does not grate quite as much as (16'), particularly in its plural form.¹⁴⁵ Perhaps the slight contrast between (15') and (16') is due to a switch from a \nmid ('non-decreasing') context to a full-fledged \uparrow context. In deference to that idea, it has been suggested that *npi*'s may occur in a slightly broader class of environments, namely, those that are \nmid ('non-increasing'); a move that predicts the acceptability of (19) and (20), as 'exactly *n*' and 'most' are both $\nmid\downarrow$.¹⁴⁶

(19) exactly three men who ever denounced Catiline were Roman

(20) most men who ever denounced Catiline were Roman.

On this account, being \nmid would be the semantically basic property of contexts in terms of which others might be defined (using \sim and \vee , for example). Whether there is other evidence for the primacy of the concept is something empirical investigation will have to pronounce on.

¹⁴⁴ See Szabó (this volume). If *p* is the uniqueness presupposition attaching to a use of (17), perhaps some advocates of the existential analysis would take the conjunction (*p* \wedge (17')) to entail (17).

¹⁴⁵ See May (1985), Neale (2000a). It is possible that issues about partitives impinge here. English partitives make use of the definite article, and one might think an adequate theory of plural descriptions should explain the relation between 'the ϕ s' and 'all of the ϕ s', 'some of the ϕ s', 'none of the ϕ s', 'most of the ϕ s', 'exactly *n* of the ϕ s' etc. Partitives may also appear with mass nouns, e.g. 'all of the water', reinforcing the point that the semantic of mass noun descriptions also needs explaining. See Oliver and Smiley (this volume).

¹⁴⁶ Kempson (1985), Neale (2000a, 2004). This hypothesis forms the core of an interesting recent paper by Rothschild (forthcoming) already mentioned. Rothschild calls \nmid environments 'domain-sensitive' to reflect their characteristic semantic feature, and he provides an elegant explanation of why \nmid environments (and only \nmid environments) should permit *npi*'s (and of why single-specifier words such as 'only', 'unique', 'one', 'sole', 'single', and 'solitary' and superlatives create such environments). He agrees that negative polarity items may occur under 'most', but finds their presence under singular 'the' (used non-generically) as unacceptable as their presence under 'some'. (I myself am less certain about this; context can sometimes play a softening role with singular 'the' (used non-generically) that it cannot play with 'some' or 'a'.) This leads Rothschild to reject the thesis that contexts under singular 'the' are \nmid . In my original discussion, I expressed discomfort at the idea of any theory according to which singular and plural 'the' have different $\uparrow\downarrow$ properties, noting that no such divergence affects singular and plural 'no' or 'some'. Rothschild's rejection of the thesis that contexts under singular 'the' are \nmid leads to his rejection of Russell's account of singular 'the'. And this enables him to tackle the contrast between (15) and (15'): it is to be explained (as it will be explained by the advocate of the existential analysis) by appealing to the semantic properties of 'only' ('unique', etc.), and 'first' ('tallest', etc.). Perhaps an explanation of the contrast between (14) and (14') will also flow from these considerations. On Rothschild's account, as on the existential analysis, contexts under singular 'the' must be as \uparrow as those governed by 'some' and 'a' since they do not permit *npi*'s.

3.9 Identity and predication

Just as there are philosophers who argue that descriptions are devices of reference, so there are those who argue they are devices of predication. If taken as fully general, these positions conflict with one another and also with Russell's quantificational position. But it is no news that arguments have been presented for theories that posit what might be called ambiguities. Descriptions might admit of Russellian and referential readings.¹⁴⁷ Or they might admit of Russellian and predicational readings.¹⁴⁸ Or they might admit of Russellian, referential, and predicational readings.¹⁴⁹ Of course, Russell's theory is a predicational theory of sorts. When implemented using a Fregean account of quantification, descriptions are *second*-level predicates. And more generally, in saying that the ϕ is ψ one is surely predicating at the first-level with ϕ just as one is predicating at that level with ψ . But might some uses of 'the ϕ ' be treated as *first*-level predicates themselves.¹⁵⁰

On Russell's account of indefinite descriptions, 'I met an actor' is analysed as $(\exists x)(man\ x \wedge I\ met\ x)$ —or as we might put it today, $[an\ x: actor\ x](I\ met\ x)$. Is it plausible to suppose that this quantificational analysis is correct across the board? When translating sentences of English into predicate logic it is common to treat VPs of the form of (21)

$$(21) [\text{VP is } [\text{DP a } [\text{NP } \phi]]]$$

as simple one-place predicates. (22), for example,

$$(22) \text{Scott is an actor}$$

will be rendered as the simple subject-predicate sentence As , where s is an individual constant and A is a one-place predicate true of those things that act, or at least those things that are actors.¹⁵¹ Paying lip-serv-

¹⁴⁷ Schiffer (this volume), Devitt (2004), Donnellan (1966), Kaplan (1978), and Wettstein (1981), for example.

¹⁴⁸ Geach (1962), and Wiggins (1965), for example, but with caveats.

¹⁴⁹ Linsky (1963), Partee (1986), and Wilson (1978), for example. Partee (as noted earlier) does not posit a special ambiguity but sees the three readings as related by a form of DP type-shifting. Not all DPs have all three interpretations, on Partee's account, but definite descriptions do: *Referential*: $(\lambda x)(\phi x)$, corresponding to type e (construed as an expression that refers to α if α and nothing else satisfies ϕ , and to nothing otherwise); *Predicational*: (ii) $\lambda x(\phi x \wedge \forall y(\phi y \supset y=x))$, corresponding to type $\langle e, t \rangle$; *Quantificational*: $\lambda P(\exists x(\forall y(\phi y \supset y=x) \wedge Px))$, corresponding to type $\langle \langle e, t \rangle, t \rangle$.

¹⁵⁰ To the list of people mentioned in the last three footnotes we can now add Graff (2001), who has argued for a *unitary* predicational analysis.

¹⁵¹ It is arguable that there is a world of difference between acting and being an actor, writing and being a writer, smoking and being a smoker, governing and being a governor, etc. This is not something I can go into here, so for convenience let us assume that X acts (is or acting) at time t if

ice to this translational behaviour, let us say that we have a *predicative* use of ‘a ϕ ’ whenever we have a VP of the form (21), and that ‘a ϕ ’ occurs in such a structure in *predicative position*.¹⁵²

According to Russell, the copula in (22) is the ‘is’ of identity, and the indefinite ‘an actor’ is handled exactly as it would be if the copula were replaced by ‘met’ or any other transitive verb: the logical form of (22) is $\exists x(Ax \wedge x=s)$ —or, as we put it say today, $[an\ x: Ax](x=s)$.¹⁵³ Russell is not claiming that (22) is an *identity statement*. An identity statement, for him, is a statement of the form $a=b$ where a and b both singular terms. (22) is not of this form; but when its logical form is revealed, we do find it has as a *proper part* an open sentence expressing an identity, namely, $x=s$.

As far as truth-conditions are concerned, the Russellian analysis seems unobjectionable.¹⁵⁴ But it is longwinded in comparison with *As*, and (for whatever it’s worth) the copula in ‘Scott is an actor’ doesn’t *seem* like the ‘is’ of identity. Furthermore, although formal constraints on the relations that hold between PFs and LFs constitute constraints on scope possibilities (interpretively understood in terms of LF representations), one might *expect* to see scope ambiguities in the following if ‘an actor’ were really a quantifier phrase (i.e. one might expect to find two LFs for each of the following PFs):

- (23a) Scott is not an actor
- (b) Scott used to be an actor
- (c) George IV wonders whether Scott is an actor.

And yet the readings upon which the purported quantifier phrase ‘an actor’ has large scope are either non-existent or else very strained.

A common response to all of this is to say that the translational practice that gives the predicative use of indefinite descriptions its name should form the basis of the semantics of VPs of form (21), whatever the semantics of indefinites in *other* linguistic positions (for example, in $[_S\ I\ [_{VP}\ met\ [_{DP}\ an\ actor]]]$). In effect, the suggestion is that (21) con-

and only if X is (or is being) an actor at time t (and vice versa) etc. There are all sorts of complexities here given the way we actually use verb tenses, participles, and nominals.

¹⁵² The former label may be a little misleading, the word ‘use’ perhaps suggesting a possible choice between *ways* of using, as it does when we talk of referential and attributive *uses* of descriptions, for example, or deictic and bound *uses* of ‘his’ in ‘every man love his mother’. Both labels can be found in the literature, however, so I shall use both freely.

¹⁵³ See *IMP*, p. 171ff.

¹⁵⁴ Though see n. 148.

tains the 'is' of predication and the indefinite description behaves rather like an adjective.¹⁵⁵

Definite descriptions may also appear after the copula, in VPs of the form (24):

- (24) $[_{VP} \text{ is } [_{DP} \text{ the } [_{NP} \phi]]]$.

Russell gives plenty of examples including, of course,

- (25) Scott is the author of *Waverley*.

Extending the terminology from the discussion of indefinites, let us say that we have a *predicative* use of 'the ϕ ', that 'the ϕ ' occurs in a *predicative position*, whenever we have a VP of the form of (24). This *syntactic* notion must be distinguished from the *interpretive* notion of a predicational reading. The question we are addressing is whether predicative uses require predicational readings.¹⁵⁶ Russell assumes that the predicative use requires no special treatment. Indeed, he regards the *virtues* of his theory as manifestly displayed in his analysis of the predicative use in (25). (i) The copula is the 'is' of identity, and the description 'the author of *Waverley*' is still a quantifier phrase, handled exactly as it would be if the copula were replaced by 'respects' or any other transitive verb. So the sentence's logical form is $\exists x(\forall y(Ayw \equiv y=x) \wedge x=s)$ —or, as we might put it today, $[the\ x: Axw](x=s)$.¹⁵⁷

Russell is no more claiming that (25) is an *identity statement* than he is claiming (22) is one. When the logical form of (25) is exposed, we find it contains as *proper parts* open sentences expressing identities, $y=x$ and $x=s$, the latter playing the same role it plays in (22). The principle of substitutivity may be used in connection with these open sentences, and this gives Russell an account of the validity of inferences involving the 'verbal substitution' of a description for a name, or a description for a description, in truth-functional contexts.¹⁵⁸

A good number of philosophers and logicians have followed Russell here in treating predicative uses of descriptions no differently from standard subject and object uses. This is seen in their discussions of (24) and, most famously in discussions of '9 is the number of planets'

¹⁵⁵ See (e.g.) Geach (1962), Linsky (1963), Heim (1988), Partee (1986), and Wilson (1978). Graff (2001) suggests *verb* rather than adjective. See n. 156.

¹⁵⁶ In *Descriptions*, I claimed that the predicative use (exemplified by 'John Smith is the man who threw Strawberry ice cream at the Pope') posed no problem for the Russellian, i.e. that it did not require a special predicational interpretation (Neale, 1990, p. 116, n. 55).

¹⁵⁷ See *IMP*, p. 171ff.

¹⁵⁸ *14.15.16.

when investigating the validity of modal arguments involving substitutivity.¹⁵⁹ But others have resisted Russell here, moved by remarks at the beginning of ‘On Referring’, where Strawson says he will be discussing the ‘uniquely referring use’ of descriptions, exemplified most straightforwardly by those occurring in subject position.¹⁶⁰ Concerning a predicative use such as the one in (24), Strawson says, ‘I should be using “Scott” to mention a certain individual, but I should not be using the phrase “the author of *Waverley*” to mention an individual, but to say something about an individual I had already mentioned.’¹⁶¹ As in the

¹⁵⁹ See e.g. Quine (1943, 1947), Carnap (1947), Smullyan (1948), Føllesdal (1966), Kripke (1971, 1980), Neale (1990). Like Russell, most of these people do not bother to say explicitly that they assume Russell’s theory works fine for the predicative use, as they simply construe the copula as the ‘is’ of identity, as expressing a two-place relation just like any transitive verb. Under these assumptions, the predicative use amounts to nothing special. In *Descriptions* I thought it worthwhile to say explicitly that the predicative use does not threaten the Russellian position (Neale, 1990, p. 116, n. 55) before beginning my discussions of substitutivity in connection with ‘Scott is the author of *Waverley*’ and ‘9 is the number of planets’. Concerning me and structures of the form [_{VP} is [_{DP} the [_{NP} ϕ]]], Graff (2001) makes the preposterous claim that ‘nowhere in *Descriptions* does he discuss the constructions in question’ (2001, p. 35, n. 9). This claim must be based on overlooking precisely the twenty or so pages that assume precisely the view she is attacking! Throughout the book, I explicitly followed Russell, Quine, Smullyan and Kripke in analysing such constructions in terms of identity (precisely the view Graff is opposing). Specifically: (1) At the end of chapter three, I explicitly labelled the use of a definite description in such a structure predicative, giving as an example ‘John Smith is the man who threw Strawberry ice cream at the Pope’ (1990, p. 116, n. 55). (2) In chapter four, I discussed at considerable length some famous sentences of precisely the form in question, including ‘Scott is the author of *Waverley*’, ‘9 is the number of planets’, and ‘Richard Nixon is the 37th president’ (Neale, 1990, pp. 133–50). I followed Russell (and Quine and Smullyan) like a lamb (to slaughter?) here in explicitly treating these examples as involving the ‘is’ of identity, explicitly using the identity sign to display the (Russell–Quine–Smullyan) interpretation of the predicative use I was assuming—it would have been hard to engage with Quine and Smullyan on substitutivity without this interpretation! Of course, it might well be a colossal mistake to treat the predicative use in the Russellian way I do; but if it is a mistake it is certainly not the mistake of not discussing it at all!

¹⁶⁰ Strawson (1950), p. 320. See e.g. Geach (1962), Linsky (1963), Wiggins (1965), Donnellan (1966), McCawley (1981), Partee (1986), Wilson (1978), Graff (2001, 2003). For discussion, see Kripke (this volume).

¹⁶¹ Strawson (1950), p. 320. Strawson’s example was ‘Napoleon was the greatest French soldier’. I have changed it for the sake of continuity. Of course, an individual does not always have to be mentioned before the description appears in every case (‘Who is the author of *Waverley*?’, ‘The author of *Waverley*? Scott, I think’). The predication character of Russell’s theory is simply not appreciated by Strawson, nor indeed by many people working today. (The lingering error in the work of Quine and others that one can talk sensibly of descriptions as singular terms within Russell’s analysis is one consequence of this.) As Kripke (this volume) notes, Russell recognized in OD that his theory explained why ‘Scott is the author of *Waverley*’ predicates something of Scott. The point is worth amplifying as it exposes the hollowness of certain claims to be providing non-Russellian, predication theories. Russell, as Kripke observes, says ‘Scott is the author of *Waverley*’ can be paraphrased, on his theory, as what amounts to ‘Scott and only Scott authored *Waverley*’. (Russell’s precise words are, ‘Scott wrote *Waverley*, and it is always true of y that if y wrote *Waverley*, y is

case of indefinites, the suggestion seems to be that the description behaves semantically rather like an adjective, given the equivalence of $\exists x(\phi!x \text{ and } x=s)$ and $\phi!s$ (where $\phi!x$ is shorthand for ‘ x is uniquely ϕ ’).¹⁶²

identical with Scott’ (OD, p. 55). See also (i) Russell’s remark on p. 68 of *PM* that (as we would put it) ‘Scott is the author of *Waverley*’ is equivalent to ‘ x wrote *Waverley*’ when, and only when, Scott is the value of x ; and (ii) his remark that “ a is the so-and-so” means that a has the property so-and-so and nothing else does” (KAKD, p. 206.) The concept of *identity* is crucially involved in such paraphrases. Indeed, once we put them into a form that respects the fact that ‘Scott’ is the grammatical and logical subject of ‘Scott is the author of *Waverley*’, the predication itself transparently involves identity: ‘Scott uniquely authored *Waverley*’ or ‘Scott authored *Waverley* uniquely’. (The analyses of Partee (1986) and (Graff (2001) simply mimic this with λ -abstraction on a position in an identity statement.) It is for this reason that Kripke and others have used formulae such as $\exists x(\phi!x \wedge \psi x)$ to characterize the truth conditions of ‘the ϕ is ψ ’, where $\phi!$ explicitly stands for ‘is uniquely ϕ ’, which very obviously involves identity. (Equally, identity must be involved in any plausible analysis of Kripke’s examples, ‘Scott and the author of *Waverley* are one’ and ‘Scott and the author of *Waverley* are one and the same person’.) The antepenultimate paragraph of OD and a passage in *PM* are important here:

The usefulness of *identity* is explained by the above theory. No one outside a logic book ever wishes to say “ x is x ”, and yet assertions of identity are often made in such forms as “Scott was the author of *Waverley*” or “thou art the man”. The meaning of such propositions cannot be stated without the notion of identity, although they are not simply statements that Scott is identical with another term, the author of *Waverley*, or that thou art identical with another man, the man. The shortest statement of “Scott is the author of *Waverley*” seems to be “Scott wrote *Waverley*; and it is always true of y that if y wrote *Waverley*, y is identical with Scott.” It is in this way that identity enters into “Scott is the author of *Waverley*”; and it is owing to such uses that identity is worth affirming. (OD, p. 55)

It is clear from this passage that Russell takes the proposition expressed by ‘Scott is the author of *Waverley*’ to involve identity crucially, but to be quite different from the proposition expressed by, say, ‘Scott is Sir Walter’, in which the identity sign is flanked by two names. The matter concerning identity and predication becomes clearer if we look at *PM* (the paragraph immediately following the argument discussed earlier that descriptions are always incomplete symbols):

It might be suggested that “Scott is the author of *Waverley*” asserts that “Scott” and “the author of *Waverley*” are two names for the same object. But a little reflection will show that this would be a mistake. For if that were the meaning of “Scott is the author of *Waverley*”, what would be required for its truth would be that Scott should have been *called* the author of *Waverley*: if he had been so called, the proposition would be true, even if someone else had written *Waverley*; while if no one called him so, the proposition would be false, even if he had written *Waverley*. But in fact he was the author of *Waverley* at a time when no one called him so, and he would not have been the author if everyone had called him so but someone else had written *Waverley*. Thus the proposition “Scott is the author of *Waverley*” is not a proposition about names, like “Napoleon is Bonaparte”; and this illustrates the sense in which “the author of *Waverley*” differs from a true proper name. (*PM*, p. 67).

Russell is again stressing the predicational character of his analysis. $a = (\lambda x)(\phi x)$ is not a genuine identity statement, which is why Russell has to prove the equivalence of $a = (\lambda x)(\phi x)$ and $(\lambda x)(\phi x) = a$ (*14.13), why he does not take it as an immediate consequence of the equivalence of $x = y$ and $y = x$ (*13.16). What Russell’s theory captures so beautifully is the complex functioning of descriptions as devices whose behaviour crucially trades on that of both singular terms and predicates.

¹⁶² Again, the co-ordination of like phrases may help us. (i) and (ii) are perfectly grammatical, and (iii) and (iv) don’t seem too bad:

But surely the mere fact that an expression may appear in a predicative position does not prove it is a predicate, witness the following:

(26a) Scott is Sir Walter

(b) Tully is Cicero.

Nor does the mere fact that an expression may appear in a predicative position prove it is not a quantifier:

(27a) Scott is no author

(b) Scott is someone I admire greatly

(c) Scott is one pilot, Jones is the other

(d) Scott is every pilot we can spare today

(e) Scott is many ministers in the new cabinet.

So perhaps we should at least *look* for a common account of structure (28):

(28) [_{VP} is [_{DP} *det* [_{NP} ψ]]]

(i) Scott is [[liberal] and [jovial]]

(ii) Scott is [[a liberal] and [the author of *Waverley*]]

(iii) Scott is [[liberal] and [the author of *Waverley*]]

(iv) Scott is [[the author of *Waverley*] and [liberal]].

(Curiously, in discussions of coordination of the type given in (iii), authors tend to reach for idioms. ('He is brilliant and the bane of my existence'; 'He is tall, handsome, and the love of my life.' See e.g. Graff, 2001, p. 10). If (iii) and (iv) are deemed perfectly grammatical, the Russellian owes us an account of their syntax. If the Russellian analysis is correct, (v) and (vi) should be perfectly grammatical:

(v) Hesperus is [[Phosphorus] and [the second planet from the sun]]

(vi) Hesperus is [[the second planet from the sun] and [Phosphorus]].

(vii) Hesperus is [[Phosphorus] and [Venus]].

The analogy between the predicative use of a description and an adjective seems to me better than Graff's (2001) analogy with intransitive verbs. ('The description is not the argument of a predicate, but, like the verb in "John smokes", a predicate itself: the description occurs as a predicate in the sentence' (Graff, 2001, p. 3). The verb analogy seems wrong to me as it ignores the role of the copula in 'is the ϕ '. Of course the whole VP [_{VP} is [_{DP} the [_{NP} ϕ]]] behaves like the whole VP [[_{VP} [_V smokes]], which is lexically exhausted by the verb 'smokes'. But to say that is just to say that a VP is behaving like a VP. If there is a good analogy here, it is that a definite description in the structure (24) behaves like an adjective in combining with the copula to form a VP.

where *det* is (at least) 'a', 'the', 'no', 'one', 'every', and 'many'. After all, it would be rash to conclude at this point we have to give up the idea that 'a ϕ ', 'the ϕ ', 'no ϕ ', 'one ϕ ', 'every ϕ ', and 'someone' are uniformly quantifier phrases.¹⁶³

The purported absence or strain of readings upon which the purported quantifier has large scope is sometimes conceived as a problem for the Russellian analysis and as supporting a predicational semantics.¹⁶⁴ The descriptions in (29a) and (29b) appear to demand small scope:

(29a) Scott is not the author of *Waverley*

(b) Scott used to be the most famous author in Scotland.¹⁶⁵

But (29c) and (29d) are genuinely ambiguous in respect of scope (or so we have been led to believe for a hundred years):

(29c) George IV wonders whether Scott is the author of *Waverley*

(d) 9 is necessarily the number of planets.

So although there are things the Russellian needs to explain here, the challenge is not quite what it may at first seem.

There are several intersecting questions that need addressing. What differences are there in the scope constraints on 'the ϕ ', 'a ϕ ', 'every ϕ ', and 'some ϕ ', and why? What does the seeming absence of readings of (29a) and (29b) upon which the descriptions have large scope really demonstrate? Should it be explained in pragmatic or syntactico-semantic terms? Should the fact of the existence of the large scope readings of (29c) and (29d) push us towards a pragmatic explanation? Is there something else going on in structures of the general form (28) that we need to be aware of? How are we to explain the fact that the quantifier in the following cannot take large scope?

¹⁶³ Partee (1986) uses examples similar to those in (26) and (27) to motivate the idea that many DPs other than definite and indefinite descriptions have predicational interpretations. The contrast with those that do not can be seen in a shortened version of her example: 'Mary considers that an island / two islands / many islands / the prettiest island / the harbour / *every island / *most islands / *this island'. Partee claims that whether or not a DP has a predicational interpretation is predictable from model-theoretic properties of its interpretation in a system of generalized quantifiers. But notice her 'every island' versus my 'every pilot we can spare today'. More plausible, it seems to me, is a pragmatic explanation, case by case, those involving singularity needing no special scene-setting because of their model-theoretic properties. I cannot go into this here.

¹⁶⁴ See Graff (2001).

¹⁶⁵ However, Christopher Peacocke has pointed out to me that in some cases it is possible to hear the description with scope over the negation, just as Russell predicts, for example in 'David Lewis is not the philosopher who argued that this is the best of all possible worlds'.

(30) Scott is not someone I admire greatly.

Should we posit a disjunctive theory of descriptions, one part for the predicative use, another for the subjective and objective uses, as we might call them? We have already touched on the idea—without endorsement—that the semantic role of a DP shifts when it occurs in object position (or in more broadly non-subject positions perhaps).¹⁶⁶ If that idea were pursued, would it open up the possibility of a second systematic shift, depending upon the verb of which the DP is the object for certain verbs V^* , to be specified? Would V^* be exhausted by ‘be’?¹⁶⁷ Would this force us to rethink the semantics of names and other singular terms occurring after the copula?

(31a) Hesperus is Phosphorus

(b) Necessarily, Hesperus is Phosphorus

Is it possible to construct a unitary predication theory, one that treats descriptions as predicates whatever their syntactic position, so that both descriptions in (32) are predicational?¹⁶⁸

(32) the author of *Waverley* is the most famous Scottish author.

Or would this amount to a *second*-level predicate analysis in disguise?

There is clearly a great deal of work to be done on predication, identity, and scope in connection with descriptions, and if some current research is on the right track, this may have quite a bearing on the interpretation of generic, plural, and mass terms.¹⁶⁹

¹⁶⁶ This idea is explored by Partee (1986), in terms of type-shifting rules for moving between quantificational predicational, and also referential interpretations of descriptions.

¹⁶⁷ Do we need to think about verbs other than ‘be’ as values of V^* triggering predication interpretations? Sentences (ii)–(ix) might suggest so:

- (i) John is the pilot
- (ii) John became the pilot (last year)
- (iii) John will remain the pilot until he retires
- (iv) John [[is] and [will remain]] the pilot
- (v) John hopes to be the pilot next year
- (vi) John [[is] and [hopes to remain]] the pilot
- (vii) John has excelled as the pilot
- (viii) John is considered the best pilot
- (ix) John works as the pilot at weekends.

However, all of these sentences seem to involve the idea of *being* a pilot, so perhaps the verbs all involve ‘be’, or at least the idea of *being*, at some level of analysis.

¹⁶⁸ For just such an attempt, see Graff (2001).

¹⁶⁹ See Graff (2001) and Smiley (2004).

Some say descriptions are singular terms, others say they are predicates of some level. I said these views conflict with one another and with the position of the Russellian if taken to be fully general. Yet there is a sense in which Russell's view is itself a resolution. At its simplest, the use of language involves the acts of *referring* and *predicating*, which conspire in some way in acts of *saying*. The proprietary devices of reference are referring expressions such as names; the proprietary devices of predication are (first-level) predicates, verb phrases containing such things as verbs and adjectives. Where do acts of *describing* and *identifying* fit in? Perhaps the real beauty of Russell's theory is that it explains why acts of *describing* and *identifying* are like acts of *referring* in some respects, and like acts of *predicating* in others. The proprietary devices of description and identification—definite descriptions—seem to share some properties of devices of reference, and other properties of devices of predication. And it is *this*, perhaps, which leads some philosophers to object to Russell's theory on the grounds that descriptions must be *referring expressions*, and others to object on the grounds that they must be *predicates*. Perhaps descriptions are just devices of (surprise) *description* and *identification*, making them not quite referring expressions and not quite (first-level) predicates, a hybrid that current frameworks can best explicate by construing them as quantifiers of a special sort. This may not have been what was driving Russell, but it might be the way to understand the appeal of his theory and its continued dominance.

Of course, one does not need to delve into technical issues in linguistics to see where and why the Theory of Descriptions has made such a mark. But we have come a long way since 1905. We have a much better grasp of syntactic structure and anaphoric relations; our formalisms are clearer and cleaner; and we know how to define truth for quantified languages, even when they contain modal operators. Our grasp of the pragmatics of language use is also much improved, partly because of Strawson's critique of OD and all that it heralded. Most philosophers have rejected the sense-datum epistemology associated with Russell's treatment of ordinary names as disguised descriptions, and we are all steeped in powerful Kripkean arguments which appear to show that treating names in this way or as having their references fixed by descriptions (or conditions set by Fregean senses) is fatally flawed.

The twentieth century was a good one for philosophy, and it is difficult to say how things would have turned out if Russell had never reached the positions he put forward in OD. We will be extremely lucky if we can find anything from the first few years of the twenty-first cen-

ture that creates such a stir for such a long time. You are now invited to mine the rich contributions to this commemorative issue. Even if definitive on this or that point, these articles will certainly not be the last words on denoting.¹⁷⁰

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¹⁷⁰ Kaplan and Kripke are already threatening sequels for this journal! And a paper by Grice on the debate between Russell and Strawson might be put into a format suitable for publication quite soon.

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II.—ON DENOTING.

BY BERTRAND RUSSELL.

By a "denoting phrase" I mean a phrase such as any one of the following: a man, some man, any man, every man, all men, the present King of England, the present King of France, the centre of mass of the Solar System at the first instant of the twentieth century, the revolution of the earth round the sun, the revolution of the sun round the earth. Thus a phrase is denoting solely in virtue of its *form*. We may distinguish three cases: (1) A phrase may be denoting, and yet not denote anything; *e.g.*, "the present King of France". (2) A phrase may denote one definite object; *e.g.*, "the present King of England" denotes a certain man. (3) A phrase may denote ambiguously; *e.g.*, "a man" denotes not many men, but an ambiguous man. The interpretation of such phrases is a matter of considerable difficulty; indeed, it is very hard to frame any theory not susceptible of formal refutation. All the difficulties with which I am acquainted are met, so far as I can discover, by the theory which I am about to explain.

The subject of denoting is of very great importance, not only in logic and mathematics, but also in theory of knowledge. For example, we know that the centre of mass of the Solar System at a definite instant is some definite point, and we can affirm a number of propositions about it; but we have no immediate *acquaintance* with this point, which is only known to us by description. The distinction between *acquaintance* and *knowledge about* is the distinction between the things we have presentations of, and the things we only reach by means of denoting phrases. It often happens that we know that a certain phrase denotes unambiguously, although we have no acquaintance with what it denotes; this occurs in the above case of the centre of mass. In perception we have acquaintance with the objects of perception, and in thought we have acquaintance with objects of a more abstract logical character; but we do not necessarily have acquaintance with the objects denoted by phrases composed

of words with whose meanings we are acquainted. To take a very important instance: There seems no reason to believe that we are ever acquainted with other people's minds, seeing that these are not directly perceived; hence what we know about them is obtained through denoting. All thinking has to start from acquaintance; but it succeeds in thinking *about* many things with which we have no acquaintance.

The course of my argument will be as follows. I shall begin by stating the theory I intend to advocate;¹ I shall then discuss the theories of Frege and Meinong, showing why neither of them satisfies me; then I shall give the grounds in favour of my theory; and finally I shall briefly indicate the philosophical consequences of my theory.

My theory, briefly, is as follows. I take the notion of the *variable* as fundamental; I use " $C(x)$ " to mean a proposition² in which x is a constituent, where x , the variable, is essentially and wholly undetermined. Then we can consider the two notions " $C(x)$ is always true" and " $C(x)$ is sometimes true".³ Then *everything* and *nothing* and *something* (which are the most primitive of denoting phrases) are to be interpreted as follows:—

C (everything) means " $C(x)$ is always true";

C (nothing) means "' $C(x)$ is false' is always true";

C (something) means "It is false that ' $C(x)$ is false' is always true".⁴

Here the notion " $C(x)$ is always true" is taken as ultimate and indefinable, and the others are defined by means of it. *Everything*, *nothing*, and *something*, are not assumed to have any meaning in isolation, but a meaning is assigned to *every* proposition in which they occur. This is the principle of the theory of denoting I wish to advocate: that denoting phrases never have any meaning in themselves, but that every proposition in whose verbal expression they occur has a meaning. The difficulties concerning denoting are, I believe, all the result of a wrong analysis of propositions whose verbal expressions contain denoting phrases. The proper analysis, if I am not mistaken, may be further set forth as follows.

¹ I have discussed this subject in *Principles of Mathematics*, chapter v., and § 476. The theory there advocated is very nearly the same as Frege's, and is quite different from the theory to be advocated in what follows.

² More exactly, a propositional function.

³ The second of these can be defined by means of the first, if we take it to mean, "It is not true that ' $C(x)$ is false' is always true".

⁴ I shall sometimes use, instead of this complicated phrase, the phrase " $C(x)$ is not always false," or " $C(x)$ is sometimes true," supposed *defined* to mean the same as the complicated phrase.

Suppose now we wish to interpret the proposition, "I met a man". If this is true, I met some definite man; but that is not what I affirm. What I affirm is, according to the theory I advocate:—

" 'I met x , and x is human' is not always false".

Generally, defining the class of men as the class of objects having the predicate *human*, we say that:—

"C (a man)" means "'C (x) and x is human' is not always false".

This leaves "a man," by itself, wholly destitute of meaning, but gives a meaning to every proposition in whose verbal expression "a man" occurs.

Consider next the proposition "all men are mortal". This proposition¹ is really hypothetical and states that if anything is a man, it is mortal. That is, it states that if x is a man, x is mortal, whatever x may be. Hence, substituting ' x is human' for ' x is a man,' we find:—

"All men are mortal" means "'If x is human, x is mortal' is always true".

This is what is expressed in symbolic logic by saying that "all men are mortal" means "' x is human' implies ' x is mortal' for all values of x ". More generally, we say:—

"C (all men)" means "'If x is human, then C (x) is true' is always true".

Similarly

"C (no men)" means "'If x is human, then C (x) is false' is always true".

"C (some men)" will mean the same as "C (a man),"² and

"C (a man)" means "It is false that 'C (x) and x is human' is always false".

"C (every man)" will mean the same as "C (all men)".

It remains to interpret phrases containing *the*. These are by far the most interesting and difficult of denoting phrases. Take as an instance "the father of Charles II. was executed". This asserts that there was an x who was the father of Charles II. and was executed. Now *the*, when it is strictly used, involves uniqueness; we do, it is true, speak of "*the* son of So-and-so" even when So-and-so has several sons, but it would be more correct to say "*a* son of So-and-so". Thus for our purposes we take *the* as involving uniqueness. Thus when we say " x was *the* father of Charles II." we not only assert that x had a certain relation to Charles II., but also

¹ As has been ably argued in Mr. Bradley's *Logic*, book i., chap. ii.

² Psychologically "C (a man)" has a suggestion of *only one*, and "C (some men)" has a suggestion of *more than one*; but we may neglect these suggestions in a preliminary sketch.

that nothing else had this relation. The relation in question, without the assumption of uniqueness, and without any denoting phrases, is expressed by " x begat Charles II." To get an equivalent of " x was the father of Charles II.," we must add, "If y is other than x , y did not beget Charles II.," or, what is equivalent, "If y begat Charles II., y is identical with x ". Hence " x is the father of Charles II." becomes " x begat Charles II.; and 'if y begat Charles II., y is identical with x ' is always true of y ".

Thus "the father of Charles II. was executed" becomes:—
 "It is not always false of x that x begat Charles II. and that x was executed and that 'if y begat Charles II., y is identical with x ' is always true of y ".

This may seem a somewhat incredible interpretation; but I am not at present giving reasons, I am merely *stating* the theory.

To interpret " C (the father of Charles II.)," where C stands for any statement about him, we have only to substitute $C(x)$ for " x was executed" in the above. Observe that, according to the above interpretation, whatever statement C may be, " C (the father of Charles II.)" implies:—
 "It is not always false of x that 'if y begat Charles II., y is identical with x ' is always true of y ,"

which is what is expressed in common language by "Charles II. had one father and no more". Consequently if this condition fails, *every* proposition of the form " C (the father of Charles II.)" is false. Thus *e.g.* every proposition of the form " C (the present King of France)" is false. This is a great advantage in the present theory. I shall show later that it is not contrary to the law of contradiction, as might be at first supposed.

The above gives a reduction of all propositions in which denoting phrases occur to forms in which no such phrases occur. Why it is imperative to effect such a reduction, the subsequent discussion will endeavour to show.

The evidence for the above theory is derived from the difficulties which seem unavoidable if we regard denoting phrases as standing for genuine constituents of the propositions in whose verbal expressions they occur. Of the possible theories which admit such constituents the simplest is that of Meinong.¹ This theory regards any grammatically correct denoting phrase as standing for an *object*. Thus "the present King of France," "the round square," etc., are

¹ See *Untersuchungen zur Gegenstandstheorie und Psychologie*, Leipzig, 1904, the first three articles (by Meinong, Ameseder and Mally respectively).

supposed to be genuine objects. It is admitted that such objects do not *subsist*, but nevertheless they are supposed to be objects. This is in itself a difficult view; but the chief objection is that such objects, admittedly, are apt to infringe the law of contradiction. It is contended, for example, that the existent present King of France exists, and also does not exist; that the round square is round, and also not round; etc. But this is intolerable; and if any theory can be found to avoid this result, it is surely to be preferred.

The above breach of the law of contradiction is avoided by Frege's theory. He distinguishes, in a denoting phrase, two elements, which we may call the *meaning* and the *denotation*.¹ Thus "the centre of mass of the Solar System at the beginning of the twentieth century" is highly complex in *meaning*, but its *denotation* is a certain point, which is simple. The Solar System, the twentieth century, etc., are constituents of the *meaning*; but the *denotation* has no constituents at all.² One advantage of this distinction is that it shows why it is often worth while to assert identity. If we say "Scott is the author of *Waverley*," we assert an identity of denotation with a difference of meaning. I shall, however, not repeat the grounds in favour of this theory, as I have urged its claims elsewhere (*loc. cit.*), and am now concerned to dispute those claims.

One of the first difficulties that confront us, when we adopt the view that denoting phrases *express* a meaning and *denote* a denotation,³ concerns the cases in which the denotation appears to be absent. If we say "the King of England is bald," that is, it would seem, not a statement about the complex *meaning* "the King of England," but about the actual man denoted by the meaning. But now consider "the King of France is bald". By parity of form, this also ought to be about the denotation of the phrase "the King of France". But this phrase, though it has a *meaning* provided

¹ See his "Ueber Sinn und Bedeutung," *Zeitschrift für Phil. und Phil. Kritik*, vol. 100.

² Frege distinguishes the two elements of meaning and denotation everywhere, and not only in complex denoting phrases. Thus it is the *meanings* of the constituents of a denoting complex that enter into its *meaning*, not their *denotation*. In the proposition "Mont Blanc is over 1,000 metres high," it is, according to him, the *meaning* of "Mont Blanc," not the actual mountain, that is a constituent of the *meaning* of the proposition.

³ In this theory, we shall say that the denoting phrase *expresses* a meaning; and we shall say both of the phrase and of the meaning that they *denote* a denotation. In the other theory, which I advocate, there is no *meaning*, and only sometimes a *denotation*.

"the King of England" has a meaning, has certainly no denotation, at least in any obvious sense. Hence one would suppose that "the King of France is bald" ought to be nonsense; but it is not nonsense, since it is plainly false. Or again consider such a proposition as the following: "If u is a class which has only one member, then that one member is a member of u ," or, as we may state it, "If u is a unit class, *the* u is a u ". This proposition ought to be *always* true, since the conclusion is true whenever the hypothesis is true. But "the u " is a denoting phrase, and it is the denotation, not the meaning, that is said to be a u . Now if u is *not* a unit class, "the u " seems to denote nothing; hence our proposition would seem to become nonsense as soon as u is not a unit class.

Now it is plain that such propositions do *not* become nonsense merely because their hypotheses are false. The King in "The Tempest" might say, "If Ferdinand is not drowned, Ferdinand is my only son". Now "my only son" is a denoting phrase, which, on the face of it, has a denotation when, and only when, I have exactly one son. But the above statement would nevertheless have remained true if Ferdinand had been in fact drowned. Thus we must either provide a denotation in cases in which it is at first sight absent, or we must abandon the view that the denotation is what is concerned in propositions which contain denoting phrases. The latter is the course that I advocate. The former course may be taken, as by Meinong, by admitting objects which do not subsist, and denying that they obey the law of contradiction; this, however, is to be avoided if possible. Another way of taking the same course (so far as our present alternative is concerned) is adopted by Frege, who provides by definition some purely conventional denotation for the cases in which otherwise there would be none. Thus "the King of France," is to denote the null-class; "the only son of Mr. So-and-so" (who has a fine family of ten), is to denote the class of all his sons; and so on. But this procedure, though it may not lead to actual logical error, is plainly artificial, and does not give an exact analysis of the matter. Thus if we allow that denoting phrases, in general, have the two sides of meaning and denotation, the cases where there seems to be no denotation cause difficulties both on the assumption that there really is a denotation and on the assumption that there really is none.

A logical theory may be tested by its capacity for dealing with puzzles, and it is a wholesome plan, in thinking about logic, to stock the mind with as many puzzles as possible,

since these serve much the same purpose as is served by experiments in physical science. I shall therefore state three puzzles which a theory as to denoting ought to be able to solve; and I shall show later that my theory solves them.

(1) If *a* is identical with *b*, whatever is true of the one is true of the other, and either may be substituted for the other in any proposition without altering the truth or falsehood of that proposition. Now George IV. wished to know whether Scott was the author of *Waverley*; and in fact Scott *was* the author of *Waverley*. Hence we may substitute *Scott* for *the author of "Waverley,"* and thereby prove that George IV. wished to know whether Scott was Scott. Yet an interest in the law of identity can hardly be attributed to the first gentleman of Europe.

(2) By the law of excluded middle, either "A is B" or "A is not B" must be true. Hence either "the present King of France is bald" or "the present King of France is not bald" must be true. Yet if we enumerated the things that are bald, and then the things that are not bald, we should not find the present King of France in either list. Hegelians, who love a synthesis, will probably conclude that he wears a wig.

(3) Consider the proposition "A differs from B". If this is true, there is a difference between A and B, which fact may be expressed in the form "the difference between A and B subsists". But if it is false that A differs from B, then there is no difference between A and B, which fact may be expressed in the form "the difference between A and B does not subsist". But how can a non-entity be the subject of a proposition? "I think, therefore I am" is no more evident than "I am the subject of a proposition, therefore I am," provided "I am" is taken to assert subsistence or being,¹ not existence. Hence, it would appear, it must always be self-contradictory to deny the being of anything; but we have seen, in connexion with Meinong, that to admit being also sometimes leads to contradictions. Thus if A and B do not differ, to suppose either that there is, or that there is not, such an object as "the difference between A and B" seems equally impossible.

The relation of the meaning to the denotation involves certain rather curious difficulties, which seem in themselves sufficient to prove that the theory which leads to such difficulties must be wrong.

When we wish to speak about the *meaning* of a denoting

¹ I use these as synonyms.

phrase, as opposed to its *denotation*, the natural mode of doing so is by inverted commas. Thus we say:—

The centre of mass of the Solar System is a point, not a denoting complex;

“The centre of mass of the Solar System” is a denoting complex, not a point.

Or again,

The first line of Gray’s *Elegy* states a proposition.

“The first line of Gray’s *Elegy*” does not state a proposition. Thus taking any denoting phrase, say C, we wish to consider the relation between C and “C,” where the difference of the two is of the kind exemplified in the above two instances.

We say, to begin with, that when C occurs it is the *denotation* that we are speaking about; but when “C” occurs, it is the *meaning*. Now the relation of meaning and denotation is not merely linguistic through the phrase: there must be a logical relation involved, which we express by saying that the meaning denotes the denotation. But the difficulty which confronts us is that we cannot succeed in *both* preserving the connexion of meaning and denotation *and* preventing them from being one and the same; also that the meaning cannot be got at except by means of denoting phrases. This happens as follows.

The one phrase C was to have both meaning and denotation. But if we speak of “the meaning of C,” that gives us the meaning (if any) of the denotation. “The meaning of the first line of Gray’s *Elegy*” is the same as “The meaning of ‘The curfew tolls the knell of parting day,’” and is not the same as “The meaning of ‘the first line of Gray’s *Elegy*’”. Thus in order to get the meaning we want, we must speak not of “the meaning of C,” but of “the meaning of ‘C,’” which is the same as “C” by itself. Similarly “the denotation of C” does not mean the denotation we want, but means something which, if it denotes at all, denotes what is denoted by the denotation we want. For example, let “C” be “the denoting complex occurring in the second of the above instances”. Then

C = “the first line of Gray’s *Elegy*,” and the denotation of C = The curfew tolls the knell of parting day. But what we *meant* to have as the denotation was “the first line of Gray’s *Elegy*”. Thus we have failed to get what we wanted.

The difficulty in speaking of the meaning of a denoting complex may be stated thus: The moment we put the complex in a proposition, the proposition is about the denotation;

and if we make a proposition in which the subject is "the meaning of C," then the subject is the meaning (if any) of the denotation, which was not intended. This leads us to say that, when we distinguish meaning and denotation, we must be dealing with the meaning: the meaning has denotation and is a complex, and there is not something other than the meaning, which can be called the complex, and be said to *have* both meaning and denotation. The right phrase, on the view in question, is that some meanings have denotations.

But this only makes our difficulty in speaking of meanings more evident. For suppose C is our complex; then we are to say that C is the meaning of the complex. Nevertheless, whenever C occurs without inverted commas, what is said is not true of the meaning, but only of the denotation, as when we say: The centre of mass of the Solar System is a point. Thus to speak of C itself, *i.e.*, to make a proposition about the meaning, our subject must not be C, but something which denotes C. Thus "C," which is what we use when we want to speak of the meaning, must be not the meaning, but something which denotes the meaning. And C must not be a constituent of this complex (as it is of "the meaning of C"); for if C occurs in the complex, it will be its denotation, not its meaning, that will occur, and there is no backward road from denotations to meanings, because every object can be denoted by an infinite number of different denoting phrases.

Thus it would seem that "C" and C are different entities, such that "C" denotes C; but this cannot be an explanation, because the relation of "C" to C remains wholly mysterious; and where are we to find the denoting complex "C" which is to denote C? Moreover, when C occurs in a proposition, it is not *only* the denotation that occurs (as we shall see in the next paragraph); yet, on the view in question, C is only the denotation, the meaning being wholly relegated to "C". This is an inextricable tangle, and seems to prove that the whole distinction of meaning and denotation has been wrongly conceived.

That the meaning is relevant when a denoting phrase occurs in a proposition is formally proved by the puzzle about the author of *Waverley*. The proposition "Scott was the author of *Waverley*" has a property not possessed by "Scott was Scott," namely the property that George IV. wished to know whether it was true. Thus the two are not identical propositions; hence the meaning of "the author of *Waverley*" must be relevant as well as the denotation, if we adhere to the point of view to which this distinction belongs.

Yet, as we have just seen, so long as we adhere to this point of view, we are compelled to hold that only the denotation can be relevant. Thus the point of view in question must be abandoned.

It remains to show how all the puzzles we have been considering are solved by the theory explained at the beginning of this article.

According to the view which I advocate, a denoting phrase is essentially *part* of a sentence, and does not, like most single words, have any significance on its own account. If I say "Scott was a man," that is a statement of the form " x was a man," and it has "Scott" for its subject. But if I say "the author of *Waverley* was a man," that is not a statement of the form " x was a man," and does not have "the author of *Waverley*" for its subject. Abbreviating the statement made at the beginning of this article, we may put, in place of "the author of *Waverley* was a man," the following: "One and only one entity wrote *Waverley*, and that one was a man". (This is not so strictly what is meant as what was said earlier; but it is easier to follow.) And speaking generally, suppose we wish to say that the author of *Waverley* had the property ϕ , what we wish to say is equivalent to "One and only one entity wrote *Waverley*, and that one had the property ϕ ".

The explanation of *denotation* is now as follows. Every proposition in which "the author of *Waverley*" occurs being explained as above, the proposition "Scott was the author of *Waverley*" (*i.e.* "Scott was identical with the author of *Waverley*") becomes "One and only one entity wrote *Waverley*, and Scott was identical with that one"; or, reverting to the wholly explicit form: "It is not always false of x that x wrote *Waverley*, that it is always true of y that if y wrote *Waverley* y is identical with x , and that Scott is identical with x ". Thus if " C " is a denoting phrase, it may happen that there is one entity x (there cannot be more than one) for which the proposition " x is identical with C " is true, this proposition being interpreted as above. We may then say that the entity x is the denotation of the phrase " C ". Thus Scott is the denotation of "the author of *Waverley*". The " C " in inverted commas will be merely the *phrase*, not anything that can be called the *meaning*. The phrase *per se* has no meaning, because in any proposition in which it occurs the proposition, fully expressed, does not contain the phrase, which has been broken up.

The puzzle about George IV.'s curiosity is now seen to have a very simple solution. The proposition "Scott was

the author of *Waverley*," which was written out in its unabbreviated form in the preceding paragraph, does not contain any constituent "the author of *Waverley*" for which we could substitute "Scott". This does not interfere with the truth of inferences resulting from making what is *verbally* the substitution of "Scott" for "the author of *Waverley*," so long as "the author of *Waverley*" has what I call a *primary* occurrence in the proposition considered. The difference of primary and secondary occurrences of denoting phrases is as follows:—

When we say: "George IV. wished to know whether so-and-so," or when we say "So-and-so is surprising" or "So-and-so is true," etc., the "so-and-so" must be a proposition. Suppose now that "so-and-so" contains a denoting phrase. We may either eliminate this denoting phrase from the subordinate proposition "so-and-so," or from the whole proposition in which "so-and-so" is a mere constituent. Different propositions result according to which we do. I have heard of a touchy owner of a yacht to whom a guest, on first seeing it, remarked, "I thought your yacht was larger than it is"; and the owner replied, "No, my yacht is not larger than it is". What the guest meant was, "The size that I thought your yacht was is greater than the size your yacht is"; the meaning attributed to him is, "I thought the size of your yacht was greater than the size of your yacht". To return to George IV. and *Waverley*, when we say, "George IV. wished to know whether Scott was the author of *Waverley*," we normally mean "George IV. wished to know whether one and only one man wrote *Waverley* and Scott was that man"; but we *may* also mean: "One and only one man wrote *Waverley*, and George IV. wished to know whether Scott was that man". In the latter, "the author of *Waverley*" has a *primary* occurrence; in the former, a *secondary*. The latter might be expressed by "George IV. wished to know, concerning the man who in fact wrote *Waverley*, whether he was Scott". This would be true, for example, if George IV. had seen Scott at a distance, and had asked "Is that Scott?" A *secondary* occurrence of a denoting phrase may be defined as one in which the phrase occurs in a proposition *p* which is a mere constituent of the proposition we are considering, and the substitution for the denoting phrase is to be effected in *p*, not in the whole proposition concerned. The ambiguity as between primary and secondary occurrences is hard to avoid in language; but it does no harm if we are on our guard against it. In symbolic logic it is of course easily avoided.

The distinction of primary and secondary occurrences also enables us to deal with the question whether the present King of France is bald or not bald, and generally with the logical status of denoting phrases that denote nothing. If "C" is a denoting phrase, say "the term having the property F," then

"C has the property ϕ " means "one and only one term has the property F, and that one has the property ϕ ".¹

If now the property F belongs to no terms, or to several, it follows that "C has the property ϕ " is false for *all* values of ϕ . Thus "the present King of France is bald" is certainly false; and "the present King of France is not bald" is false if it means

"There is an entity which is now King of France and is not bald,"

but is true if it means

"It is false that there is an entity which is now King of France and is bald".

That is, "the King of France is not bald" is false if the occurrence of "the King of France" is *primary*, and true if it is *secondary*. Thus all propositions in which "the King of France" has a primary occurrence are false; the denials of such propositions are true, but in them "the King of France" has a secondary occurrence. Thus we escape the conclusion that the King of France has a wig.

We can now see also how to deny that there is such an object as the difference between A and B in the case when A and B do not differ. If A and B do differ, there is one and only one entity x such that " x is the difference between A and B" is a true proposition; if A and B do not differ, there is no such entity x . Thus according to the meaning of denotation lately explained, "the difference between A and B" has a denotation when A and B differ, but not otherwise. This difference applies to true and false propositions generally. If " $a R b$ " stands for " a has the relation R to b ," then when $a R b$ is true, there is such an entity as the relation R between a and b ; when $a R b$ is false, there is no such entity. Thus out of any proposition we can make a denoting phrase, which denotes an entity if the proposition is true, but does not denote an entity if the proposition is false. *E.g.*, it is true (at least we will suppose so) that the earth revolves round the sun, and false that the sun revolves round the earth; hence "the revolution of the earth round the sun" denotes an

¹ This is the abbreviated, not the stricter, interpretation.

entity, while "the revolution of the sun round the earth" does not denote an entity.¹

The whole realm of non-entities, such as "the round square," "the even prime other than 2," "Apollo," "Hamlet," etc., can now be satisfactorily dealt with. All these are denoting phrases which do not denote anything. A proposition about Apollo means what we get by substituting what the classical dictionary tells us is meant by Apollo, say "the sun-god". All propositions in which Apollo occurs are to be interpreted by the above rules for denoting phrases. If "Apollo" has a primary occurrence, the proposition containing the occurrence is false; if the occurrence is secondary, the proposition may be true. So again "the round square is round" means "there is one and only one entity x which is round and square, and that entity is round," which is a false proposition, not, as Meinong maintains, a true one. "The most perfect Being has all perfections; existence is a perfection; therefore the most perfect Being exists" becomes:—

"There is one and only one entity x which is most perfect; that one has all perfections; existence is a perfection; therefore that one exists". As a proof, this fails for want of a proof of the premiss "there is one and only one entity x which is most perfect".²

Mr. MacColl (MIND, N.S., No. 54, and again No. 55, p. 401) regards individuals as of two sorts, real and unreal; hence he defines the null-class as the class consisting of all unreal individuals. This assumes that such phrases as "the present King of France," which do not denote a real individual, do, nevertheless, denote an individual, but an unreal one. This is essentially Meinong's theory, which we have seen reason to reject because it conflicts with the law of contradiction. With our theory of denoting, we are able to hold that there are no unreal individuals; so that the null-class is the class containing no members, not the class containing as members all unreal individuals.

It is important to observe the effect of our theory on the interpretation of definitions which proceed by means of de-

¹ The propositions from which such entities are derived are not identical either with these entities or with the propositions that these entities have being.

² The argument can be made to prove validly that all members of the class of most perfect Beings exist; it can also be proved formally that this class cannot have *more* than one member; but, taking the definition of perfection as possession of all positive predicates, it can be proved almost equally formally that the class does not have even one member.

noting phrases. Most mathematical definitions are of this sort: for example, " $m-n$ means the number which, added to n , gives m ". Thus $m-n$ is defined as meaning the same as a certain denoting phrase; but we agreed that denoting phrases have no meaning in isolation. Thus what the definition really ought to be is: "Any proposition containing $m-n$ is to mean the proposition which results from substituting for ' $m-n$ ' 'the number which, added to n , gives m '". The resulting proposition is interpreted according to the rules already given for interpreting propositions whose verbal expression contains a denoting phrase. In the case where m and n are such that there is one and only one number x which, added to n , gives m , there is a number x which can be substituted for $m-n$ in any proposition containing $m-n$ without altering the truth or falsehood of the proposition. But in other cases, all propositions in which " $m-n$ " has a primary occurrence are false.

The usefulness of *identity* is explained by the above theory. No one outside a logic-book ever wishes to say " x is x ," and yet assertions of identity are often made in such forms as "Scott was the author of *Waverley*" or "thou art the man". The meaning of such propositions cannot be stated without the notion of identity, although they are not simply statements that Scott is identical with another term, the author of *Waverley*, or that thou art identical with another term, the man. The shortest statement of "Scott is the author of *Waverley*" seems to be: "Scott wrote *Waverley*"; and it is always true of y that if y wrote *Waverley*, y is identical with Scott". It is in this way that identity enters into "Scott is the author of *Waverley*"; and it is owing to such uses that identity is worth affirming.

One interesting result of the above theory of denoting is this: when there is anything with which we do not have immediate acquaintance, but only definition by denoting phrases, then the propositions in which this thing is introduced by means of a denoting phrase do not really contain this thing as a constituent, but contain instead the constituents expressed by the several words of the denoting phrase. Thus in every proposition that we can apprehend (*i.e.* not only in those whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance. Now such things as matter (in the sense in which matter occurs in physics) and the minds of other people are known to us only by denoting phrases, *i.e.*, we are not *acquainted* with them, but we know them as what has such and such proper-

ties. Hence, although we can form propositional functions $C(x)$ which must hold of such and such a material particle, or of So-and-so's mind, yet we are not acquainted with the propositions which affirm these things that we know must be true, because we cannot apprehend the actual entities concerned. What we know is "So-and-so has a mind which has such and such properties" but we do not know "A has such and such properties," where A is the mind in question. In such a case, we know the properties of a thing without having acquaintance with the thing itself, and without, consequently, knowing any single proposition of which the thing itself is a constituent.

Of the many other consequences of the view I have been advocating, I will say nothing. I will only beg the reader not to make up his mind against the view—as he might be tempted to do, on account of its apparently excessive complication—until he has attempted to construct a theory of his own on the subject of denotation. This attempt, I believe, will convince him that, whatever the true theory may be, it cannot have such a simplicity as one might have expected beforehand.

Has the Problem of Incompleteness Rested on a Mistake?

RAY BUCHANAN AND GARY OSTERTAG

A common objection to Russell's theory of descriptions concerns incomplete definite descriptions: uses of (for example) 'the book is overdue' in contexts where there is clearly more than one book. Many contemporary Russellians hold that such utterances will invariably convey a contextually determined complete proposition, for example, that the book in your briefcase is overdue. But according to the objection this gets things wrong: typically, when a speaker utters such a sentence, no facts about the context or the speaker's communicative intentions single out a particular description-theoretic proposition as the proposition expressed. However, this is an objection only if it is assumed that successful linguistic communication requires the hearer to identify a proposition uniquely intended by the speaker. We argue that this assumption is mistaken. On our view, no proposition, descriptive or referential, is uniquely intended in such a context; thus, no proposition can nor need be identified as the proposition expressed. One significant upshot is that, once the aforementioned assumption is rejected, incompleteness no longer poses a threat to Russell's theory of descriptions.

There is a simple and compelling picture of linguistic communication that runs as follows: a speaker has a certain thought that she would like to get across to her audience. This thought has a certain propositional content—let's say, that smoking is unhealthy. Knowing that her audience is a competent speaker of English, she utters a sentence that (in the context) expresses the proposition that is the content of her thought, namely, 'Smoking is unhealthy'. The speaker's communicative intentions are satisfied—that is, successful communication occurs—only if her audience comes to entertain a thought whose content is the proposition expressed by her utterance. Call this, for future reference, *the simple picture*.

The simple picture has considerable intuitive appeal and, indeed, communication at least *sometimes* works in precisely the way described. But many central cases of apparently successful communication fail to conform to this neat model. Often there is simply nothing we might usefully take to be *the proposition expressed* by a speaker's utterance. And yet, for all that, successful communication may occur; the speaker may nonetheless manage to have her communicative intentions recog-

nized. In certain such cases, multiple propositions are expressed by the utterance;¹ in other cases—including the one on which we will focus in what follows—*no* proposition is expressed. Failure to recognize that successful communication need not conform to the simple picture gives rise to certain seemingly intractable difficulties. As we argue, these difficulties disappear once we recognize that communication is a far more flexible matter than the simple picture reflects.

One notable case where adherence to the simple picture has given rise to puzzles concerns uses of so-called incomplete definite descriptions: uses of ‘the *F*’ in contexts where there is clearly more than one *F*. As is well known, the most common objection to the traditional Russellian treatment of incomplete definite descriptions is that, typically, when someone utters a sentence exemplifying (1),

- (1) The *F* is *G*

no facts about the context or the speaker’s communicative intention single out a particular description-theoretic proposition as *the* proposition expressed. Following our suggestion that the simple picture fails as an adequate model of communication, we recommend that the Russellian grant the point, but deny that it undermines her view. According to the response we advocate, there is *no* proposition, descriptive or referential, expressed by such an utterance.

In section 1, we present the problem incomplete descriptions have been held to pose for the best version of the Russellian theory—what we call the Identification Problem. In section 2, we argue that the Russellian can avoid the Identification Problem by denying that, in the problem cases, a speaker succeeds in expressing a proposition of any sort. Drawing inspiration from work by William K. Blackburn and Stephen Schiffer, we argue in section 3 that this suggestion is independently plausible with respect to so-called attributive uses of incomplete descriptions. In contrast to these theorists, both of whom claim that in the case of attributive incompleteness a speaker *indeterminately means* several description-theoretic propositions, we claim that, with respect to such cases, no proposition is meant, either indeterminately or otherwise; in addition, we deny that there is any proposition such an utterance *expresses*, indeterminately or otherwise. In section 4, we sketch a picture of how a Russellian who advocates this approach can accommodate referential uses of incomplete descriptions.

¹ See, for example, Neale (1999).

1.

We take the linguistic meaning of a sentence to function as a constraint on what propositions a competent speaker can use that sentence to say in a given context.² For example, the linguistic meaning of 'I'm hungry' is such that (in normal contexts, at least) a competent speaker *S* can use this sentence only to say that *S* is hungry. Accordingly, it is helpful to represent the linguistic meaning of a sentence-type as a meaning-rule—a rule exemplifying the following form:

(Ro) Utter ϕ only if you wish to say that p .³

In those cases where *S* utters ϕ and in so doing says that p , we'll say that ϕ *expresses* that p ; or alternatively, that p is 'what is said' by the utterance of ϕ . In general, talk of what an utterance says should be taken as shorthand for what a *speaker* says in producing the utterance. We follow Grice in holding a direct link between saying and meaning: if *S* says that p in uttering u , then *S* means p in uttering u (*S* may, of course, mean something in addition to p).⁴

If we stipulate that '[the $x: Fx$](Gx)' is true at a world w in case something is both uniquely F at w and G at w and false otherwise, we can characterize the most naive interpretation of Russell's theory as endorsing the following meaning-rule for (1):

(R1) Utter 'the F is G ' only if you wish to say that [the $x: Fx$](Gx).⁵

R1 has the consequence that, in any context at which 'the F ' is incomplete—where there is more than one F —an utterance of (1) will express a patent falsehood (if, indeed, it succeeds in expressing anything at all). But this is counterintuitive, as Strawson first observed, since in most cases a competent speaker who uses an incomplete

²This conception of linguistic meaning is common to many authors. See Schiffer (2003, Chs 3 and 4), for a recent, illuminating discussion.

³While the notion of a meaning rule is familiar from Strawson (1950), the particular formulation adopted here is inspired by Schiffer (1995).

⁴However, for the purposes of this paper, we are not committing ourselves to the particular details of Grice's account of meaning.

⁵Since the substitution instance for p in Ro is a sentence of English, R1 should, strictly speaking, be formulated more along the following lines:

(R1*) Utter 'the F is G ' only if you wish to say that p ,

where p is, say, a structured proposition of the form: <<<the property of being uniquely F , the property of being G >, CONJ>, SOME>. For ease of exposition, we will stick to the style of formulation in the text, with the proviso that it should always be understood à la R1*.

description sentence does not *in any sense* take herself to have meant a trivially false proposition.⁶

The obvious corrective to R1 is to require the speaker tacitly to invoke a completing property, as in the following rule:

- (R2) Utter 'the *F* is *G*' only if, for some contextually relevant completing property *H*, you wish to say that $[\text{the } x: Fx \wedge Hx] (Gx)$.

For example, utter (2) only if, for some completing property *H*, you mean that the *H* table is covered with books:

- (2) The table is covered with books.

R2 summarizes what is currently the most popular implementation of Russell's theory of descriptions; it is the version with which we are most sympathetic. Stephen Schiffer (1995) has called R2 'the Hidden-Indexical Theory of Definite Descriptions',⁷ though the view is more widely known in the literature as the 'explicit' approach to incompleteness.⁸

Although R2 was introduced into the literature specifically for the purpose of accommodating utterances involving contextually incomplete descriptions, many theorists (most notably, Schiffer and Howard Wettstein) have doubted that it can provide a satisfactory account of such uses. Their doubts are especially acute with respect to *referential* uses of definite descriptions—that is, utterances involving incomplete descriptions produced with the primary intention of getting a hearer to entertain a given non-descriptive, object-dependent proposition.

Schiffer (1995) provides a nice example of the problem such utterances present for R2. Suppose that *S* and *A* are in the lecture hall, waiting for the famous philosopher, Ferdinand Pergola, to appear to deliver a lecture. As Pergola enters the lecture hall, stumbling, due perhaps to the effects of too much alcohol, *S* utters: 'I'll be damned! The guy's drunk.' According to R2, if *S*'s utterance expresses a proposition, it will

⁶ This consideration hardly refutes R1, but it does reveal it to be sufficiently implausible to motivate seeking a more attractive account consistent with the basic Russellian framework. For a valiant attempt to defend R1 see Bach (1988, 1992 and 2001); we discuss Bach's view in note 13.

⁷ Also Jonardon Ganeri (1995).

⁸ The proposal dates back to Quine (1940); Sellars (1954) was another early champion of the view. A version of the approach is also defended in Loar (1975); still another version is entertained but rejected in Schiffer (1981). Soames (1986), Blackburn (1988) and Neale (1990) (who introduces the label 'explicit') defend the view as well; Wettstein (1981) advocates the approach for attributive descriptions only. Note that in the case of *complete* descriptions such as 'the mayor of New York in 2004', any additional supplementation is optional.

There are a number of ways the explicit approach can be spelled out in a formal semantic theory; see for example Stanley and Szabó (2000a, 2000b) and Neale (2000, 2004). In what follows we abstract from details concerning how the view should be implemented.

be a proposition of the form $[\text{the } x: Fx \wedge Hx] (Gx)$ —where H is a completing property. But it is likely in such a context that speaker and audience share, and know themselves to share, a number of descriptions uniquely specifying the relevant individual. Schiffer writes:

Even before [S's] utterance, it was mutually evident ... that [S and A] had knowledge of the professor under numerous shared definite descriptions—the author of *Smells and Tickles*, the only man within sight wearing a yellow jacket and red golf pants, the man we are waiting to hear, the man now staggering up to the podium, and the list, in any realistic situation, will go on and on ... Imagining myself as your audience, I do not see how I could have identified any one individual concept, however complex, as the one which figured into the proposition that you asserted. And yet it would seem that I understood your utterance perfectly well. (Schiffer 1995, p. 376)

Although in certain very special cases an utterance of (1) will constrain the completing property to uniqueness, this is surely the exception rather than the rule. In the general case, a speaker, in uttering (1), cannot intend a particular proposition of the form $[\text{the } x: Fx \wedge Hx] (Gx)$, since she has no reason to expect that her audience will be capable of recognizing her intention. A fortiori, she cannot intend to say this proposition. Let's refer to this phenomenon—that in a typical use of an incomplete description, neither speaker nor hearer is capable of identifying a uniquely correct completion—as *Identification Failure*.⁹ To be more precise:

Identification Failure: In a typical utterance of a sentence exemplifying the form 'the F is G ' (where 'the F ' is incomplete), there is no proposition of the form $[\text{the } x: Fx \wedge Hx] (Gx)$ that the speaker means.

Many theorists, including Schiffer and Wettstein, have thought that *Identification Failure* motivates the following problem for any Russellian account of descriptions, including R2:

The Identification Problem: It is often the case that an utterance of a sentence exemplifying the form 'the F is G ' expresses a determinate proposition even though the speaker does not recognize herself as having intended a particular completion; it is often the case that a hearer can know what an utterance of a sentence exemplifying the

⁹ In fact, the issue is not really whether there is a *unique* completion, but whether we can recognize the completion as having been intended by the speaker. Typically, if a completion is intended, it is uniquely intended; but we leave open the possibility—consistent with R2—that a speaker can determinately mean two or more completing propositions in uttering 'The guy's drunk.' We will ignore this subtlety in the text, however.

form 'the F is G ' expresses even though the hearer does not recognize herself as having identified a particular intended completion.

The rough idea is that, if R2 is correct, S's utterance of 'The guy's drunk' will express a proposition only if there is *some* complete description-theoretic proposition that S means; but there is no such proposition. Yet, for all that, it *seems* as if a proposition has been expressed.

In so far as Russellians have attempted to respond to the Identification Problem they have simply denied Identification Failure: appearances to the contrary notwithstanding, context (possibly supplemented by the speaker's intentions) does determine a unique completion.

We find this little more than wishful thinking: In the absence of an account of what the completion is in the relevant cases, and precisely *how* it is that the context of utterance manages to select that completion to the exclusion of any other relevant candidates, the Russellian is hardly in a position to deny Identification Failure.

So far as we have been able to tell, the only proposal in the literature for what the relevant completing material might be is considered in Neale (2004). It should be noted that this proposal is intended to explicate the referential use of definite descriptions.¹⁰ Roughly put, the proposal maintains that the correct meaning rule for referential uses of (1) is:

- (R3) Utter 'the F is G ' only if, for some object o , you wish to say that
[the x : $Fx \wedge x = o$] (Gx).

An initial concern is that, even supposing that the proposition that [the x : x is male $\wedge x = \text{Pergola}$] (x is drunk) is compatible with S's intentions, it is (as Stephen Schiffer points out) not necessarily uniquely compatible: the proposition [the x : x is male $\wedge x = \text{Pergola} \wedge x$ authored *Smells and Ticks*] (x is drunk) is also an obvious candidate completion, given the described scenario.¹¹ What grounds do we have for assuming that the latter is *the* proposition S meant? A response to this question is required if the R3 advocate is to make good her claim that S meant the former proposition in uttering what he did, let alone that this is what the utterance expressed.

Of course, this worry is far from decisive. Perhaps he will claim that the matrix of a definite description *must*, as a matter of logical syntax,

¹⁰ Another rule (presumably something along the lines of R2) explicates attributive uses. Devitt (2004) endorses a similar approach to R3, although he rejects the Russellian framework; Elbourne (2005) also endorses a similar approach, although one implemented within a Fregean description theory. For an interesting precursor, see Burge (1974).

¹¹ See Schiffer (2005).

be of the form ' $F\alpha \wedge \alpha = \beta$ ', with the ' α ' position bound by the determiner and the ' β ' position either bound by an antecedent quantifier or occupied by a term of direct reference.¹² If this were correct, then Schiffer's worries would simply not arise. As will become clear below, however, our concern is not with R₃ itself but with the fact that it is a solution to a problem that only arises on an impoverished conception of meaning and communication. Once this conception is given up there will be no reason to abandon R₂ and thus no particular motivation to endorse R₃ (and likewise no motivation from incompleteness for accepting the foregoing suggestion concerning logical syntax).

Finally, it must be said that, other things being equal, we would prefer a single meaning-rule for (1). Since R₃ cannot claim to be *the* meaning rule for (1)—as we point out below, it would fail miserably as an explication of its attributive use—the advocate of R₃ must acknowledge a separate rule for the attributive case. While both rules will be broadly Russellian, this does not mitigate the fact that the theorist thereby espouses an ambiguity.

This brings up a related concern, one independent of the injunction that ambiguities are to be avoided wherever possible. The concern is that Identification Failure arises even for those theorists who claim that definite descriptions have a semantically significant referential use. Whether this use is best explicated by R₃ (for example, Neale) or by the thesis that referentially used descriptions are terms of direct reference (for example, Wettstein) is here beside the point. While it may be plausible to claim that in Schiffer's example 'The guy's drunk' expresses the proposition *that the guy who's identical to Pergola is drunk* or *that Pergola is drunk* (thereby circumventing the Identification Problem), it is obvious that a similar treatment is unavailable for the attributive case, as the following variation on Schiffer's Pergola example demonstrates. Suppose that we have heard rumour of an extremely eccentric philosopher who has claimed to have solved the mind-body problem, has a revolutionary manuscript *Smells and Tickles*, is best friend and confidant to the Queen of England, etc. We hear that this person, assuming he exists, might show up to a give a talk at our department's Friday afternoon colloquia and find ourselves anxiously waiting in the lecture hall. As time passes, you utter to A 'The guy's late!' In this case, neither you nor A is in a position to entertain, much less mean, any proposition of the form $[the\ x: x\ is\ male \wedge x = o] (x\ is\ late)$, concerning whoever it is that is supposed to show up to lecture.

¹² See Neale (2004), pp. 172–3, for discussion.

At least since Donnellan (1966), it has been widely agreed that something like Russell's account captures the attributive use of definite descriptions. Since attributive uses are not immune to Identification Failure, the would-be ambiguity theorist is not in a position to ignore such cases, however successful his treatment of referential usage.¹³

*If there is an Identification Problem, it is a problem for everyone.*¹⁴

2.

Something akin to Identification Failure arises for just about any utterance involving quantifiers—not merely for controversial cases such as ‘an *F*’ and ‘the *F*’ but also for paradigmatic examples of quantification

¹³ Proponents of R1, such as Bach, will maintain that R1 can explain why it is that we can so often use description sentences to convey propositions we believe to be true. Consider Schiffer's original Pergola example: in uttering ‘The guy's drunk’ *S* presumably intends to convey to *A* the proposition that Pergola is drunk. The advocate of R1 will claim that it is in virtue of either the manifest falsity or contextual irrelevance of ‘The guy's drunk’ that I succeed in conveying the proposition that Pergola is drunk. As Bach is well aware, speakers do not take themselves to be uttering manifestly false or contextually irrelevant propositions in such contexts, but let's shelve that concern for the moment. A more pressing question is: how would Bach—or anyone appealing to the foregoing pragmatic defence of R1—respond to the case of attributive incompleteness? The existence of incomplete attributive descriptions shows that the advocate of R1 has bigger problems than simply providing a pragmatic explanation for referential incompleteness. For even if his strategy for accommodating such cases is accepted, it does not carry over to the attributive case.

¹⁴ Since the Identification Problem generalizes to all cases of quantifier incompleteness, it will be relevant to *any* quantificational account of descriptions, including the very interesting recent suggestions of Zoltan Szabó (2000, 2003). On Szabó's account, (1) has the following logical form: [some *x*: *Fx*] (*Gx*). On this view, the linguistic meaning of (1) might be represented in terms of the following meaning-rule:

(R4) Utter ‘the *F* is *G*’ only if you wish to say that [some *x*: *Fx*] (*Gx*).

Accordingly, the imagined utterance *u* of ‘The guy's drunk’ in Schiffer's original example should come out determinately true, as expected; moreover, its truth does not require contextual supplementation of any sort and is thus perfectly compatible with Identification Failure.

Whatever its other virtues, this fails to provide a general treatment of incomplete description sentences. While the imagined utterance of ‘The guy's drunk’ comes out true on R4, a trivial modification reveals it to be inadequate. Consider an extension of the example: we learn that Pergola is only *acting* as if he were intoxicated; he's been pretending all along (perhaps he's giving a paper on descriptions and wants to make a particularly forceful point). Unfortunately, if R4 is correct, the speaker does not have to withdraw her utterance—so long as some male, somewhere, is drunk.

Of course, the sophisticated R4 advocate will here invoke R4*:

(R4*). Utter ‘the *F* is *G*’ only if you wish to say, for some contextually relevant completing property *H*, that [some *x*: *Fx* ∧ *Hx*] (*Gx*).

This should make it easier to falsify utterances such as *u* and, among other things, give rational speakers reason to withdraw overhasty attributions of drunkenness. The problem is that R4* is vulnerable to the Identification Problem. To be viable, it must be supplemented with an account of how context can isolate a unique completion. But if such an account were available, then we wouldn't be in the market for an alternative meaning-rule; we would be happy with R2.

such as 'every F ' and 'more than two F s'. In the case of the latter, we would be far more likely to reassess the Identification Problem than somehow (absurdly) to reject the quantificational analysis of the expressions in question.

Fortunately for the advocate of a quantificational analysis of 'every F ', as well as for fans of Russell's theory of descriptions, it is, as we'll suggest, far from obvious that the Identification Problem is a problem.

We noted before that, for many philosophers, Identification Failure motivates the Identification Problem. Recall that Identification Failure consists in the fact that very often when a speaker utters 'the F is G ', where 'the F ' is incomplete, there is no proposition of the form '[the x : $Fx \wedge Hx$](Gx)' that the speaker means. This is particularly interesting in the case of referential uses of incomplete descriptions, such as Schiffer's Pergola example, since (typically) in such cases it is clear that the speaker determinately means (and can be recognized as meaning) a non-descriptive, object-dependent proposition.

It is doubtful, however, that Identification Failure, even in tandem with considerations concerning referential uses of descriptions, issues in the Identification Problem. Whereas Identification Failure only concerns what a speaker *means*, or more precisely *doesn't mean*, in uttering (1), the Identification Problem concerns what proposition such an utterance *expresses* (or *doesn't express*).

Presumably theorists who come to be worried about the Identification Problem on the basis of Identification Failure have something like the following argument in mind. (Assume that u^* is an utterance of 'The guy's drunk' by which the speaker succeeds in communicating a proposition.)¹⁵

- (a) If a speaker expresses a particular proposition p in uttering u^* , then the speaker means p in uttering u^* , where p is the proposition that [the x : x is male $\wedge Hx$] (x is drunk). (*Russellianism*)
- (b) The speaker does not mean any such proposition in uttering u^* . (*Identification Failure*)

(c) So, u^* does not express a proposition.

Impressed by this argument, and by the fact that, intuitively, (d) there is a proposition that u^* expresses, such theorists conclude that Russell's theory is incorrect. How should an advocate of Russell's theory

¹⁵ Whether u^* is attributive or referential is irrelevant to the argument.

respond? Since (a) merely restates the Russellian's view, (b) reports a datum, and (c) records a consequence of (a) and (b), the Russellian's only options are either to deny (d), or to be committed to the view that u^* is an act of indeterminate meaning.¹⁶ Between these options, we prefer the former, which we will call the 'No-Proposition-Expressed' response; we will return to the latter option in section 3.

The general idea behind the No-Proposition-Expressed response is that the sentence-type (1) has the linguistic meaning that the Russellian claims it to have (that is, R2) and that, consequently, in contexts where there are too many or too few candidate completions, no proposition will be expressed. An example due to Murali Ramachandran (1993) provides some support for this claim with respect to the latter case, where there are too few completions: We are in a room with dozens of tables, distributed randomly, each covered with books. S, making no effort to indicate a particular table, utters (2). Call this utterance t . t is manifestly unintelligible; S's intentions in uttering it cannot be divined. As Jonardon Ganeri (1995) points out, R2 provides a satisfying diagnosis: t is unintelligible because it requires S to make implicit reference to a completing property, and the context is incapable of providing even one such property.¹⁷ Thus, the imagined utterance fails to express a proposition.¹⁸ The advocate of the No-Proposition-Expressed response makes

¹⁶ There are a number of ways this suggestion might be developed into a response to the foregoing argument. For example, one possibility would be to adopt a supervaluationist semantics. On the application we have in mind, the Russellian would claim that the sentence ' $\exists p (u^* \text{ expresses } p)$ ' (that is, (d)) is true on all precisifications and is thus definitely, or determinately, true, despite the fact that no instance of its matrix ' $u^* \text{ expresses } p$ ' is true.

¹⁷ In contrast, Ramachandran claims that t is unintelligible because the context makes it impossible to determine what the speaker is attempting to refer to.

¹⁸ Similar reasoning dispenses with a worry presented in Szabó (2003), p. 279, based on the following example:

- (i) A man entered the room with five others. The man took off his hat and gave it to one of the others.

Szabó claims that on a Russellian account (i) is a contradiction, since the only available completions ('man who entered the room' or 'man who entered the room with five others') apply equally to the other four men. But if we assume, with Szabó, that the contextual information is limited to what is provided by the first sentence, it is not at all obvious that (i) can express a proposition, false or otherwise. If 'a man' is used attributively in (i), it becomes difficult to see how the utterance of (i) could be felicitous. (Note: if 'a man' is used referentially, then the speaker will mean an object-dependent proposition regardless of what the utterance expresses. To ensure that our intuitions about the utterance's felicity are not based on what the speaker means, it is important to consider only attributive cases.) This difficulty is highlighted if we consider (ii):

- (ii) Six men entered the room. The man took off his hat and gave it to one of the others.

As far as we can see, if (i) expresses a contradiction, (ii) must as well; but, as R2 predicts, (ii) isn't even intelligible.

the initially surprising claim that the same holds for cases where there are too many candidate completions, as in the Schiffer and Wettstein examples.

Of course, the advocate of this response must acknowledge that in the Schiffer and Wettstein examples it is not similarly obvious that no proposition is expressed, for in these cases, in contrast to the Ramachandran case, communication does occur; the speaker manages to get across what she 'has in mind'. It thus becomes incumbent on the advocate of the No-Proposition-Expressed response to explain how a proposition can be communicated by an utterance that expresses no proposition.

But there is precedent for such a claim. In fact, the textbook examples of conversational implicature do not involve the assumption that a proposition has been expressed. For example, when *S* utters 'Jones is a fine friend' in order to *implicate* that Jones is somewhat of a flake, his utterance does not express the proposition that Jones is a fine friend. For one thing, *S* in no sense *means* the proposition that Jones is a fine friend in uttering what he does. As Grice puts it, in such a case *S makes as if to say*—but in no sense *says*—that Jones is a fine friend (Grice 1989, p. 30).¹⁹ A speaker, in uttering *u*, can implicate—and consequently communicate—a proposition *p* without having said anything (equivalently, *u* can implicate a proposition *p* without its being the case that there is any proposition that *u* expresses).²⁰ Presumably this also happens with misdescription and similar cases—for example, even if Jones does not bear the name 'Smith' one might nonetheless succeed in com-

¹⁹ Other cases of implicature—for example, strengthening—clearly involve saying. In uttering 'some students passed' in order to implicate that some students failed I do not merely *make as if to say* that some students passed—I say it. Bach (2001), p. 17, claims, regarding the example in the text, that *S* does *say* that Jones is a fine friend, even if he doesn't mean what he says. Bach provides two reasons for this claim. First, the best way to characterize what happens when a speaker misspeaks—say, he uses 'I'm nauseous' to mean that he's nauseated—is that he *says* something unintentionally. Second, the best way to characterize what happens when a speaker recites a poem (or acts in a play, reads a script out loud, etc.) is that he *says* various things he doesn't mean. These considerations are at best equivocal. Consider the case of recitation. Even if Bach is right about some examples—that they sound felicitous—his point doesn't generalize. For example, if someone overhears you reciting lines from a play, without realizing that you're reading aloud, and asks whether you just said that such-and-such, you would very likely correct him in something like the following manner: 'Oh, I didn't *say* that; I'm just reading from a script.' But there is a more important issue to consider. Suppose Bach is correct about the felicity conditions of 'says that'—that, for example, it applies in cases of recitation. It's nonetheless doubtful to us that any theoretically useful notion of 'what is said' will be arrived at upon the basis of accommodating such uses. See also Carston (2002), p. 218, n. 49, for useful discussion.

²⁰ Of course, in Grice's case, there *is* a proposition that the speaker makes as if to say; this is not the case for the No-Proposition-Expressed response—there is no description-theoretic proposition that the speaker can even make as if to say, since there is no such proposition that the speaker can mean.

municating the proposition that Jones is a spy by uttering 'Smith is a spy'.

However, these considerations show only that the No-Proposition-Expressed response is a *possible* line of defence open to the Russellian; more needs to be said if it is to be made plausible. The Russellian who advocates this response incurs significant explanatory debts. Among other things, he owes his critics an explanation as to how speakers manage to communicate anything at all on the assumption that R2 is correct. In what follows we provide, on behalf of the Russellian, such an explanation. In section 3, we show that the No-Proposition-Expressed response is fully compatible with our intuitions regarding attributively-used incomplete descriptions. Section 4 examines the somewhat trickier case of referentially-used incomplete descriptions.

3.

Let's reconsider our earlier example involving an attributively-used incomplete description: S is in the lecture hall waiting for the appearance of an eccentric philosopher, someone who is rumoured to have solved the mind-body problem, is the author of *Smells and Ticks*, and so on. After a substantial period of time has passed, S impatiently utters, 'The guy's late.' (For convenience, call this utterance *g*.) In this case not only is it implausible to think that S means any particular description-theoretic proposition, it is equally implausible to think that S means any particular *non-description-theoretic, object-dependent* proposition (this contrasts with Schiffer's original Pergola example). Yet S presumably has some point in uttering what he does, and A presumably has no problem discerning his point. What, then, are S's communicative intentions in uttering *g*?

As a first step towards answering this question, it's instructive to consider how S might answer if one were to put the question to him.²¹ For example, if A were to ask S what he meant in uttering *g*, S might respond by saying, 'The guy *we're waiting for* is late'. While this is a perfectly fine response, S surely could have responded in any number of ways. For example, he might have responded, 'The guy *who wrote Smells and Ticks* is late' or 'The guy *reputed to have solved the mind-body problem* is late'. The fact that a number of responses are equally acceptable here indicates that no one response perfectly captures his intention, including: 'The guy who is *both* reputed to have solved the mind-body problem *and* to have authored *Smells and Ticks* is late'.

²¹ See Neale (2004); also Blackburn (1988).

Each completion presents a fallback proposition—something that *S* does not recognize himself as having intended, but which he would unhesitatingly offer, were he asked to be more explicit. That is, although there is in these cases no particular proposition, descriptive or otherwise, the speaker means, there are several that he *almost* means.

This phenomenon is not limited to definite descriptions, but arises in almost any use of a quantifier expression. An utterance of ‘Every beer is in the fridge’ in a normal context can be completed in numerous ways (for example, ‘Every beer *Mary brought home* is in the fridge’), yet no one completion will be singled out as the one the speaker intended to the exclusion of the others. The above considerations can be applied without modification to such examples.

As with our example *g*, the utterance of ‘Every beer is in the fridge’ is associated with numerous contextually relevant propositions the speaker, we might say, *nearly* meant. How best to characterize the relation that holds between the speaker and the candidate propositions is a matter of some delicacy.

The one suggestion in the literature that attempts such a characterization is originally due to Blackburn and was subsequently discussed by Schiffer. While we are sympathetic to their account—in particular, to Blackburn’s claim that ‘there is no single proposition [that *g*] expresses’ (p. 271)—we find that it mischaracterizes the phenomenon. According to Blackburn and Schiffer, in uttering *g*, *S* sort-of, or *indeterminately*, meant numerous contextually relevant propositions. On this suggestion, it is indeterminate whether *S* meant, for example, that the guy who wrote *Smells and Tickles* is late, or the guy reputed to have solved the mind–body problem is late, etc. (There are of course limits: it is not indeterminate whether he meant that the guy who wrote *Beowulf* is late.) Since it is indeterminate what *S* meant in uttering *g*, it would be false to say that there is some proposition *p* such that *g* expresses *p*.

But, as we have indicated, this mischaracterizes the situation: *S*’s utterance is not indeterminate. Take any proposition that it is reasonable to suppose that *S* could have meant in uttering *g*—for example, the proposition that the guy who wrote *Smells and Tickles* is late. We can say with confidence that *S* *definitely* did not mean this proposition. Even if *S*, in some sense, can be said to have ‘had in mind’ the proposition that the author of *Smells and Tickles* is late, Identification Failure shows that he can’t have *meant* such a proposition. It is a requirement for *S* to mean this proposition that he expect his audience to recognize him as intending to communicate just this proposi-

tion, which is precisely what Identification Failure tells us can't be done.²² Here, *S* clearly can have no such expectation: the context provides the audience with no reason to take *S* as having intended this particular proposition to the exclusion of the other possible candidates. Significantly, a similar line of reasoning will apply to any candidate proposition. This being the case, it is, at best, misleading to characterize *g* as an *indeterminate act of meaning*, since for no relevant proposition *p* is it indeterminate whether *S* meant *p* in uttering *g*.²³ Something is indeterminately *F* only if it is a borderline case of *F*-ness; but the cases we have been considering are not happily thought of as borderline cases of meaning. For example, *S*'s act of uttering *u** is in no sense a borderline case of meaning, say, that the author of *Smells and Tickles* is drunk—in fact, it is definitely the case that *S* did not mean this.

Thus, in uttering *g*, *S* didn't mean, indeterminately or otherwise, any description-theoretic proposition. Nevertheless, *S* would, if asked to be more explicit, offer any one of a number of such propositions. For example, though in uttering *g* *S* didn't mean that the author of *Smells and Tickles* is late, he would be happy if *A* would, on the basis of this utterance, come to entertain this proposition. *S* would, however, be equally happy if *A* were instead to entertain the proposition that the guy reputed to have solved the mind-body problem is late, or that the guy we are waiting for is late, and so on. In general, *S*'s communicative intentions, whatever they are, will be satisfied if *A* entertains any one of these propositions. To give this phenomenon a label, call such communicative intentions *sloppy meaning-intentions* (henceforth we will use *s-means* for 'sloppy means' and *s-intends* for 'sloppy intends').

²² This is not to deny that the notion of speaker meaning discussed by Grice, Schiffer and others is itself somewhat vague. We do not see, however, how that notion admits of useful precisification on which it would emerge that *S* did manage to *mean* one of the candidate propositions—at least if the concept of speaker meaning isn't to degenerate into the having of any pro-attitude whatsoever towards one's audience's entertaining the relevant candidate proposition (on the basis of one's utterance). If one were determined to pursue this line one would need to specify the relevant pro-attitude—a pro-attitude which is not itself a determinate instance of speaker-meaning, but nevertheless a near enough case of speaker-meaning to count as an indeterminate case thereof. We would encourage the proponent of this line of argument to hold that the relevant pro-attitude is what we call 's-meaning' (see below).

²³ The argument appeals to a simple equivalence (taking $R(S, p, u)$ to represent '*S* means *p* in uttering *u*')

$$\forall p \text{ Def } \neg R(S, p, u) \equiv \neg \exists p \text{ Indef } R(S, p, u)$$

To say that, for all *p*, it's definitely the case that *S* did not mean *p* in uttering *u* is just to say that, for no *p* is it indefinite whether *S* meant *p* in uttering *u* (we are here appealing to the definitional equivalence between *indefinitely p* and *not definitely not-p*). Since, for all relevant *p*, *S*'s utterance of *g* definitely did not mean *p*, we are consequently in a position to say that for no relevant *p* is it indefinite whether *S*'s utterance of *g* meant *p*. But this is just to say that *g* is not indeterminate.

We don't have a precise analysis of *s-means* and are no more optimistic that one is forthcoming here than in the case of *means*. Nonetheless, as with *means*, the intuitive idea can be made clear enough for our purposes.²⁴ On our broadly Gricean understanding of speaker meaning, *S* means *p* in uttering *u* only if *S* intends (among other things) for *u* to produce a certain response in *A*—typically, for *A* to entertain a particular proposition. The necessary conditions for *S* to *s-mean* *p* are much the same, only, well, sloppier: if *u* is an act of *s-meaning*, then *S* intends to induce any one of a number of responses in *A* without regard to which particular one of these responses is produced. In the cases that interest us, this will consist in *S*'s intending that *A* come to entertain any one of a given collection of propositions. For simplicity's sake, suppose that there are ten relevant description-theoretic propositions in the context of *S*'s utterance of *g*: p_1, \dots, p_{10} . In uttering *g*, *S* does not intend that *A* come to entertain p_1 , or that *A* come to entertain p_2, \dots etc.; nor does *S* intend that *A* come to entertain the disjunctive proposition that either p_1 or p_2 or Rather, *S* has the general intention that *either* *A* comes to entertain p_1 , or that *A* comes to entertain p_2, \dots , and so on. This is borne out by the fact that *S* is indifferent as to which precise completion *A* associates with his utterance, so long as it is one of p_1, \dots, p_1 . Given that *S*'s communicative intentions are sloppy in this way, to understand *g* *A* must either grasp the proposition p_1 or grasp the proposition p_2 , or The idea is illuminatingly glossed in terms borrowed from Mehler: if an utterance *u* is an act of *s-meaning*, then *u* 'can be understood in several ways without being misunderstood' (quoted in Williamson 1994, p. 145).²⁵

This latter idea can be usefully spelled out in terms of a proposal that has recently gained some popularity. Throughout the paper we have represented the linguistic meaning of a sentence in terms of meaning rules such as R2. An equivalent, but perhaps in this context more helpful, way of thinking of a sentence's linguistic meaning is as a *propositional template* or *blueprint* (Bach 2001, Neale 2004). On this understanding, the linguistic meaning of (1) is a template of the form:

(T) [the $x: Fx \wedge _x$] (Gx)

²⁴ Most speech acts are sloppy to a certain degree. In fact, the Gricean notion of meaning might be taken to be a limiting case of *s-meaning*.

²⁵ It bears pointing out that sloppiness comes in degrees. At one end of the spectrum is relatively well-behaved sloppiness, in which the context strictly determines a set of completions; at the other end of the spectrum context 'determines' an open-ended set of completions—a set whose identity conditions are indeterminate. The cases in the literature (e.g., those due to Wettstein and Schiffer) are cases of well-behaved sloppiness, cases where what counts as a completing proposition is more-or-less determinate.

As with our original meaning-rule R2, (T) is intended to capture the idea that a literal use of (1) can only mean propositions of a certain type—here, those propositions that can be ‘built from’ or that ‘fit’ the frame provided by (T). In these terms, we can gloss the foregoing story concerning attributive incompleteness quickly: *qua* competent speakers of English, S and A both, in some sense, know that (1) is associated with the template represented in (T). Hence, S can utter (1) on the expectation that A will, on the basis of S’s utterance, come to construct some relevant proposition by utilizing the template provided. For example, consider the case just described in which there are ten complete propositions, any one of which S would be happy for A to entertain. On the basis of (i) A’s knowledge of the meaning of the sentence S uses, and (ii) A’s knowledge of the relevant completing properties, A will have no problem ‘building’ one or more complete propositions to associate with S’s utterance.²⁶

In the simplest case of linguistic communication, the content of the attitude the speaker is attempting to convey to her audience is the proposition expressed by her utterance. As such, the speaker’s audience will count as having understood her utterance just in case he comes, on the basis of her utterance, to entertain the very proposition expressed. By our lights, the presumption that a quantificational account of descriptions must fit into this simple mould is precisely what gives rise to the intractable difficulty of picking out a single proposition as the proposition expressed. In the account just offered of the communicative exchange between S and A, *there is not and need not be any particular proposition p associated with S’s utterance u such that A must entertain the thought that p in order to understand u*. Rather, there is just the linguistic meaning of the sentence-type of which *u* is a token and mutual knowledge of the relevant contextual facts. And it is from these materi-

²⁶ If a semanticist is determined to associate some intensional entity or other with the utterance itself, in lieu of a proposition expressed, he should simply opt for the template provided by (T). (See the discussion of proposition radicals in Bach 2001.)

It’s nevertheless an interesting technical question, for one who adopts such a proposal, what the formal semantics, including a definition of truth, would look like for such constructions. Providing such a treatment would require ingenuity, but there is no reason in principle to doubt that it could be done. One suggestion is inspired by a theory of truth for utterances involving proper names on the assumption that a cluster-theoretic account of names is correct. On one way of understanding the cluster theory, an utterance of ‘N is G’ will be true iff there is exactly one thing satisfying most (or a weighted most) of the descriptive conditions a speaker associates with ‘N’ and any such thing is G. An analogous treatment of incomplete descriptions quantifies over propositions instead of descriptive conditions:

An utterance *u* of ‘the *F* is *G*’ (where the use of ‘the *F*’ is incomplete) will be true iff most (or a weighted most) of the propositions that S s-means in uttering *u* are true.

als alone that *A* can construct some proposition or other that *S* *s-means*.

If the foregoing considerations are on the right track, it might be thought that the following meaning-rule should be preferred over R2:

- (R5) Utter 'the *F* is *G*' only if you either mean or *s-mean* at least one proposition of the form [the *x*: $Fx \wedge Hx$] (*Gx*).²⁷

We are happy with this suggestion. For our purposes, however, there is in fact little difference between R5 and R2. On the one hand, R5 is more descriptively adequate, since, if we are correct, a speaker uttering (1) typically *s-means* a host of completing propositions, without actually *meaning* a particular one. Accordingly, if R5 were correct, a speaker uttering (1) with the relevant *s-meaning* intentions would be speaking literally—in the sense that his speech act would be in compliance with (1)'s linguistic meaning. (If R2 were correct, however, it would be at best indeterminate whether the speech act in question is literal.) On the other hand, it is not entirely implausible that speakers follow R5, in effect, by *attempting* to follow R2.

Russellians can disagree with one another as to which of these rules, R2 or R5, is correct; in what follows, we will stick with R2 for simplicity's sake. If either of these is correct, our general point holds: in the cases that currently concern us, involving attributive incompleteness, no particular proposition will be expressed on the grounds that no particular proposition is meant by the speaker.²⁸

²⁷ The following meaning-rule might at first blush look equally attractive:

- (R5*) Utter 'the *F* is *G*' only if either you mean a determinate proposition of the form [the *x*: $Fx \wedge Hx$] (*Gx*) or you mean an *indeterminate proposition* of the form [the *x*: $Fx \wedge H^*x$] (*Gx*);

(where '[the *x*: $Fx \wedge H^*x$] (*Gx*)' is true just in case, for each candidate completion $H_i x$, the proposition that [the *x*: $Fx \wedge H_i x$] (*Gx*) is true), false just in case, for each candidate completion $H_i x$, [the *x*: $Fx \wedge H_i x$] (*Gx*) is false), and neither true nor false otherwise. Note, however, that the notion of an indeterminate proposition makes significantly less sense here than in standard cases of vagueness, such as 'Jones is bald.' Many proponents of so-called Russellian propositions—propositions whose basic constituents are objects, properties, and relations—hold that 'bald' simply contributes a vague property to propositions expressed by utterances in which it occurs. An analogous story concerning the propositional contribution of 'the *F*' seems stretched at best (at least in those cases where the property expressed by '*F*' or the relevant completing properties are not themselves vague), see Ostertag (1998b), p. 22.

²⁸ It should be noted that meaning-rules are here to be taken solely as a heuristic device; no suggestion that such rules actually play a role in the psychology of ordinary speakers is intended.

4.

Recall Schiffer's Pergola example: *S* utters 'The guy's drunk,' meaning some Pergola-dependent proposition *d* to the effect that he, Pergola, is drunk. Here, as in the attributive case, it is plausible to suppose that *S* s-means numerous contextually complete description-theoretic propositions. Recall how Schiffer sets up the example:

Even before [*S*'s] utterance, it was mutually evident ... that [*S* and *A*] had knowledge of the professor under numerous shared definite descriptions—the author of *Smells and Ticks*, the only man within sight wearing a yellow jacket and red golf pants, the man we are waiting to hear, the man now staggering up to the podium, and the list, in any realistic situation, will go on and on ...

The No-Proposition-Expressed advocate will claim that in uttering 'The guy's drunk' there is no particular proposition expressed; rather *S* s-means that *the male author of Smells and Ticks is drunk, the only man within sight wearing a yellow jacket and red golf pants is drunk, the man we are waiting to hear is drunk, the man now staggering up to the podium is drunk*, and so on. But in contrast with the attributive case, the No-Proposition-Expressed advocate's work isn't thereby complete—he still owes an explanation of how it is that *S* can reasonably expect *A* to entertain *d*. On the assumption that *R2* is correct, *d* can't itself be expressed by *A*'s utterance, since *d* isn't consonant with the linguistic meaning of 'The guy's drunk'. How is it, then, that a speaker manages to convey *d* on the assumption that the utterance expresses no proposition?

To see how the No-Proposition-Expressed advocate should answer, let's first consider how Russellians have traditionally attempted to address the question. The answer assumes that 'The guy's drunk' expresses a particular proposition of the form 'The *H* guy's drunk', where *H* is a contextually definite completing property. Supposing that neither *S* nor *A* takes himself to be interested in whether being uniquely *H* and male is co-instantiated with drunkenness, this particular description-theoretic proposition is not relevant to the mutually-understood conversational interests of *S* and *A*. As such, *A* must reconsider why *S* uttered what he did: *S* has violated the maxim of relation, yet *S* has in no other way presented himself as being other than fully cooperative. Putting this together, *A* can reason that *S* must be intending for him to entertain a proposition contextually linked to the proposition expressed. The most obvious candidate here is *d*. After all, as Schiffer sets up the example, it's mutual knowledge that Pergola = the *H* guy. Barring reasons to think otherwise, *S* wouldn't have uttered what

he did unless he believed that Pergola is drunk. On this picture, *S*'s utterance implicates the Pergola-dependent proposition *d* in virtue of expressing a particular description-theoretic proposition. Call this account *the simple implicature account*.

While there is much more to be said here, we think that something along the lines of the simple implicature account is correct. What is obvious, however, is that the simple implicature account is unacceptable to the No-Proposition-Expressed advocate, since it assumes what Identification Failure denies—namely, that the utterance in question succeeds in expressing *any* description-theoretic proposition.

What we take to be the correct account involves a slight complication of the simple account just offered. The slightly more complicated story is that, in uttering 'The guy's drunk', *S* s-means a collection of description-theoretic propositions, each of which *A* might entertain on the basis of *S*'s utterance and *each of which* would, if asserted, suffice to implicate *d*.

To see how this works, let's consider a modification of the simple account sketched above. *S* utters 'The guy's drunk'; on our account he s-means a collection of completing propositions, each of the form 'the *H* guy's drunk,' where *H* is a contextually relevant completing property (for example, *the male author of Smells and Tickles is drunk*). *Qua* competent speaker, *A*'s reasoning can be captured as follows: if *S* means anything, he must have meant either that the H_1 guy is drunk or that the H_2 guy is drunk or But *S* has given *A* no indication that he prefers any one of these to the others. Supposing that neither *S* nor *A* takes himself to be interested in whether being uniquely H_1 and male is co-instantiated with drunkenness, or whether being uniquely H_2 and male is co-instantiated with drunkenness, or ... these particular description-theoretic proposition are not relevant to the mutually understood conversational interests of *S* and *A*. As such, *A* must reconsider why *S* uttered what he did: *S* has violated the maxim of relation, yet *S* has in no other way presented himself as being other than fully cooperative. Putting this together, *A* can reason that *S* must be intending for him to entertain a proposition contextually linked to each of the above propositions. Here again, the most obvious candidate is *d*.

As in the case of incomplete attributive descriptions, it is helpful to present the above derivation in terms of propositional templates. Pursuing this suggestion, we can represent the propositional template associated with 'The guy's drunk' as follows:

(T*) [the *x*: *x* is male \wedge $_x$] (*x* is drunk)

Qua competent speakers of English, S and A both, in some sense, know that T* is the linguistic meaning of 'The guy's drunk'. Hence, S can utter 'The guy's drunk' on the expectation that A will, on the basis of S's utterance, come to construct some relevant proposition from the template provided. For simplicity's sake, suppose that there are three complete propositions available at the context, any one of which S would be happy for A to entertain: *the male author of Smells and Tickles is drunk, the only man within sight wearing a yellow jacket and red golf pants is drunk, the man we are waiting to hear is drunk*. On the basis of (i) A's knowledge of the linguistic meaning of the sentence S used, and (ii) A's knowledge of the available completions, A will have no problem 'building' at least one such proposition to associate with S's utterance. But in this case, any proposition that he constructs will be irrelevant to the mutually understood conversational interests of S and A. (Neither S nor A is interested, for example, in whether or not the property of being the unique male author of *Smells and Tickles* is co-instantiated with drunkenness.) This allows A to conclude that S must be intending for him to entertain a proposition contextually linked to the proposition currently under construction, whichever of the candidate propositions this might be. Since it is mutual knowledge that Pergola = the male author of *Smells and Tickles*, that Pergola = the only man within sight wearing a yellow jacket and red golf pants, etc., the most obvious candidate is *d*. Barring reasons to think otherwise, then, S would not have uttered what he did unless he believed that Pergola is drunk.

As with the simple implicature account sketched above, there is quite a bit more that needs to be said. Among other things, the current account may raise concerns about psychological plausibility. As far as linguistic phenomenology goes, no hearer takes herself to be working out a speaker's intentions in the way just described. There are a number of responses to this worry. First, our account is only marginally more complex than the simple implicature account. And the simple account is typically not attacked for being psychologically implausible—presumably because it is most often understood to be a rational reconstruction of the reasoning that lies behind utterance interpretation. Further, even if it were intended as a psychologically real model of utterance interpretation, it is unclear whether ordinary speakers' phenomenological judgements would be of more than marginal relevance in evaluating the model. Cognitive science views the mind as replete with unconscious processes—processes of which thinkers are generally unaware. The Russellian is within her rights to claim that the beliefs and inferences appealed to in her account are similarly unconscious.

In any case, our concern is to provide a Russellian account of referentially-used incompleteness—to provide, that is, a procedure whereby a hearer can interpret the relevant utterance of ‘The guy’s drunk’ in a manner more or less consistent with Russellian principles and thereby divine the speaker’s primary intention to mean that Pergola’s drunk. If we assume that English is Russell-English—that is, if we assume that either R2 or R5 are correct—then something very much like the above proposal must be correct.

5. Conclusion

The answer to the question posed in the title should by now be obvious. The problem of incomplete descriptions is a consequence of an unnecessarily narrow conception of linguistic communication. In many, if not most, cases the assumption that in uttering ‘the *F* is *G*’ there is some *H* such that the speaker’s utterance expresses the proposition that something is both uniquely *F*-and-*H* and *G* fails on the grounds that there is no candidate proposition that can be singled out as *the* proposition the speaker intended to convey. That this is so is only problematic if we assume that, to be used in a successful communicative transaction, an utterance must express a unique proposition. But a revised conception of linguistic communication no longer forces us to make this assumption. On the revised conception, it is possible to hold that, in the cases in question, there is in fact no proposition expressed.

Is this response plausible? We suggested (in section 3) that holding R2 (or R5) in tandem with the No-Proposition-Expressed view is independently plausible in the case of incomplete attributive descriptions. (This suggestion, concerning the attributive case, should be adopted even by the ambiguity theorist.) What is more, on the basis of these materials, plus a slightly embellished story about implicature, a Russellian can provide an account of referential uses of incomplete descriptions along the lines sketched in section 4.

In light of this, we’re inclined to accept the stronger claim, namely: if a univocal semantic account of definite descriptions is available, a Russellian view, incorporating the No-Proposition-Expressed response, must be correct. The account of incomplete descriptions sketched here, based on considerations regarding attributive cases, offers genuine hope of predicting referential uses. There is, however, no hope (*pace* Searle 1979) of a univocal *referential* treatment—that is, of a treatment according to which descriptions are uniformly referential.

We feel that the Russellian can accommodate the incompleteness phenomena pointed out by Strawson, Wettstein, Schiffer, and others. But we acknowledge that accommodating the incompleteness phenomena falls short of *establishing* that Russellianism is correct. If one considers what could make it the case that a given sentence-type has the particular linguistic meaning that it does, it is clear that the Russellian has a fair amount of work yet to do. Presumably, a sentence-type ϕ comes to have the particular linguistic meaning it does because certain conventional regularities obtain, regularities involving speakers' use of ϕ to mean certain kinds of propositions. Following Devitt (1997, 2004), Neale (2004) and Marga Reimer (1998), it is plausible to maintain that there is a conventional regularity whereby a speaker uttering a sentence of the form 'The *F* is *G*' means an object-dependent proposition concerning a contextually salient *F*. If Devitt, Neale and Reimer are correct, then, even if, say, *R5*, is a meaning of (1), an ambiguity theory remains appealing.

The very real possibility of a convention of the above sort suggests that the Russellian account faces unresolved problems, not all of which fall within the scope of this paper. Our primary concern has been to show that the most common objection to Russell's theory is considerably weaker than is often thought—indeed, that it rests on a mistaken view of linguistic communication. Whatever problems the Russellian faces, the putative problem of incomplete descriptions is not among them.

In the course of discussing the issue of incomplete descriptions, and of quantifier incompleteness more generally, we offered a slightly more complex picture of communication than is commonly thought necessary, one that makes central appeal to a more liberal conception of a speaker's communicative intentions. While this conception needs to be spelled out in considerably more detail, it seems likely that, if the view is even roughly correct, then not only incompleteness, but a variety of related problems—including the proper treatment of non-sentential assertion,²⁹ antecedentless VP-ellipsis and NP-deletion,³⁰ and the meaning-intention problem as it arises in attitude reports³¹—are amenable to a similar treatment.³²

²⁹ See Stainton (1998), Clapp (2002).

³⁰ See sect. 2.1.3 of Elbourne (2005).

³¹ See Schiffer (1992).

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³² We would like to thank David Barnett, Paul Elbourne, Dana Evan, Kit Fine, Stephen Neale, Michael Nelson, Adam Pautz, Murali Ramachandran, Joshua Schechter and Stephen Schiffer for helpful comments on various earlier drafts. This paper was presented at Paul Elbourne's Semantics seminar at NYU in December 2004 and at the Russell vs. Meinong conference at McMaster University in May 2005; thanks to the participants on both occasions for their challenging comments. Thanks go as well to our fellow members of Philosophers Untitled—Kevan Edwards, Damon Horowitz, Angel Pinillos, and Stephen Neale—for their criticisms and suggestions. Finally, special thanks to Stephen Neale and Stephen Schiffer for their encouragement and support of our work.

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Remarks on Propositional Functions

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Peter Geach has said that Russell's use of 'propositional function' is 'hopelessly confused and inconsistent'. Geach is right, and attempts to say what exactly a Russellian propositional function is, or is supposed to be, are bound to end in frustration. Nevertheless, it may be worthwhile to pursue an account of propositional functions that accommodates a good deal of what Russell says about them and that can provide some of what he expected of them.

Peter Geach has said that Russell's use of 'propositional function' is 'hopelessly confused and inconsistent'.¹ Geach is right, I think, and hence I think that attempts to say what exactly a Russellian propositional function is, or is supposed to be, are bound to end in frustration. It may nevertheless be worthwhile to pursue an account of propositional functions that accommodates a good deal of what Russell says about them and that can provide some of what he expected of them. What follows is an effort in this direction.²

1.

I shall take propositional functions to be functions *in extension*, that is, in the case of singular propositional functions, if f and g have the same arguments and if, for every argument x , $f(x)=g(x)$ then $f=g$. This departs from Russell's official stance in *The Principles of Mathematics* (hereinafter referred to as *POM*), but it conforms to the treatment of relations in *Principia Mathematica*³ (hereinafter *PM*) and in any case contributes to clarity. Again contrary to *POM*, it will not be assumed that every object is an argument to every propositional function; but

¹ Geach (1972), p. 272.

² It is based primarily on some brief remarks Russell made in Appendix A of *The Principles of Mathematics* (Russell 1903) See pp. 509–10 of that volume (hereinafter referred to as *POM*). I noticed the passage many years ago, but did not then give it the serious attention I now think it deserves. My interest in it was revived by reading David Kaplan's 'Opacity' (in Hahn and Schilpp 1998), in which he says that a propositional function 'is nothing more than a function from propositions to individuals containing them' (p. 241).

³ Whitehead and Russell 1925–7. See, for example, vol. 1, p. 26.

then, contrary to *PM*, neither will it be assumed that no propositional function is thus universal.⁴

Provision must somehow be made for propositional functions that are binary, ternary, and so on. What is to be meant by saying that two such functions have the same arguments?

The point that must be accommodated concerns functions generally, and may be put this way. It will not do to say simply that binary functions, to take the easiest case, are those that take arguments 'two at a time', for not all binary functions are commutative. It typically matters in what order the arguments are 'taken'. So it is with propositional functions: $f(x,y)$ need not be identical with, or in any usual sense equivalent to, $f(y,x)$. Order of arguments must somehow be specified. Sometimes this is accomplished by relying on the alphabet. Perhaps a more common practice, and the one I shall follow here, is to observe the order of mention. Thus I shall speak of 'the value of the binary function f for the arguments x and y in that order'. And to reduce verbiage I shall abbreviate this expression by ' $f(x,y)$ '. (Similarly for functions of greater 'arity', though for present purposes it will be unnecessary to deal with them.) For binary functions f and g , then, extensionality comes to this:

if f and g have the same arguments and if for any such arguments x and y , $f(x,y) = g(x,y)$, then $f = g$.⁵

The values of a propositional function are of course propositions. But not every function that has only propositions as values is propositional. There is no propositional function that takes Socrates to the Pythagorean theorem, none that takes Plato to Goldbach's conjecture. To exclude these and countless other such unwanted cases, Russell suggested that the arguments to a propositional function must be constituents of their corresponding values.⁶ But this is not enough. According to Russell, wisdom is a constituent of the proposition that Socrates is wise, but that proposition is not a value of a propositional function to which wisdom is an argument. Russell suggests an additional requirement, namely, that the arguments to a function be not only constitu-

⁴ This last appears to conflict with Kaplan's requirement that the domain of a propositional function consist of 'individuals'.

⁵ It has become standard practice in foundational studies to 'identify' functions with certain ordered sets, and thus in effect to take all functions to be singular. This is economical and technically convenient, but it does not suit Russell's treatment of propositional functions, especially with his constant assumption that the arguments to a propositional function are constituents of their corresponding values. See *POM*, p. 510.

⁶ *POM*, p. 510.

ents but also *terms* of their corresponding values. Both Socrates and wisdom are constituents of *Socrates is wise*, but only Socrates is a term of that proposition. Similarly, Socrates and Theaetetus are terms of *Theaetetus is taller than Socrates*, but the relation *is taller than* is a constituent of the proposition which is not among its terms. How is the difference to be explained? In *POM* Russell offers two explanations. According to one, the terms of a proposition are those of its constituents that the proposition is *about*, and according to the other a term of a proposition is a constituent of it for which any object can be substituted *salve propositionalitate*.⁷ It is open to question whether either explanation can survive close examination, and little if any improvement is offered by the suggestion that the terms of a proposition are those of its constituents that can occur in propositions only as subjects. Perhaps the relevant sense of 'term' must simply be gathered from examples.⁸

It may be suggested that a definition of 'propositional function' should incorporate two further requirements that Russell and others constantly, but tacitly, observe in practice. The first is that propositional functions be in a certain sense *uniform*. It is taken for granted, without explicit mention, that there will be no propositional function that assigns to Socrates the proposition that Socrates is mortal and to Plato the proposition that Plato is the author of *Phaedo*, and no propositional function that assigns to 7 the proposition that 7 is prime and to 8 the proposition that 8 is the cube of 2. Thus it will be suggested as a general requirement that if x and y are arguments to a propositional function f , what is said of x in $f(x)$ should be the same as what is said of y in $f(y)$. And with appropriate adjustments, a similar requirement will be urged for functions of greater arity. The second is that every propositional function f be *maximal*, in the sense that if what is said of x in a proposition p is what is said of y in some value of f , then x is an argument to f for which $f(x) = p$. Similarly, again with necessary adjustments, for functions of greater arity.

However, there will be no occasion in what follows to invoke either requirement, and hence there is no need to make them part of the definition. But it does call attention to an interesting and difficult problem. Let h be the propositional function the value of which for x as argu-

⁷ Both explanations are given at *POM*, p. 45.

⁸ Kaplan's requirement that the arguments to a propositional function be 'individuals' would perhaps exclude the difficulty about wisdom. Whether it does will depend on just what objects are to be counted 'individuals'. Abstract objects generally, for example, numbers, novels, words? And if not, then just which ones?

ment is the proposition of which x is a term and in which it is said of x that it is wise. Thus $h(\text{Socrates})$ is the proposition of which Socrates is a term and in which it is said of him that he is wise, $h(\text{Plato})$ is the proposition of which Plato is a term and in which it is said of Plato that he is wise, and so on. Evidently what is said of Socrates in $h(\text{Socrates})$ is the same as what is said of Plato in $h(\text{Plato})$. But what is this? Well, it is 'that he is wise'. But what is *that*? A favourite answer is that it is a property, the property of being wise. And a similar answer is supposed to be available across the board: what is said of or about a thing is supposed always to be a property. But I think that cannot be right, for it is simply bad grammar to say that properties are *said of* anything at all. Of course, it is in order to say that properties are *attributed* to things, so perhaps we should say that the very same property that is attributed to Socrates in $h(\text{Socrates})$ is attributed to Plato in $h(\text{Plato})$. But it may be doubted that talk of property attribution will be everywhere thus applicable. For there is no such thing as the property of being non-self-attributable, and yet there certainly seems to be a propositional function in the values of which it is said of one or another argument that it is non-self-attributable.

Of course, properties fare no worse in this connection than other favourite candidates, such as words and phrases, and one is therefore led to suspect that there is some more fundamental difficulty. And indeed I think there is. What in a proposition is said of a thing may or may not be true of the thing. However, although it is true of Socrates that he is wise, which is what is said of him in $h(\text{Socrates})$, this does not mean that Socrates bears a certain relation to an object, *that he is wise*. There is no such object. But of course this creates a problem. How can it be true both that there is no 'thing' which is what is said of Socrates in $h(\text{Socrates})$ and yet that the same 'thing' can be said of Plato in $h(\text{Plato})$ or of Aristotle in $h(\text{Aristotle})$? How can it be true that *something* is said of Socrates in that proposition and that nevertheless there is nothing that *is* what is there said of him? In a similar predicament Frege said that 'here we are confronted by an awkwardness of language which ... cannot be avoided'. I have nothing better to say.

2.

To each open sentence there will correspond a propositional function which holds of precisely those things that satisfy the open sentence. This may suggest that a propositional function simply *is* an open sentence. Now Russell did sometimes say or imply that propositional func-

tions are expressions which result from substituting in a sentence variables for constants. And the identification is encouraged by the visual similarity between open sentences and his manner of designating propositional functions: ' \hat{x} is wise' is supposed to designate the propositional function in a value of which it is said of x that it is wise, and frequently the 'cap' over ' x ' is dropped. But the identification will not do, for an open sentence is not a function at all. I do not mean to deny that there are functions of the kind Geach calls 'linguistic',⁹ that is, functions the arguments and values of which are linguistic expressions—functions, for example, that take proper names or other singular terms to sentences that contain them. Thus there is a function the value of which for a singular term a as argument is the sentence consisting of a followed by the words 'is wise'. If q is that function, then in Quine's notation $q(a) = \lceil a \text{ is wise} \rceil$. The values of q are precisely the sentences that can be obtained by substituting one or another singular term for ' x ' in the open sentence ' x is wise'. But of course q itself is not that open sentence.

One hesitates to attribute to Russell such a gross mistake. But another, related to it but not quite so gross, does sometimes appear in his writings and in the writings of certain commentators. It may be illustrated by considering the function h . The mistake is that of taking the values of h to be the propositions that can be expressed by the sentences that result from substituting singular terms for ' x ' in ' x is wise'. Since the proposition expressed by 'Socrates is wise' is not identical with that expressed by 'The philosopher who drank hemlock is wise', it is concluded that h runs afoul of the law that if $x = y$, $f(x) = f(y)$. But the conclusion is unjustified. True, Socrates is identical with the philosopher who drank hemlock. But that is compatible with the identity of $h(\text{Socrates})$ with $h(\text{the philosopher who drank hemlock})$. What is shown is only that the proposition which is at once $h(\text{Socrates})$ and $h(\text{the philosopher who drank hemlock})$ is identical with at most one of *Socrates is wise* and *the philosopher who drank hemlock is wise*.

But then what *is* $h(\text{Socrates})$? According to POM it is *Socrates is wise*. If this answer seems obviously correct, it should not. The phrase 'the proposition that Socrates is wise' designates the proposition which is as a matter of fact expressed by the sentence 'Socrates is wise', and hence it *is* obvious, though not a necessary truth, that the proposition which 'Socrates is wise' expresses is the proposition that Socrates is wise.¹⁰ But

⁹ Anscombe and Geach (1961), p. 143.

¹⁰ Not a necessary truth because 'Socrates is wise' might have expressed some other proposition, or for that matter no proposition at all.

it is *not* obvious that that proposition is $h(\text{Socrates})$. For $h(\text{Socrates})$ is the value of h for Socrates as argument, and it is not obvious that that value is the proposition expressed by 'Socrates is wise'. Of course $h(\text{Socrates})$ is a proposition of which Socrates is a term and in which it is said of him that he is wise. But it does not follow that the sentence 'Socrates is wise' expresses such a proposition. There are in fact well-known views according to which 'Socrates is wise' does *not* express $h(\text{Socrates})$. As we shall see, Russell himself came to hold such a view.

In *POM*, however, Russell defends the view which there is some temptation to think is obviously correct, namely, that $h(\text{Socrates})$ is *Socrates is wise*. Socrates, the very man himself, is said to be its sole term, and in the sentence 'Socrates is wise' the name Socrates serves simply to stand for him. That name, like ordinary proper names generally, has *Bedeutung* ('indication', in Russell's translation) but not *Sinn* ('meaning', as Russell translates it). The proposition expressed by 'Socrates is wise' differs from propositions expressed by sentences in which a phrase denoting Socrates—say 'the philosopher who drank hemlock'—replaces 'Socrates'. In these latter propositions the position occupied by Socrates in $h(\text{Socrates})$ is occupied instead by the 'denoting concept' meant by the phrase. They are like $h(\text{Socrates})$ in being about Socrates and in saying of him that he is wise, but they do not have him as a term.

The example illustrates a general principle: as Russell was soon to put it, descriptions do not stand for constituents of the propositions expressed by sentences in which they occur. And in this respect they contrast with ordinary proper names.

Given only what he said in *POM*, it is not easy to tell why Russell there held this view. Why say, for instance, that Socrates is a constituent of *Socrates is wise* but not of *The philosopher who drank hemlock is wise*? Perhaps it needs no argument that the propositions are distinct. But from that alone one cannot tell which of the two Socrates is a constituent of, or indeed whether he is a constituent of either. However, an argument directed to a different example is given in 'On Meaning and Denotation'.¹¹ Concerning the sentences (to be thought of as assertively uttered in 1903) 'Arthur Balfour advocates retaliation' and 'The present Prime Minister of England advocates retaliation' Russell says that

[the first] expresses a thought which has for its object a complex containing as a constituent the man himself; no one who does not know what is the designation of the name 'Arthur Balfour' can understand what we *mean*: the ob-

¹¹ An unfinished essay apparently written in late 1903 (Russell 1994). Subsequent references to volumes of *Collected Papers* will be by 'CP' followed by the volume number.

ject of our thought cannot be communicated to him. But when we [utter the second] it is possible for a person to understand completely what we mean without his knowing that Mr. Arthur Balfour is Prime Minister, and indeed without his ever having heard of Mr. Arthur Balfour. On the other hand, if he does not know what England is, or what we mean by present, or what it is to be Prime Minister, he cannot understand what we mean. This shows that Mr. Arthur Balfour does not form part of our meaning, but that England and the present and being Prime Minister do form part of it.¹²

We are to understand that Balfour is a constituent of the proposition expressed by the first sentence but not of that expressed by the second. And the reason is that whereas one cannot grasp the former unless one knows who Balfour is, one can grasp the latter even though one hasn't the least idea who he is.

Although Balfour is not a constituent of the proposition expressed by 'The present Prime Minister of England advocates retaliation', that proposition is *about* Balfour.

For the proposition is certainly *about* the present Prime Minister of England; and the present Prime Minister of England *is* Mr. Arthur Balfour. The *is* here expresses absolute identity; and if *a* and *b* are identical, whatever holds of *a* holds of *b*.¹³

Russell draws a moral: 'The terms that a proposition is *about* are different ... from the constituents of the proposition, and the notion of *about* is different from that of constituent'.¹⁴ But he acknowledges that it has a strange consequence: 'we may know a proposition about a man without knowing that it is about him, and without even ever having heard of him'.¹⁵ Nevertheless, the consequence appears frequently in his later writings.

4.

Some time before 1911, the year in which he published 'Knowledge by Acquaintance and Knowledge by Description',¹⁶ Russell abandoned the doctrine that ordinary proper names have no semantic function except that of standing for objects (if any) they name. That does not imply that

¹² CP 4, p. 316.

¹³ CP 4, p. 317.

¹⁴ CP 4, p. 328.

¹⁵ CP 4, p. 317.

¹⁶ First published in *Proceedings of the Aristotelian Society*, 11. Reprinted in CP 6, pp. 148–61. Subsequent references are to the reprint.

he no longer took Socrates to be a term of $h(\text{Socrates})$, Aristotle to be a term of $h(\text{Aristotle})$, and so on. It does imply, to focus on just one case, that *Socrates is wise*, that is, the proposition expressed by 'Socrates is wise', is not $h(\text{Socrates})$. The ordinary proper name 'Socrates', Russell now says, is not a 'genuine' proper name but a 'truncated' definite description, say 'the philosopher who drank hemlock'. And of course Russell had long since decided that Socrates is not a constituent of *The philosopher who drank hemlock is wise*.

Ordinary proper names thus come to be likened to descriptions: they do not stand for constituents of the propositions expressed by sentences in which they occur. I think it is not easy to say exactly when the change of mind occurred. It is often said—indeed, it seems to be the accepted view—that the change is recorded in, or at any rate implied by what is said in, 'On Denoting', that that essay contains what is called the 'description theory' of ordinary proper names. But there is good reason to doubt this. Russell does there say that 'Apollo' is short for a description. But that hardly settles the matter, for he had said that about 'Apollo' and other 'imaginary proper names' before writing 'On Denoting' and there is in that essay no relevant mention of proper names that are not 'imaginary'. It is true that in 'On Denoting' Russell cites the Principle of Acquaintance as a 'consequence' of the theory of descriptions there set forth. And that principle is usually so understood as to imply that 'we' cannot apprehend $h(\text{Socrates})$ —though of course we can apprehend the proposition expressed by 'Socrates is wise'. But (a) the Principle is not a consequence of the Theory, (b) Russell apparently held it prior to the writing of 'On Denoting' and at a time when he held that ordinary proper names are (usually) genuine names,¹⁷ and (c) to take the Principle to imply that we cannot apprehend $h(\text{Socrates})$ is to read into it a doctrine about the limits of acquaintance that does not appear in 'On Denoting'. Substantially these same comments apply to the discussions of descriptions in *PM* and others of Russell's writings before 1911.¹⁸ We are told that such a proposition as *The philosopher who drank hemlock is wise* is not a value of the propositional function h , but nothing is explicitly said about how values of such functions are expressed.

The question is whether 'Socrates', for example, is a genuine name or, instead, short for a description. If the former, Socrates is a constituent

¹⁷ See *CP* 4, pp. 285 and 307.

¹⁸ Bear in mind that Vol. 1 of *PM* was published in 1910. See the discussion of descriptions in Ch. 3. See also Russell's own summary of his theory of descriptions in a letter of 1906 to P. F. B. Jourdain, in Grattan-Guinness (1977) p. 70.

of *Socrates is wise*, if the latter, he is not. He is in any case a constituent of $h(\text{Socrates})$, and so the question is whether *Socrates is wise* is $h(\text{Socrates})$. How does Russell decide the question? In the essay 'Knowledge by Acquaintance and Knowledge by Description' he attaches considerable importance to what has come to be called the Principle of Acquaintance:

Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.¹⁹

This principle undoubtedly plays some role in Russell's reasoning. But it cannot by itself be decisive. In no ordinary sense was Russell himself acquainted with Socrates, but in any ordinary sense he surely was acquainted with Balfour; yet both 'Socrates' and 'Balfour' are ordinary proper names and hence supposedly short for descriptions. What is the relevant meaning of 'acquaintance'? Anyhow, why should lack of acquaintance with a thing prevent us from grasping propositions of which it is a constituent?

From a logical point of view the second question is the more important. So let x be something with which it will be readily agreed we are not acquainted. How is it supposed to follow that we cannot grasp propositions of which x is a constituent? Well, to grasp such a proposition one must *think of x* . And if x is not an object of acquaintance, one cannot think of x 'neat'. Thus none of us, no matter how well-informed, can simply have Arthur Balfour, unadorned, 'before the mind': we must think of him *in a certain way*—as the Prime Minister of England in 1903, perhaps, or as the author of *The Foundations of Belief*, and so on. And the proposition which is the object of our thought must reflect the way in which we think of him. So if we do understand a sentence containing a proper name of Balfour, if we do grasp the proposition it expresses, it cannot express a proposition of which he is a constituent. 'Balfour' must be in effect a description, one that incorporates the way in which we think of Balfour.

I have switched from talking of some unspecified object x to talking of Balfour. But this was only for the sake of vividness. The chain of reasoning requires merely that x be something with which 'we' are not acquainted. Once this is recognized, the weak link is easily seen: it is the transition from *how* one thinks of Balfour to *what* one thinks in thus thinking of him. The transition can be seen in some things Moore said in commenting on an essay by Ramsey:

There are many different ways of judging that Caesar was murdered ...
There are, for instance, an immense number of different descriptions, by

¹⁹ CP 6, p. 154.

which we can think of Caesar: we can think of him as the author of the *De Bello Gallico*, as the original of a certain bust in the British Museum; as the brother of the Julia who was a grandmother of Augustus, etc. etc. And anybody who was judging, with regard to any such description, which does actually apply to Caesar, that the person who answered to it was murdered, would be *ipso facto* judging that Caesar was murdered. It is surely quite plain that, if Mr Ramsey were judging now that Caesar was murdered, he must be judging, with regard to some such description, that the person who answered to it was murdered²⁰

Perhaps one will be inclined to object that the proposition that Caesar was murdered neither implies nor is implied by such a proposition as that expressed by 'The author of *De Bello Gallico* was murdered' or that expressed by 'The brother of the Julia who was a grandmother of Augustus', and so on. But it is clear how Russell, and perhaps Moore, would respond: there simply is no such thing as *the* proposition that Caesar was murdered—no such thing, that is, as *the* proposition expressed by the sentence 'Caesar was murdered'. What proposition it expresses will vary with variations in how Caesar is thought of.

5.

Oysters are not objects of acquaintance.²¹ From that together with the Principle of Acquaintance it follows that we cannot grasp true propositions which are values of the propositional function the value of which for x as argument is the proposition of which x is a term and in which it is said of x that it is an oyster. For let o be that function. And suppose that x is an oyster and yet that we can grasp $o(x)$. Then x must be a constituent of $o(x)$, and so by the Principle of Acquaintance, we must be acquainted with it. But if it is an oyster, it is not an object of acquaintance.

Matters would be somewhat improved if oysters were competent speakers of English, at least according to what Russell says in 'Knowledge by Acquaintance and Knowledge by Description'. For then our oyster x could say 'I am an oyster' and thereby express $o(x)$. But the rest of us, including other oysters, would remain in a fix. We could *describe* x , as indeed we already have, and we could assert various propositions *about* it. But we would nonetheless be unable to express or assert $o(x)$

²⁰ Moore (1959), pp. 67–8.

²¹ I take that to be implied by Russell's doctrine that 'physical objects are not objects of acquaintance'. See CP 6, p. 161.

itself. Russell's idea was that x and x alone could be acquainted with x and consequently with propositions of which x is a constituent.

That idea had been somewhat tentatively adopted, however, and in 1913 it was discarded on the ground that no one is acquainted with himself.

Hume's inability to perceive himself was not peculiar, and I think most unprejudiced observers would agree with him. Even if by great exertion some rare person could catch a glimpse of himself, this would not suffice; for 'I' is a term which we all know how to use, and which must therefore have some easily accessible meaning. It follows that the word 'I', as commonly employed, must stand for a description; it cannot be a true proper name in the logical sense, since true proper names can only be conferred on objects with which we are acquainted.²²

Still, 'this' remains in the category of genuine names. Does it help? Russell says:

The word 'this' is always a proper name, in the sense that it applies directly to just one object, and does not in any way describe the object to which it applies. But on different occasions it applies to different objects.²³

If he means, as apparently he does, that it is always a 'true proper name in the logical sense', he is surely wrong, for it is often 'conferred on' objects with which we are not supposed to be acquainted. If I say, pointing, 'This is an oyster', the proposition I assert is false unless my 'this' denotes an oyster, and oysters are among the things said not to be objects of acquaintance. So Russell must say that in my utterance 'this' is short for a definite description. But substitution in 'This is an oyster' of a description for 'this' results either in a sentence that expresses a falsehood or in a sentence which expresses a proposition about a material thing. So far no help.

Descriptions sometimes have the form

the x that bears R to y ;

and on some occasions y is an object of acquaintance but x is not, and R is typically, but not invariably, some relation of causation: 'the cause of this (toothache) is a decayed tooth', 'the glasses distort the image'. So perhaps my 'this' is short for some such description, so that what I assert is, very roughly, that the material object which in the cause of 'this' is an oyster. Now this proposition *may* meet the requirements of the Principle of Acquaintance. It can at any rate be expressed in such a

²² 'Theory of Knowledge', *CP* 7, pp. 36–7.

²³ *CP* 7, p. 39.

way as to make plain that in it something is said of 'this', thus: this is caused by exactly one material object and that object is an oyster. But of course the reformulation also makes plain that *what* is said in the proposition of 'this' is *not* that it is an oyster. So 'this' provides no way out.

No one, not even Tony Blair himself, can grasp a proposition of which he is a constituent. This does not mean that there are no propositions of which he is a constituent. On the contrary, there are ever so many propositions of which he *is* a constituent. It is just that we can grasp none of them. And this is not a peculiarity of Blair. The rest of us are similarly situated. And so are the world's oysters. In fact, all but a few sorts of things are in a certain way hidden from us. Such knowledge as we have of them is 'knowledge by description'.

The table is 'the physical object which causes such-and-such sense-data'. This describes the table by means of the sense-data. In order to know anything at all about the table, we must know truths connecting it with things with which we have acquaintance: we must know that 'such-and-such sense-data are caused by a physical object'. There is no state of mind in which we are directly aware of the table ... and the actual thing which is the table is not, strictly speaking, known to us at all. We know a description, and we know that there is just one object to which this description applies, though the object itself is not directly known to us.²⁴

Pretty obviously, not far offstage is the view that persons, oysters, and tables are 'logical fictions', that they are not 'parts of the ultimate furniture of the world'.²⁵ Russell was to arrive at that view no more than two years later, through worries as to how the 'connecting truths' could be known.

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²⁴ Russell (1954), pp. 47–8.

²⁵ The phrases occur at various points in 'The Philosophy of Logical Atomism', CP 8. The first must be used cautiously. Russell sometimes equates it with 'incomplete symbol', which he usually takes to apply to any expression which does not stand for constituents of propositions expressed by sentences in which it occurs. But in that sense every description, according to Russell's theory, would denote a logical fiction, and his 'excursus into metaphysics', the final lecture of 'The Philosophy of Logical Atomism', would be made redundant.

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The Bike Puzzle

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Definite descriptions occurring within the scopes of psychological verbs provide more puzzles than are traditionally acknowledged. This article presents one puzzle that is particularly intriguing.

In one of her stories, Astrid Lindgren tells us about Lotta, who most of all wanted a bike for her fifth birthday. But she did not get one. Instead she got some lovely gifts: a red purse, a new swing, a picture book and more. And she really liked the gifts and took a walk down the street showing off the red purse. And at that point Astrid Lindgren tells us that:

- (1) Lotta was in a good mood, and did not think about the bike.

But when Lotta returned home she saw the old tricycle which she wanted so much to be replaced by a real bike. And then:

- (2) Lotta was reminded of the bike and got angry.

How shall we understand the definite description ‘the bike’ in these sentences? Some possibilities might spring to mind.

(I) ‘The bike’ is an ordinary unfinished description much like ‘the hamburger’ in the sentence uttered by a waiter: ‘The hamburger wants his soda’. But how might we finish the description? We might try ‘the bike Lotta did not get’, but that won’t do, for this description does not denote anything, for all the bikes in the world are bikes she did not get. Similarly ‘the red bike’ or ‘the bike that her father and mother might have bought her’ won’t do, for these also apply to too many bikes. And besides, none of those bikes are bikes that made Lotta angry when she saw the tricycle.

(II) ‘The bike’ is a referential description, much like ‘the table’ in ‘The table is covered with books’, where there are many tables, though only one is covered with books. This possibility won’t work since there is no particular bike for the description ‘the bike’ to refer to and, therefore, no way to complete the description so that it singles out a particular bike. It isn’t as if Lotta had seen a bike in the window of some shop

and was hoping to get that very bike. No, there was no particular bike that Lotta had seen and was longing for.

(III) 'The bike' refers by means of cross-reference to some previous nominal expression, much like the pronoun 'him' in the sentence 'If I hired a butler, I would have to pay him'. This sentence is true, we might say, since in the closest possible worlds where I hire some particular butler, I will have to pay him. But this won't work for 'the bike' since there is nothing singled out in the first place. In fact, for this strategy to work for 'the bike', the following would have to make sense: 'If I were *not* to hire a butler, I would not have to pay him'. But this sentence does not make much sense, for the indefinite description 'a butler' does not have a reference for 'him' to pick up.

(IV) 'The bike' is like 'Vulcan' (once thought to refer to a planet), a device of apparent reference to a non-existent entity. Reference for the name 'Vulcan' was postulated as an inference to the best explanation of some peculiarities in the orbit of Mercury. These peculiarities were then explained by the theory of relativity and people realized that the name 'Vulcan' never referred to anything. No comparable story can be told about 'the bike'. We don't presume reference for the description 'the bike' as a defeasible explanation of anything. Moreover, the supposed referent of the name 'Vulcan' depends on a definite description, or a cluster of descriptions, which are supposed to single out a determinate object. Those who used the name 'Vulcan', and believed that they were thereby referring to a planet, believed that the associated descriptions were either sufficient to determine an individual or could be completed so that they determined an individual. But again, nothing comparable can be said about 'the bike'. There is no description, or a cluster of descriptions, which is thought, however mistakenly, to single out a referent for 'the bike'.

(V) 'The bike' stands for an indefinite description, 'a bike', much like 'the car' in the sentence 'I saw the car that will take you across Canada'. The scenario might be something like this: Person A is going to drive across Canada and wants a decent car for the trip. Person B walks past a car dealership and sees a reasonably cheap car which might be suitable. B then says to A: 'I saw the car that will take you across Canada'. It is true that he has this single car in mind, which makes the definite article appropriate; but of course there are many cars that are equally suitable, which makes the definite article dispensable. In the sentence about the car, we can replace 'the car' with 'a car' without much change in meaning. But the same is not true of 'the bike'. It is of course true that there was *a bike* that Lotta was not thinking about when she went for the

walk with the red purse. But that is not at all relevant, there were very many bikes that she did not think of. Moreover, it was definitely not her being reminded of *a bike* that made her angry when she came back and saw the tricycle.

(VI) 'The bike' functions as a fictional name rather than as a definite description. This suggestion can take us into different alleys depending on one's theory of fictional names. Treating it on par with a name such as 'Vulcan' will not do for reasons explained under (IV). But could it rather be comparable to names such as 'Sherlock Holmes' or 'Winnie the Pooh'? In some respects these may seem comparable. We might find a semantic role for 'the bike' by supposing that Lotta had been telling herself a story where the main character receives a bike for her fifth birthday and where she is the main character. But there is an important difference between the two cases since in the counterfactual circumstances where Lotta gets a bike for her fifth birthday, the reference of the fictional description 'the bike' would be actual. But the same does *not* go for 'Sherlock Holmes'. In the counterfactual circumstances where someone happens to have all the characteristics attributed to Sherlock Holmes in Doyle's stories, the name 'Sherlock Holmes' does not refer to that person. The same goes for the name 'Winnie the Pooh'.

(VII) 'The bike' is a special kind of a fictional name. The expression is associated with something like a 'profile' in John Perry's sense, where a 'profile' is like a filing folder that contains information, in the typical case, on a real individual. Lotta is looking forward to getting a bike on her birthday and has, due to her expectations, begun a profile marked 'the bike'. She may have added all sorts of information to the profile: she will cycle in the street with Jonas and Mia Maria (her elder siblings), she will go really fast down the hill, and she will cycle without holding her hands like Jonas is not supposed to do. But when she comes home she is faced with the fact that there is no bike—the profile is empty. But this won't do. Such a profile could just as well be marked 'a bike', while the definite article is essential in Lotta's case. In ordinary cases it may not matter whether the association is between a profile and a definite or an indefinite description. The people in New Orleans may either have started a profile associated with the expression 'the hurricane' or 'a hurricane'. But we may assume that the actual circumstances meet us half-way and the general description 'a hurricane' refers, due to context, to just one hurricane which is, therefore, also *the* hurricane. But in Lotta's case the context cannot make the definite and the indefinite descriptions interchangeable in this way.

(VIII) ‘The bike’ is just an example of poor style here, and the scenario would have been better described by other and more careful choice of words. This response won’t do. The text reads perfectly well and Astrid Lindgren’s use of the definite description ‘the bike’ does not look strange to anyone but a philosopher who keeps thinking about Frege, Russell, Kripke, Lewis, Donnellan, Devitt, Neale, Recanati and others, even when he reads for his kids at bedtime. It is a perfectly fine use of language, even if it doesn’t fit any philosophical theory.

So, what shall we do about ‘the bike’ in sentences (1) and (2)? I don’t know.¹

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¹ I am grateful to Gabriel Uzquiano, Yoshiki Kobasigawa and Stephen Neale for comments on an earlier version of the paper.

Reading ‘On Denoting’ on its Centenary

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Part 1 sets out the logical/semantical background to ‘On Denoting’, including an exposition of Russell’s views in *Principles of Mathematics*, the role and justification of Frege’s notorious Axiom V, and speculation about how the search for a solution to the Contradiction might have motivated a new treatment of denoting. Part 2 consists primarily of an extended analysis of Russell’s views on knowledge by acquaintance and knowledge by description, in which I try to show that the discomfiture between Russell’s semantical and epistemological commitments begins as far back as 1903. I close with a non-Russellian critique of Russell’s views on how we are able to make use of linguistic representations in thought and with the suggestion that a theory of comprehension is needed to supplement semantic theory.

My project is primarily expository and context setting. I also want to correct a few misunderstandings that Russell or I or others may have had. Although I flag a few issues in my own voice, I am trying, on the whole, to present my discussion and analysis in a way that is recognizably Russellian. Part 1 sets out the logical/semantical background to ‘On Denoting’, including an exposition of Russell’s views in *Principles of Mathematics* and speculation about how the search for a solution to the contradiction Russell had discovered in Frege’s logic might have moti-

¹ This paper is drawn from the course on ‘On Denoting’ that I have taught at UCLA for more than thirty years. I thought this was a good opportunity to produce class notes. A few months ago, when I read Alasdair Urquhart’s surprising ‘Introduction’ to the invaluable, but very expensive, fourth volume of *The Collected Papers of Bertrand Russell* as well as Russell’s unpublished papers between *Principles of Mathematics* (1903) and ‘On Denoting’ (1905), I came to better understand that Russell’s attempts to avoid the contradiction he had found in Frege’s logic were related to his worries about denoting. Urquhart’s discoveries made some old views about the relation between Frege’s logic and type theory relevant to Russell’s project. My discussion in Part 1 mixes historical fact and speculation with logical fact and speculation. The unpublished papers before 1905 also throw light on Russell’s concerns about how we *understand* language. These concerns led to his distinction between knowledge by acquaintance and knowledge by description. My discussion of these issues, in Part 2, again mixes historical fact and speculation with, in this case, semantical and epistemological fact and speculation. I am not an historian, and though I have tried to read Russell carefully, I am pitifully ignorant of the secondary literature. Even regarding the primary sources, Russell wrote more from 1900–1925 than I could read with adequate care in my lifetime. So though I write assertively, I expect scholars to find faults. I welcome correction. This paper is dedicated to Volume 4 of *The Collected Papers of Bertrand Russell*. It has benefited from the comments of Joseph Almog, C. Anthony Anderson, Benjamin Caplan, John Carriero, Timothy Doyle, Ruth Marcus, Donald A. Martin, Youichi Matsusaka, and Stephen Neale. Anderson caught one of the embarrassing errors in time for me to fix it. Martin provided useful discussion of Axiom V.

vated a new treatment of denoting. I try to locate Russell's earlier views in relation to Frege's, and to frame the new treatment of denoting in opposition to these earlier views. In Part 2, I begin my examination of 'On Denoting' itself, the logical, semantical, and epistemological theses it proposes. I start with an analysis of Russell's use of 'denoting phrase' and follow with an extended discussion of Russell's views on knowledge by acquaintance and knowledge by description. I try to show that the discomfiture between Russell's semantical and epistemological commitments begins as far back as 1903. Part 2 completes my review of the first two paragraphs of 'On Denoting'. I hope to write a sequel.

Part 1: Background

1.1 *Principles of Mathematics*

1.1.1 *Language as a system of representation*

It is, or should be, generally accepted that 'On Denoting' (hereafter OD) is written in opposition to Russell's own views in the chapter entitled 'Denoting' in *Principles of Mathematics* (hereafter *PoM*). That chapter presupposes Russell's view that language is a system for representing things and arrangements of things in the world. The simple elements of language stand for things and properties, and linguistically complex expressions stand for complexes of those things and properties. Russell calls the kind of thing that a *sentence*, the most important linguistically complex expression, stands for (or *expresses*, or *means*) a *proposition*. Hence, the constituents of propositions are the very things that the propositions are *about*. For example, the sentence 'I met Bertie' expresses a proposition whose constituents are me, Bertie, and the relational property *meeting*. All three of these constituents are entities to be found in the empirical world, according to Russell.² A proposition (and any sentence that expresses it) is true if the way the things are arranged in the world 'corresponds' to the way the things are arranged in the proposition, in the case in question, if the relation of *meeting* actually held between me and Bertie.

Propositions have a *structure*, a kind of syntax of their own. Russell often talks as if this syntax mirrored the syntax of natural language. In OD he modifies that view, as we shall see. The propositions exhibit all the ways that the objects and properties of the world can be combined in accord with this propositional syntax. What propositions there are is

² Of course, if the sentence is about numbers or other non-worldly entities, the propositional constituents will not be worldly, but they will still be the things the proposition is about.

determined by what objects and properties there are in the world. What sentences there are is determined by a narrower range of facts, including, for example, which objects and properties are of interest to the creators of the language. Not every proposition need be expressed by a sentence in an actual language. For Russell, his contemporaries, and those that preceded them, it is the realm of propositions, existing independently of language, that form the subject matter of logic.³ One consequence of this propositions-before-language point of view is that the symbolism used in the language of logic must be developed with great care. Our ability to study the logical relations among propositions may be helped or hindered by how well the syntax of the language of logic articulates with the structure of the propositions that form its subject matter.⁴

The view that language is a system of representation for the things and states (and possible states) of the world seems natural and appealing, but it is not the only way to view language. Gottlob Frege, the great creator of modern symbolic logic and founder of Logicism, saw language as based on *thought*.⁵ On Frege's picture, language is an *externalization* of, and thus a system for representing, *thought*. Frege's meanings, unlike Russell's, are elements of cognition and complexes of such ele-

³ Others may have had a somewhat different conception of the nature of propositions, but the view that the objects of logical study are prior to language was very widespread.

⁴ Russell's conception seems to pose a challenge to the interpretation of modality in so far as it is considered possible for there seems to be things other than there are. This is because his propositional functions seem not to be intensional in their domain. It may be possible to repair this difficulty without either adding merely possible objects to the domains of propositional functions (which would have caused Russell to shudder) or replacing propositional functions with relations among properties (which would be unfaithful to the notion of a propositional function) by analyzing *his* notion of a function. Russell's scepticism about modality, expressed in his unpublished 1905 paper 'Necessity and Possibility' (which can be found in *The Collected Papers of Bertrand Russell, Volume 4* (hereafter *CP4*)) may have prevented him from ever confronting this challenge directly.

⁵ Logicism is the view that mathematical constants can be defined in pure logic, and that such definitions provide a reduction of all truths of mathematics to truths of pure logic. Historically, it seems to have been part of Russell's view that the truths of mathematics would be reduced truths of logic that would *provable* in a single all-encompassing systematization of logic. For example, on p. 4 of *PoM*, Russell describes 'the Kantian view, which asserted that mathematical reasoning is not strictly formal'. He then writes, with an excess of confidence, 'Thanks to the progress of symbolic logic, especially as treated by Professor Peano, this part of the Kantian philosophy is now capable of a final and irrevocable reputation. By the help of 10 principles of deduction and 10 other premises of the general logical nature (e.g. "implication is a relation"), all mathematics can be strictly and formerly deduced; and all the entities that occur in mathematics can be defined in terms of those that occur in the above 20 premises.' Frege is more cautious. Although he rails against loose standards of proof, he typically demands only the proof of the 'the fundamental propositions of arithmetic'. For example, in his *Grundlagen der Arithmetik*, he writes on page 4e, '... we are led to formulate the same demand as that which had arisen independently in the sphere of mathematics, namely that the fundamental propositions of arithmetic should be proved, if in any way possible, with the utmost rigor; for only if every gap in the chain of deductions is elimi-

ments.⁶ Like Russell's propositions, Frege's *thoughts* precede language. Frege claims that there is a repertoire of *thoughts* common to all mankind, and thus independent of the particulars of actual languages.

Frege used the word *Sinne* ('senses') for the cognitive elements and complexes that are represented by linguistic elements and complexes. Thus, for Frege, the *sense* of a linguistic expression is what the expression represents or means.⁷

Russell spoke of thought as something psychological, and stated that his interest was in the *object* of thought (now sometimes referred to as the *content* of a thought). Russell assumed, essentially without argument, that the kind of thing that served his semantic theory, i.e., his theory of meaning for language, was also the kind of thing that served as an object of thought. So Russell also referred to the objects of thought as *propositions*, and sometimes, perhaps to emphasize the fact that the constituents of propositions are the very objects that the propositions are about, as *objective propositions*. Propositions are thus a common element connecting linguistic representation with thought, and this provides a foundation for explaining our *understanding* of language. Although sentence meanings and objects of thought are the same *kind* in Russell, he was aware that it did not follow that any proposition that could be represented linguistically could be an object of thought.⁸

Frege does not distinguish thoughts from the objects or contents of thoughts, as Russell did. Frege's *thoughts* are also 'objective', but in a dif-

nated with the greatest care can we say with certainty upon what primitive truths the proof depends ...' In any case, we now know that not all truths of mathematics can be proved in a single all-encompassing mathematical system of the kind envisaged, so Russell's requirement is too strong and should be replaced by the requirement to reduce truths to truths and proofs to proofs.

⁶ I speak a bit loosely here. 'Complex' is Russell's word. It is not clear that Frege's meanings actually have constituents in Russell's sense. What seems common to the two views is that the meanings of complex expressions can be parsed into sub-meanings in a way roughly corresponding to the way in which the complex linguistic expressions can be parsed into sub-expressions, though the parsing of meanings might not exactly correspond to what a grammarian would tell us about the parsing of expressions. (Frege remarks that active and passive constructions may have the same meaning, and in 'Function and Concept' he claims that ' $(x)(x^2 - 4x = x(x - 4))$ ' has the same meaning as ' $\lambda x(x^2 - 4x) = \lambda x(x - 4)$ ' (where the λ notation is for the course-of-values of a function as discussed below). These examples suggest that Frege's parsings may not be unique, and thus that Frege's meanings may not have a constituent structure. This I owe to Terry Parsons.

⁷ The reader will have noted that my use of *italics* goes one better than Russell, mixing together in one notation, reference to expressions and to their meanings along with the traditional use for emphasis.

⁸ It also doesn't follow that any object of thought could be represented through language, but Russell doesn't seem to have been interested in this.

ferent sense. The same *thought* can be shared. So Frege's *thoughts* are not 'psychological' in the sense of being subjective and unshareable. But they are certainly not 'objective' in Russell's sense of having worldly objects as constituents. This seems to leave Frege's *thoughts* high and dry, divorced from reality (as thought can so easily be). So Frege postulates a second kind of representation whereby the elements and complexes of cognition represent worldly things. This second kind of representation, which he calls 'Bedeutung', is dependent on worldly facts; it is not determined by thought alone. The same elements of thought, in other circumstances, could represent different objects, and so the same thought could represent a different structure of worldly elements. For Frege, it is through this second kind of representation that thoughts, and ultimately sentences, come to be true and false.⁹

It is often said that the cognitions that Frege associates with a name are in fact definite description-like in structure.¹⁰ This would explain the relation of Bedeutung that holds between such a cognition and a worldly individual. But the explanation only works on the basis of a prior explanation of the Bedeutung relation that holds between the 'predicates' of the description-like cognition and (roughly) the classes of individuals to which they apply. This relation, which is left fairly mysterious, seems to be based on an implicit link (perhaps, identity)

⁹ Russell and Frege belonged to a mutual admiration society. There was, however, much miscommunication between them. It is my belief that a prime reason for this miscommunication was that neither ever quite understood or accepted that the other's treatment of language was so fundamentally different from his own. Russell says in *PoM* that Frege's semantical system is very much like his own. And he repeats this claim frequently. Neither ever seemed to fully grasp their fundamental divergence over whether language is a system for representing things and states of the world or things and states of the mind. This miscommunication was also engendered by the fact that they use the same language to mean very different things. In their correspondence, much of which is published, one sees them frequently talking past one another with Frege trying to lay out his conceptual apparatus in careful and precise detail, and Russell responding in terms of his own conceptual apparatus, but using pretty much the same language. The difference between Russell's propositions and Frege's thoughts lies at the heart of the difference between them. But these two notions seem to have been conflated, perhaps because *thoughts* are for Frege, just as *propositions* are for Russell, expressed by sentences and the objects of mental activity. It was also a very great misfortune that Frege had chosen to use the word 'Bedeutung' for a notion close to what Russell called *denotation*. Russell translated 'Bedeutung' in the customary way as *meaning*, which he contrasted with denotation. What Russell meant by the English word 'meaning' was much closer to what Frege meant by 'Sinn', which Frege contrasted with *Bedeutung*. They corresponded in German, and, as far as I can tell, the translation problem never quite sunk in. Russell must have been stupefied to see Frege write, as he did on December 28, 1902, 'You could not bring yourself to believe that the truth-value is the meaning of a proposition'. To which Russell responds on December 12, 1904, '[F]or me, the *meaning* of a proposition is not the true, but a certain complex which (in the given case) is true'. This disagreement is surely a problem engendered primarily by the translation of 'Bedeutung'. The correspondence is published in Frege's *Philosophical and Mathematical Correspondence*.

¹⁰ I'm not sure that this is invariably correct, but it is often said.

between the elements of cognition that are represented by words like 'red', 'hot', 'dog', and 'star', and the properties and relations that Russell considered worldly. We don't have presentations of the classes themselves, so it seems that we must rely on presentations of properties (which, given the actual facts, could determine the classes). The simplest hypothesis is that the cognitions in question *are* the properties and relations. An alternative hypothesis is that the cognitions in question come to be *of* (in a *third way* of representation) such properties and relations through presentations thereof. A difficulty with the first is that the cognitions themselves are supposed to be innate.¹¹ If Frege were to abandon the innateness claim, and accept Russell's view that we become acquainted with worldly property and relations through experience, he could bring properties and relations directly into the realm of thought. But he would then face the worry that the same property might be presented in ways that we fail to identify, for example, we may fail to recognize every presentation of the property of being a *dog* ('Dogs range in size and form from the diminutive Chihuahua to the monstrous Great Dane, and every size and shape imaginable in-between making the domestic dog, *Canis familiaris*, the most varied species on the face of the planet.'). and distinct properties, for example, the property of being a *planet* and the property of being a *star*, might be presented in ways that led us, mistakenly, to identify them. These errors could cause us to mistake one thought for another. This would be a serious difficulty for Frege's theory, since it was designed to *explain* errors of recognition from a standpoint that was free of them. We will return to worries about recognition.

If we put these concerns aside for now (a big IF), and suppose that the elements of cognition represented by words like 'red', 'hot', 'dog', and 'star' *are* Russellian properties (or if we close the gap between Fregean senses of these words and Russellian properties in some other way), Fregean thoughts become worldly and a subcategory of Russell's propositions. *Bedeutung* can then be thought of as playing two roles. First, it assigns to a Russellian property the function which assigns Truth to every individual that has the property and Falsehood to every individual that lacks it. This assignment is a factual, empirical matter, since the property alone does not determine the individuals of which it holds.¹² Second, *Bedeutung* calculates the values of all complexes, basi-

¹¹ This difficulty might be avoided by adopting a very strong form of rationalism, of the kind sometimes advocated by Chomsky.

¹² At least not on Russell's metaphysics of the time, which allowed individuals to be 'simples'. Even if individuals were bundles of properties, the property alone would not know which bundles existed.

cally by applying functions to arguments, including applying higher order functions to first order functions in ways that needn't concern us here. The calculational role is not empirical, because all the information required for the calculation is contained in the functions on which the calculation is performed. The result of this second role of *Bedeutung*, the calculational role, is that each definite description will calculate out to an individual, and each sentence will calculate out to truth value.¹³

Fregean thoughts are not, except in exotic cases, about their constituents, they are about the *Bedeutung* of their constituents. It is odd to say that a sentence is about its truth value, but natural to say that 'The author of *Waverley* wrote *Guy Mannering*' is about the author of *Waverley*, namely, Sir Walter Scott.

Returning now to Russell, we can see how his view of the representational role of language leads directly to the claim that sentences are about what their elements represent (think of 'I met Bertie') and propositions are about their own constituents. So Russell seems to have no need for additional theoretical resources to describe what a proposition is about. However, I see no reason why Russell could not introduce *Bedeutung* (in both of its roles) explicitly into his semantics. It must appear, at least implicitly, in any calculation of whether a proposition is true and of what a *denoting concept* (see below) denotes.

Like *Bedeutung*, truth is an *empirical* property of propositions. Now it is natural to try to stay away from the grossly empirical in a semantic theory. Our theory of language should capture features of syntax and semantics that explain the use of language by competent speakers. It needn't tell us which sentences are *true*. That's a job for the special sciences. On the other hand, although semantics need not tell us *which* sentences are true, it should explain what it *is* for a sentence to be true. And for this latter task, the *notion* of *Bedeutung* is useful. Perhaps we may conclude that semantics should tell us *which* proposition (or *thought*) a given sentence represents (perhaps in terms of *which* constituents the constituents of the sentence represent) and should explain what it is for a proposition (or thought) to be true (perhaps in terms of what it is for the constituents to have a particular *Bedeu-*

¹³ This is a description of Fregean semantics given from a Russellian perspective, one which, for example, takes the notion of worldly properties and relations for granted. If one could take for granted the first *Bedeutung* relation, the empirical one that holds between the senses of predicates like ' is red', ' is hot', ' is a dog', and ' is a star' and the functions which assigns 'Truth' to every individual that satisfies the predicate and 'Falsehood' to every individual that does not (the very relation that I called 'fairly mysterious' in the preceding paragraph), Fregean semantics might look much more uniform and elegant. However, there would still, I believe, be the two quite different roles for *Bedeutung* to play.

tung).¹⁴ Understanding what it is for a proposition (or thought) to be true is part of our understanding of what language can be used to do.

Although Russell presents his semantics as Bedeutung-free, the notion does rear its head in one quasi-epistemological corner of Russell's theory, *denoting*.

1.1.2 Denoting phrases in Principles of Mathematics

The 'Denoting' chapter (Ch.5) lays out an exception to the principle that propositions are about their constituents. In the case of certain complex linguistic phrases, in particular but not exclusively, those formed with the six determiners 'all', 'every', 'any', 'a', 'some', and 'the', the corresponding constituent of the proposition is itself to be a complex. But the proposition is not about this complex; it is instead about what the complex *denotes*, an object that is usually *not* a constituent of the proposition, and often not even known to the speaker. I have given one example, here is another: The proposition expressed by 'George IV embarrassed the author of *Waverley*' may be about George IV, *embarrassing*, the novel *Waverley*, and *authorship*, but it is also about Sir Walter Scott, who *is* the author of *Waverley* and the man whom George IV is said to have embarrassed. Scott does not appear to be a constituent of the proposition, and the reporter may not even have known that the man George IV embarrassed was Scott, still the proposition is, in part, about Scott.

Linguists call these phrases *determiner phrases* because of their syntactical structure; they are constructed from *determiners*. Russell called them *denoting phrases* because of their semantical property; they are phrases that denote.¹⁵ Russell called the complexes they express *denoting complexes* or sometimes *denoting concepts* because they are complexes (or concepts) that denote.¹⁶ 'Denoting complex' better conveys what Russell had in mind, but in *PoM* he uniformly used 'denoting concept', so we will follow him in that usage; it is a distinction without a difference. A proposition containing a denoting concept is not about

¹⁴ How our semantics tells us which constituent of a Russellian proposition a name represents is a delicate matter. We don't want our semantics to resolve the truth of all identities between names. Russell's own solution, which uses definite descriptions and mixes semantics and epistemology is not ultimately satisfactory.

¹⁵ 'It is plain, to begin with, that a phrase containing one of the above six words always denotes.' *PoM* sect. 58.

¹⁶ In OD, by which time their existence had become dubious, Russell uses *denoting complexes*. Calling them 'concepts' was not, for Russell, a covert way of making them more mentalistic. 'Concept' was used more in the sense of a *classifier*. In *PoM*, all properties and relations are regarded as *concepts* (though not, of course, as *denoting concepts*). Frege also used 'concept' (*Begriff*) in a classificatory, completely non-mentalistic way.

the concept but about what the denoting concept denotes. As Russell might have put it, George IV didn't embarrass a *denoting concept*, how would he do *that*; he embarrassed the denotation of the denoting concept, namely, Scott. Though both the linguistic phrase and the concept it expresses are said to denote (and though they presumably denote the same thing), in this chapter of *PoM* Russell seems to focus primarily on the denoting of the propositional constituent, the denoting concept, though it is hard to tell because of Russell's characteristic indifference to the distinction between linguistic expressions and what they express.¹⁷

[T]he fact that description is possible—that we are able, by the employment of concepts, to designate a thing which is not a concept—is due to a logical relation between some concepts and some terms [for Russell, 'term' is probably best read as *individual* or possibly *entity*],¹⁸ in virtue of which such concepts inherently and logically *denote* such terms [individuals]. It is this sense of denoting which is here in question. ... A concept *denotes* when, if it occurs in a proposition, the proposition is not *about* the concept, but about a term [individual] connected in a certain peculiar way with the concept. If I say "I met a man," the proposition is not about [the denoting concept] *a man*: this is a concept which does not walk the streets, but lives in the shadowy limbo of the logic-books. What I met was a thing, not a concept, an actual man with a tailor and a bank-account or a public-house and a drunken wife. ... If we wish to speak of the concept, we have to indicate the fact by italics or inverted commas.^{19, 20, 21}

Denoting concepts are anomalies, exceptions to the rule and difficult to explain. Yet Russell attached great importance to their role and to the *denoting* relation.

¹⁷ In OD, when denoting concepts have been banished, he returns to denoting *phrases*, and provides an exceedingly 'thin' sense of denoting that applies only to proper definite descriptions (namely, those that succeed in describing exactly one thing).

¹⁸ In *PoM* section 47, Russell writes, 'Whatever may be an object of thought, or may occur in any true or false proposition, or can be counted as *one*, I call a *term*. This, then, is the widest word in the philosophical vocabulary. I shall use as synonymous with it the words unit, individual, and entity.' In later developments, he gives slightly conflicting explanations (as readers of Russell would expect).

¹⁹ *PoM* sect. 56. Here, as in all subsequent quotations, bracketed insertions are my comments.

²⁰ In British English, 'inverted commas' is simply synonymous with what Americans call 'quotation marks'. I have seen reprints of OD in which American editors seem to have struggled to find a special notation for *inverted commas*, especially within the notorious Gray's Elegy passage. In the original, Russell invariably uses double quotation marks except for quotation marks within quotation marks.

²¹ Russell here leaves the false impression that the concept *a man* denotes the actual man he met. As we shall see, he explicitly rejects this view. His stereotyping of social classes may also leave a false impression of his views. I am less certain of this.

This notion [*denoting*] lies at the bottom (I think) of all theories of substance, of the subject–predicate logic, and of the opposition between things and ideas, discursive thought and immediate perception. These various developments, in the main, appear to me mistaken, while the fundamental fact itself, out of which they have grown, is hardly ever discussed in its logical purity.²²

Given all this to *denoting*'s credit, it seems like a lot to sweep away; yet the purpose of OD is, I believe, to sweep away *denoting*. But first, let us look at what progress Russell felt he had made in *PoM* in the analysis of the denoting of his six kinds of denoting phrases. He carefully studied denoting phrases that used 'all', 'every', 'any', 'a', and 'some', distinguishing subtle differences in shades of meaning.^{23, 24} He then sets out an apparatus to account for denoting by introducing a new kind of object, conjunctions and disjunctions of individuals (he calls them *combinations of terms*), which will serve as the denotation of certain denoting phrases.

The combination of concepts as such to form new concepts, of greater complexity than their constituents, is a subject upon which writers on logic have said many things. But the combination of terms [individuals] as such, to form what by analogy may be called complex terms [complex individuals], is a subject upon which logicians, old and new, give us only the scantiest discussion. Nevertheless, the subject is of vital importance to the philosophy of mathematics, since the nature both of number and of the variable turns upon just this point.²⁵

He first explains his idea in terms, not of determiner phrases, but sentences with complex grammatical subjects like 'Brown and Jones are courting Miss Smith' and 'Miss Smith will marry Brown or Jones'. He claims that in such contexts, the complex expressions 'Brown and Jones' and 'Brown or Jones' each denote a certain 'combination' of the individuals Brown and Jones: in the first case, a kind of conjunction of them, and in the second case, a kind of disjunction of them. Of the

²² *PoM* sect. 56.

²³ Interestingly, 'the', which is to figure so centrally in OD is given relatively short shrift in *PoM* (it is discussed in connection with definitions and identity sentences). It is the white sheep of the story; the problem of how to deal with improper definite descriptions (those that do not describe exactly one thing) is not even mentioned.

²⁴ In some cases, Russell seems to be attempting, in his analysis of the denotation of a denoting phrase, to accomplish what in OD he (and modern logicians) would accomplish through the notion of scope. For example, he argues that 'a point' (as contrasted with 'some point') denotes a *variable* disjunction of points because, '... a point lies between any point and any other point; but it would not be true of any one particular point that it lay between any point and any other point, since there would be many pairs of points between which it did not lie.' [*PoM* sect. 60.]

²⁵ *PoM* sect. 58.

proposition expressed by 'Brown and Jones are courting Miss Smith', presumably a proposition containing the denoting concept expressed by 'Brown and Jones', he says,

... the proposition is equivalent to, though not (I think) identical with, "Brown is paying court to Miss Smith and Jones is paying court to Miss Smith." ... We may call [the kind of conjunction of the individuals Brown and Jones indicated by the "and" in the example sentence] a *propositional* conjunction, since the proposition in which it occurs is equivalent to a conjunction of propositions.²⁶

Of the proposition expressed by 'Miss Smith will marry Brown or Jones', presumably a proposition containing the denoting concept expressed by 'Brown or Jones', he says,

[The kind of disjunction of the individuals Brown and Jones indicated here] is what I shall call the *constant* disjunction, since here either Brown is denoted, or Jones is denoted, but the alternative is undecided. That is to say, our proposition is now equivalent to a disjunction of propositions namely "Miss Smith will marry Brown, or she will marry Jones." She will marry *some* one of the two, and the disjunction denotes a particular one of them though it may denote either particular one.²⁷

One might have hoped that Russell would call this the *propositional disjunction* (rather than the *constant disjunction*), thus keeping the notation uniform with his notion of a *propositional conjunction*. However, when at his most creative (which seems to have been most of the time) Russell was free and easy with notational variance. In both examples, there is the view that the propositions expressed by the sentences containing the denoting phrases are distinct from (though equivalent to) the conjunction or disjunction of propositions. This view lies at the heart of the *PoM* theory of denoting. The reversal of this thesis, with the attendant abandonment of *denoting concepts*, lies at the heart of OD.

Russell's *combinations of terms* are much more extensive than that outlined above. They include plurals and, as noted, reflect his attempts to use the nature of the objects denoted to account for what he would later regard as scope phenomena. He was, of course, aware that he was venturing into dubious territory. When he says that denoting concepts all 'denote objects other than themselves', he footnotes the word 'objects' as follows,

I shall use the word *object* in a wider sense than *term*, to cover both singular and plural, and also cases of ambiguity, such as "a man." The fact

²⁶ *PoM* sect. 59.

²⁷ *PoM* sect. 59.

that a word can be framed with a wider meaning than *term* raises grave logical problems.^{28, 29}

When he concludes that the five determiner phrases (excluding definite descriptions) 'all men', 'every man', 'any man', 'a man', and 'some man' denote distinct objects, he worries about the objects his theory postulates.

It appears from the above discussion that, whether there are different ways of denoting or not, the objects denoted by *all men*, *every man*, etc. are certainly distinct. It seems therefore legitimate to say that the whole difference lies in the objects, and that denoting itself is the same in all cases. There are, however, many difficult problems connected with the subject, especially as regards the nature of the objects denoted. ... Consider again the proposition "I met a man." It is quite certain, and is implied by this proposition, that what I met was an unambiguous perfectly definite man: in the technical language which is here adopted, the proposition is expressed by "I met some man." But the actual man whom I met forms no part of the proposition in question, and is not specially denoted by *some man*. Thus the concrete event which happened is not asserted in the proposition. What is asserted is merely that some one, of a class of concrete events took place. The whole human race is involved in my assertion: if any man who ever existed or will exist had not existed or been going to exist, the purport of my proposition would have been different. Or, to put the same point in more intensional language, if I substitute for *man* any of the other class-concepts applicable to the individual whom I had the honour to meet [for example, *student*], my proposition is changed, although the individual in question is just as much denoted as before [i.e. there is just as much reason to think that the actual man is denoted]. What this proves is, that *some man* must not be regarded as actually denoting Smith and actually denoting Brown, and so on: the whole procession of human beings throughout the ages is always relevant to every proposition in which *some man* occurs, and what is denoted is essentially not each separate man, but a kind of combination of all men [presumably, the 'constant disjunction' of all men discussed above].^{30, 31}

²⁸ *PoM* sect. 58.

²⁹ This is one of my favourite places where Russell carefully notes what may be an insuperable difficulty, and then continues to move ahead. Russell took an admirably experimental attitude toward philosophical theories.

³⁰ *PoM* sect. 62.

³¹ I don't see how changing the proposition by replacing the denoting concept *some man* by *some student* (assuming the man also to be a student) helps to show that the denoting concepts don't denote the actual man. Changing the man himself would show it, if we added the tacit assumption that *some man* has the same denotation in each of its uses.

Russell concludes this discussion with a rather sceptical reflection.

There is, then, a definite something, different in each of the five cases, which must, in a sense, be an object, but is characterized as a set of terms [individuals] combined in a certain way, which something is denoted by *all men, every man, any man, a man or some man*; and it is with this very paradoxical object that propositions are concerned in which the corresponding concept is used as denoting. [Underlining added.]³²

The tentativeness of Russell's views about denoting and the theory of propositional functions and variables that he built upon them are quite explicit. In the chapter on propositional functions, he writes,

The subject is full of difficulties, and the doctrines I intend to advocate are put forward with very little confidence in their truth.³³

In the chapter on the variable, he writes,

Thus in addition to propositional functions, the notions of *any* and of denoting are presupposed in the notion of the variable. This theory, which, I admit, is full of difficulties, is the least objectionable that I have been able to imagine.³⁴

Worries about what he usually called 'the Contradiction' hover in the background of *PoM*, and are sometimes addressed directly.³⁵ But they are not the main object of the book.

The present work has two main objects. One of these, the proof that all pure mathematics deals exclusively with concepts definable in terms of a very small number of fundamental logical concepts, and that all its propositions are deducible from a very small number of fundamental logical principles, is undertaken in Parts II.–VII. of this Volume, and will be established by strict symbolic reasoning in Volume II. ... The other object of this work, which occupies Part I., is the explanation of the fundamental concepts which mathematics accepts as indefinable. This is a purely philosophical task, and I cannot flatter myself that I have done more than indicate a vast field of inquiry, and give a sample of the methods by which the inquiry may be conducted.³⁶

³² *PoM* sect. 62. When talking about propositions, Russell seemed to use 'is concerned with' and 'about' synonymously. There is a rather clear example at the end of his 'Descriptions' chapter in *Introduction to Mathematical Philosophy*, hereafter *IMP*.

³³ *PoM* sect. 80.

³⁴ *PoM* sect. 86.

³⁵ In the Preface to *PoM*, Russell writes, 'In the case of classes, I must confess, I have failed to conceive any concept fulfilling the conditions requisite for the notion *class*. And the contradiction discussed in chapter ten [titled 'The Contradiction'] proves that something is amiss, but what this is I have hitherto failed to discover.' In Appendix B, which adumbrates the theory of types, he writes on the last page of the book of 'a closely analogous contradiction [concerning the totality of all propositions] which is probably not solvable by this doctrine.'

³⁶ *PoM* Preface to the first edition.

There can be no doubt that ‘On Denoting’ is a direct attack on the *denoting concepts* of Chapter V of *PoM* and on the ‘very paradoxical objects’ they were said to denote. It is the central tenet of OD that denoting phrases ‘have no meaning in isolation’, which is the OD way of saying that there is no propositional constituent corresponding to a denoting phrase (at least none that corresponds in the way that propositional constituents correspond to names, nouns, and adjectives). Here is the very different view of OD:

Everything, nothing, and something, are not assumed to have any meaning in isolation, but a meaning is assigned to *every* proposition [sentence] in which they occur. This is the principle of the theory of denoting I [now] wish to advocate: that denoting phrases never have any meaning in themselves, but that every proposition in whose verbal expression they occur has a meaning. The difficulties concerning denoting are, I believe, all the result of a wrong analysis [such as that given in Chapter V of *PoM*] of propositions whose verbal expressions contain denoting phrases.^{37, 38}

1.1.3 Why did Russell abandon denoting concepts?

I had always assumed that the reason for Russell’s change of heart regarding denoting concepts was the difficulty of making the *PoM* theory work, especially for such denoting concepts as *some man*, whose denotation was to be one of those very paradoxical objects, the disjunction of all the men.³⁹ The alternative was Frege’s elegant theory of quantifier phrases—essentially Russell’s *everything*, *something*, and *nothing*—as higher order functions on first order functions from individuals to truth values.⁴⁰ Frege treats scope as scope. Russell reports that Frege’s theory was not known to him when he was writing *PoM*.

Professor Frege’s work, which largely anticipates my own, was for the most part unknown to me when the printing of the present work began; I had seen his *Grundgesetze der Arithmetik*, but, owing to the great difficulty of his symbolism, I had failed to grasp its importance or to understand its contents.

³⁷ OD p. 480.

³⁸ Since for Russell, the proposition expressed *is* the meaning of a sentence, the second clause of the principle might be rephrased tautologically as ‘every meaningful sentence in which a denoting phrase occurs has a meaning’. Russell’s regular use of ‘proposition’ for both *sentence* and *meaning of a sentence* requires vigilance, but only rarely leads him astray.

³⁹ I am not suggesting that it *could* not be made to work. Quite the contrary, I think it, or something approximating it, *could* be made to work. For an example, see Parsons (1988). Even the accounting for scope in terms of the object denoted might be made to work, provided we can account for the object denoted in terms of the scope of the denoting phrase, as Russell sometimes seems to do.

⁴⁰ Almost, but not quite, Russellian *propositional* functions.

The only method, at so late a stage, of doing justice to his work, was to devote an Appendix to it ... If I had become acquainted sooner with the work of Professor Frege, I should have owed a great deal to him, but as it is I arrived independently at many results which he had already established.⁴¹

Russell had already been careening toward Frege's understanding of quantification in his *PoM* treatment of what he called *formal implication* in the language of logic and mathematics; for this he offered a semantic theory in terms of variables and propositional functions. However, in accordance with the theory of denoting in Chapter V, he argued that the formal implication 'if x is a man then x is mortal' (understood as saying that the corresponding propositional function is true for all values of the variable) expressed a proposition that was distinct from, though equivalent to, that expressed by 'every man is mortal'.

... consider the proposition [sentence] "any a is a b ." This is to be interpreted as meaning [i.e. translated into the language of logic and mathematics as] " x is an a implies x is a b ." [This is Russell's standard formulation of the formal implication, understood as holding for all values of the variable " x ".] It is plain that, to begin with, the two propositions [sentences] do not *mean* the same thing: for *any a* is a [denoting] concept denoting only a 's, whereas in the formal implication x need not be an a . But we might, in Mathematics, dispense altogether with "any a is a b ," and content ourselves with the formal implication: this is, in fact, symbolically the best course.⁴²

In sum, the view of *PoM* seems to be that there are two languages, the natural language, which contains denoting phrases, and the much more constrained language of logic and mathematics, which contains open formulas and formal quantifiers. The semantic theory for the former would involve *denoting concepts*; but the semantic theory for the latter can make do with more limited means, perhaps just *propositional functions* and their properties. Many sentences in the denoting phrase language can be 'translated' into sentences of the formal quantifier language. The propositions expressed by such a sentence and its translation will be logically equivalent, but distinct. The grammar of natural language sentences was taken as a guide to the structure of the propositions expressed.

⁴¹ *PoM* Preface to the first edition. Notice the graciously confident counterfactual in the final sentence.

⁴² *PoM* sect. 89. I realize that 'every man is mortal' isn't quite of the form 'any a is a b '. Russell's obsession with the determiner 'any' is a story I do not fully grasp and have no desire to tell.

On the whole, grammar seems to me to bring us much nearer to a correct logic than the current opinions of philosophers; and in what follows, grammar, though not our master, will yet be taken as our guide.⁴³

I had assumed that the abandonment of denoting concepts in OD reflected the fact that when Russell became better acquainted with Frege's theory, he threw in the towel on denoting concepts, and simply used his own variant of Frege's superior theory of quantification.⁴⁴ In OD his semantics can be read as if he had tacitly translated the denoting phrase language into the language of logic and mathematics, and then given his semantical analysis for the sentences in *that* language. What Russell claimed to be 'symbolically the best course' for the language of logic and mathematics (by which I assume he meant *the best symbolism* for logic and mathematics) is seen in OD as the best *understanding* of the denoting phrase language. This has the consequence that where in *PoM* we had equivalent but distinct propositions, we now have a single proposition. Translating a sentence of the denoting phrase language into a sentence of the language of logic is no longer seen as yielding a distinct (but equivalent) proposition, but rather as revealing the pre-existing, but hidden, logical form of the denoting phrase sentence.

One of the consequences of the shift is that the burden of establishing the equivalence of the *sentences* of the two languages moves from the science of logic to the art of translation (or *symbolization* as it is now called). This is the affliction that Russell bequeathed to our logic students.

One thing puzzled me. The one denoting phrase whose denotation did *not* seem to require the postulation of a very paradoxical object is the definite description, given short shrift by Russell in *PoM* (though made central by Frege).⁴⁵ So why devote 80% of OD to redoing the theory of definite descriptions?⁴⁶ The worries about very paradoxical objects in Russell's *PoM* theory of denoting may be good reason to

⁴³ *PoM* sect. 46.

⁴⁴ Russell's variant involves *propositional functions* rather than Frege's *truth valued* functions.

⁴⁵ As noted, Russell did not so much as mention the possibility of a definite description being improper in *PoM*, whereas for Frege, the definite description, with its two kinds of 'meaning', became the paradigm of a meaningful expression.

⁴⁶ Russell does argue in OD that Frege's sense and denotation theory of descriptions fails to give truth values to certain sentences that should, intuitively, have them. But these arguments seem more of a justificatory afterthought than the real motivation for his drive to rid logic of such expressions. This part of Frege's theory first appears explicitly in 'Über Sinn und Bedeutung'; hereafter S&B. The main ideas are anticipated at the end of section 8 of Frege's *Begriffsschrift* (1879). Frege's article is translated and reprinted almost everywhere that OD appears. Beware versions of S&B in which the title is translated as 'Sense and Meaning', lest you fall into Russell's misunderstandings of Frege.

favour Frege's treatment of the *quantifier* determiner phrases 'all men', 'every man', 'any man', 'a man', and 'some man', but *those* reasons did not seem to argue for a similar recasting of the semantics of definite descriptions. Indeed, Frege showed the way by *not* treating them similarly, and Russell knew it.⁴⁷ Furthermore, it couldn't be, as Strawson (1950) would insist, that Russell was motivated by a concern to find a treatment of definite descriptions that ensured that sentences containing improper descriptions remained meaningful. Russell's treatment of definite descriptions in *PoM* *already* gave meaning, even a *meaning in isolation*, to all definite descriptions, proper as well as improper. So I concluded that when Russell started 'eliminating' denoting phrases (by implicitly translating into the language of logic), he just got carried away.

I was wrong.

1.2 The Contradiction

1.2.1 Urquhart's Discovery

In his illuminating 'Introduction' to Russell's papers in logic during the period 1903 to 1905,⁴⁸ Alasdair Urquhart uses Russell's correspondence during the period between *PoM* and OD to demonstrate that the goal of the development of the theory of descriptions in OD was to find a way around 'the Contradiction.' As Urquhart writes,

Most of the very voluminous secondary literature on Russell's Theory of Descriptions discusses it in isolation from its setting in the enterprise of the logical derivation of mathematics; the resulting separation of the logical and mathematical aspects of denoting is foreign to Russell's own approach.⁴⁹

It is a simple historical fact that Russell's work on denoting was done *in the course of* his attempts to solve the contradiction. But we now know that Russell himself saw his work on denoting as *in aid of* that project.

Here is an eye-opening passage from an April 14, 1904 unpublished letter unearthed by Urquhart:

Alfred [North Whitehead] and I had a happy hour yesterday, when we thought the present King of France had solved the Contradiction; but it turned out finally that the royal intellect was not quite up to that standard.⁵⁰

⁴⁷ See the discussion of Frege in OD on p. 483.

⁴⁸ 'Introduction' to *CP4*; hereafter 'Introduction.'

⁴⁹ 'Introduction' p. xxxii.

⁵⁰ From a letter to Alys Pearsall Smith, Russell's then wife, quoted in 'Introduction' p. xxxiii.

This unmistakably connects the problem of how to treat improper definite descriptions with the Contradiction.

In a previously published retrospective letter of March 15 1906, Russell wrote,

In April 1904 I began working at the Contradiction again, and continued at it, with few intermissions, till January 1905. I was throughout much occupied by the question of Denoting, which I thought was probably relevant, as it proved to be. ... The first thing I discovered in 1904 was that the variable denoting function is to be deduced from the variable propositional function, and is not to be taken as an indefinable. I tried to do without \imath as an indefinable, but failed; my success later, in the article 'On Denoting', was the source of all my subsequent progress.⁵¹

What Russell 'discovered' seems to be that first, a singular denoting phrase like 'x's father', which Russell may have thought of as standing for a function from individuals to individuals (a *denoting function*), can be put into a standard form by introducing the formula ' y fathered x ',⁵² which may be thought of as standing for a *propositional* function, and then using the iota operator, which picks out the unique argument to the propositional function that yields a true proposition. This allows us to form a definite description that can replace the original denoting phrase. So the singular term 'x's father' can be put into the standard form of a definite description, 'the y such that y fathered x '. This does not rid us of singular denoting phrases, but at least we have put them all in one form.

Perhaps it was this consolidation and focus on uniqueness that brought Russell to the critical insight for the second step, which we may put as follows: that definite descriptions are nothing more than indefinite descriptions with uniqueness added. Thus, the definite descriptions 'the y such that y fathered x ' can be transformed into the indefinite description 'a y such that (y fathered x and only y fathered x)'. Russell was already translating sentences containing indefinite descriptions into a formalism using existential quantification. So the so-called *contextual elimination* of definite descriptions can be seen as reducing to two steps, first the replacement of the definite description by an indefinite description with uniqueness added, and second, the contextual elimination of sentences containing the indefinite descriptions in favour of what amounted to existential generalizations. The second step

⁵¹ Russell always insisted on writing this in biblical form as ' y begat x '.

⁵² From a letter to Philip Jourdain, quoted in 'Introduction' p. xxxiii. But note that 'all my subsequent progress' here refers to only a nine month period.

is something Russell took for granted when working in the language of logic.^{53, 54}

In this way, all singular denoting phrases, i.e., complex singular expressions, are ultimately eliminated from the language.⁵⁵ The interesting question at this point is why did Russell think this a worthy goal, and why did he think it a help in resolving, or avoiding, the Contradiction? Most authors think that it was the theory of types that avoided the Contradiction and that the elimination of singular denoting phrases was irrelevant.

It may be that part of the importance that Russell attached to his theory of descriptions was really due to the liberating effect of what he called his *principle of denoting*: that although denoting phrases have no meaning in isolation, we can systematically explain the meaning of every sentence in which they occur. Russell came to call expressions to which this principle applies 'incomplete symbols'.⁵⁶ A significant use of this idea occurs in *PM* where the expression for the *extension of a propositional function* is treated as an incomplete symbol.⁵⁷ However, the treatment of *extensions of propositional functions* is fundamentally different from that of definite descriptions. Whereas the theory of descriptions analyzes the use of definite descriptions in terms of whether or

⁵³ This is not the way Russell usually puts it, though he comes close to this formulation in the first paragraph of his discussion of 'the' in OD. This very clever idea may suffice for Russell's purposes, to found mathematics on logic, but probably does not work in general, for example in the case of 'Some Greeks worshipped the sun-god'. (This case is drawn from an example of Alonzo Church's and from Russell's analysis of 'Apollo' as abbreviating a definite description.) Note that the problem does not lie in the treatment of definite descriptions as indefinite descriptions with uniqueness added (which does seem to work), but rather in the second step, the treatment of indefinite descriptions as interpretable by existential generalizations.

⁵⁴ Urquhart reports in his 'Introduction' that 'Peano had already suggested the device of contextual definition in a monograph on mathematical logic read by Russell'. Although Peano's operator selects the unique element of a class rather than the unique thing satisfying a description, the connection with Russell's contextual definition of definite descriptions is obvious.

⁵⁵ I recognize that I am speaking somewhat loosely about contextual eliminations. But the amount of apparatus required to be precise, especially about scope in natural language, is more than the purposes of this article can carry. Russell's efforts in this direction amount to his saying: 'I use " $C(x)$ " to mean a proposition in which x is a constituent' and then telling us in a footnote that ' $C(x)$ ' really means a propositional function. It seems that ' C ' is for *context*, but the switch between linguistic context, when he writes things like ' $C(\text{no men})$ ', and the propositional function expressed by ' $C(x)$ ', when he writes things like ' $C(x)$ is always true', beclouds his exposition.

⁵⁶ See Ch. 3, 'Incomplete Symbols', of the Introduction to *Principia Mathematica*; hereafter *PM*.

⁵⁷ Propositional functions are *intensional* in exactly the following sense: two propositional functions may assign true propositions to the same individuals while remaining distinct. The *extensions* of such propositional functions should be such that if distinct propositional functions assign true propositions to the same individuals the extensions of the two functions will be identical. A natural way to think of the extension of a propositional function F is as a function that assigns to

not there exists a unique individual so described, *PM* analyzes sentences containing expressions for the extension of a propositional function in a way that makes it *irrelevant* whether or not there exist such things. The *PM* theory is a theory of *virtual* extensions; we have the singular denoting *phrases* that purport to denote such things, but the talk of such things is explained away as talk of other kinds of things, so intuitively, they *never* denote.⁵⁸ Thus the treatment of extensions in *PM* is not based on the treatment of definite descriptions, that is, it does not 'reduce' such expressions to definite descriptions. The treatment of extensions is based rather on the principle that if an explanation can be given for every sentential context in which a given expression appears, no further assignment of meaning to the expression itself is required.^{59, 60} One way of assigning meaning to every sentential context is to start by assigning a meaning to the given expression, but Russell's development of his theory of descriptions showed him that there were other ways.

I think it not unlikely that it is the liberating effect of his *principle of denoting*—the opportunity to sweep away troublesome entities in favour of the *virtual*—that Russell had in mind in attributing 'all my subsequent progress' on the Contradiction to his theory of descriptions. But I do not think the *PM* treatment of extensions of propositional functions is important from a logical point of view,⁶¹ so I

each individual x the truth value of the proposition $F(x)$. Instead of truth values, any fixed pair of a true and false proposition would suffice. The extension of a propositional function can also be thought of as the characteristic function of a class (the class of individuals to which the extension of the function assigns Truth (or the fixed true proposition). Russell seems to have thought of extensions of propositional functions this way, calling them 'classes'. It is thus, in replacing extensions of propositional functions with virtual extensions, that Russell's 'No Class' theory comes about.

⁵⁸ I say 'intuitively' because we don't have a precise definition of *denoting* in the case of extensions in *PM* like the one Russell gives us in OD for definite descriptions. Note that the definition in OD does correspond to the intuitive notion.

⁵⁹ This method promised to be much more useful than I think it has turned out to be in the hands of those philosophers who have used it. It is a natural treatment for only a few singular expressions, such as 'the average sophomore' in 'The average sophomore enrolls in 4.2 classes and completes 3.8 of them'. One may hesitate to use Russell's theory of descriptions in such a case since it requires the hypostatization of an abstract sophomore. It seems more natural to understand all contexts of 'the average sophomore' in terms of statistical claims about the actual sophomores. However, in my view, it is usually better to hypostatize, perhaps even in a case like this, and certainly in the treatment of extensions of propositional functions.

⁶⁰ Gödel (1944) expresses doubt that Russell *has* given a meaning to all such sentential contexts because the syntax of *PM* is so ill-explained that it is impossible to tell what all the sentential contexts *are*.

⁶¹ It may have been historically important to philosophers who sought to ape its method.

continue to look for more interesting ways in which the theory of descriptions might have been seen as relevant to the Contradiction.

In the following I will show how the problem regarding the Contradiction in Frege's *Grundgesetze* first appears as a problem about *denoting*. This would make it natural for Russell to think that a new theory of denoting could be helpful in clarifying that part of the problem.

It takes some time to tell the story, but it is an interesting and important story, worth the telling in its own right. However, much of it is tangential to OD. So the impatient reader can take my word for it, and jump directly to Part 2 on page 968.

1.2.2 The incompleteness of linguistic expressions and functions

The language of mathematics is largely a language of operation symbols (i.e. functional expressions, like '+' and '÷') rather than predicates, and Frege's logic was well-suited to it.⁶² The language freely allowed functions from entities of every kind to objects. Among the primitive signs of the language is an operator which, when applied to a functional expression, yields the name of the course-of-values of that function.⁶³

In Frege's metaphysics there is a fundamental divide between functions (which are incomplete or *unsaturated* things) and objects (which are complete or *saturated* things). The distinction seems to derive from Frege's syntactic view that a sentence like 'Dion walks' should be parsed into components of which one contains the gap resulting from the *literal* removal of the other from the whole. Thus the parts may be 'Dion' and '_ walks' (or perhaps 'walks' and 'Dion _'). In the case of true functional expressions, for example ' $(2 + 3x^2)x$ ' Frege was especially concerned to isolate the function name from the argument expression.

The essence of the function manifests itself ... in the connection it establishes between the numbers whose signs we put for " x " and the numbers that then appear as denotations of our expression ... Accordingly the essence of the *function* lies in that part of the expression which is over and above the " x ". The expression for a *function* is *in need of completion, unsaturated*.⁶⁴

⁶² I refer here to the ill-fated system of *Grundgesetze*. The introductory sections, plus the Appendix to Volume II in which Frege discusses the Contradiction, are translated by Montgomery Furth as *The Basic Laws of Arithmetic*; hereafter *Basic Laws*. All translations are taken from *Basic Laws*.

⁶³ *Course-of-values* is Furth's translation in *Basic Laws* of Frege's 'Werthverlauf'. It is unrelated to so-called course-of-values induction. Frege's term is also often translated as 'value range' or 'range-of-values'. When the function is a concept (i.e. a function to the two truth values) it is also referred to as the 'extension of a concept'; Frege talks this way, but it is dangerous talk.

⁶⁴ Section 1 of *Grundgesetze*, emphasis in the original.

We see the characteristic Fregean elegance in this coordination of linguistic incompleteness with the incompleteness of a semantically associated entity.

But is Frege's argument for linguistic incompleteness plausible? He seems to be proposing a syntactic theory according to which compounds are built from 'incomplete' expressions. However, syntactic theory doesn't work like that. The syntactic operations (functions) that yield compounds from components needn't do so by filling gaps. Furthermore not every literal removal of a part yields a function that is implicit in the parsing. So for example, in 'Bertie met the father of Charles IV' the function 'Bertie met the father of _' does not represent a stage in the parsing of the former. Perhaps the syntactic functions that yield compound expressions when applied to their parts are unsaturated (though I see no reason why they need be), but there is certainly no need for incomplete *expressions*. Basically, *nothing* (that is, no well-formed part of language) remains when we remove 'Charles IV' from 'Bertie met the father of Charles IV', nothing more than what remains when we remove the 'cat' from 'cattle' (to cite a well-known example of Quine's). We can, of course, make substitutions on component expressions at any level, but it isn't a matter of gap filling. When we substitute 'bad' for 'good' in 'Bertie made the best choice' we get 'Bertie made the worst choice'. Where's the gap? Frege's incomplete expressions, formed by extraction, seem to be of his own creation. There *are* ways of building well formed expression that mimic Frege's operation. We build the 'complete' expression by using a variable, and then adding an operator. Instead of the incomplete '((2+3_)_)', we construct ' $\lambda x ((2+3x^2)x)$ '. As we shall see shortly, Frege is aware of such operations, but the ideology of incomplete expressions yielding incomplete entities and complete expressions yielding complete entities is unshakeable. So Frege cannot allow our gapless ' $\lambda x ((2+3x^2)x)$ ' to stand for a function.

There is also in Frege's syntactical discussions, and that of his commentators, more than a whiff of the problem of forming unities from pluralities, how do we obtain a single entity, a sentence, say, from a plurality of words? What makes the string of words a *sentence* rather than just a list of words, as they would be (in English), if written vertically rather than horizontally? Is it the yearning of the incomplete predicate that is the glue that holds the parts together to form a single sentence?⁶⁵ And is it the yearning of the function itself that allows the function to

⁶⁵ On unsaturatedness as glue, 'For not all the parts of a thought can be complete; at least one must be "unsaturated," or predicative; otherwise they would not hold together.' From 'On Concept and Object' p. 54 in *Translations from Frege*.

metabolize its argument and form a value (rather than having the argument just sit there, like a lump, inside the function). In reply, I would say that we need to think in terms of an algebra of expressions, not the literal pushing together of tokens. (How close together must the words get to form a sentence? A millimetre? An inch? A foot? A yard?) Although linguistic compounds often display their parts (for better readability), they don't always, as for example in 'better', which has 'good' as a part. The claim that every language must contain a notation for application of function to argument (or some other syncategorematic expression that includes a notion for application of function to argument) derives from this point of view. But every logician familiar with Polish notation knows this to be false. (Note that juxtaposition is not a symbol.)

In sum, (1) we don't need incomplete expressions to account for the unity of compound expressions, (2) we don't need incomplete expressions to account for the syntactical structure of compound expressions, (3) even if we counted the formation of compound expressions as gap filling, we would still not need (or want) *arbitrary* incomplete expressions formed by literally extracting any part from a compound expression (because not every extraction corresponds to a parsing), and (4) to form an expression for a function from an expression for one of the values of the function, we proceed not by way of extraction but by way of addition (of variables and an operator).

Hence, there is no foundation for the theory of unsaturated functions in a syntactical theory of incomplete expressions.⁶⁶

1.2.3 Functions objectified

According to Frege, it is these incomplete expressions that denote functions, which, in homage to Frege's grammar, are likewise incomplete. However, each incomplete function has a corresponding course-of-values, which is a complete thing, an object. In exact analogy, each incomplete expression can be completed by filling its gap with a variable and prefixing a variable binding operator. For example, from the incomplete expression ' $((2+3_)_)$ ' we obtain the complete ' $\lambda x ((2+3x^2)x)$ '. Let us call such a complete expression a *course-of-values abstract*.

⁶⁶ Frege's distinction is, I believe, founded on an error, the error of thinking that syntax requires the notion of an *incomplete symbol*. (I argued that this is an error in my 1964 Dissertation *Foundations of Intensional Logic*.) This error, I believe, may stem from a more deep-seated error, the error of thinking that any unity with parts must have an incomplete part to lock the other parts together. Regarding functions, it is in the nature of a function that *yields* a value when *applied* to an element of its domain. If those metaphors of functional activity (as compared to the inertness of mere correlations) make functions 'unsaturated', so be it.

Many suggestions have been made as to what these ‘complete’ objects *are*. But the most natural thing to think is that the course-of-values of a function simply *is* the function, conceived of *qua* object (like the Evening Star seen in the morning). There is no way to say, within Frege’s language, whether this is right or wrong, because the identity claim would be ill-formed.

Frege held that there are two distinguished, truth-value like objects, which he called *The True* and *The False*.⁶⁷ An ordinary predicate, like ‘_ is human’, which I represent as Frege would as an *incomplete symbol*, was held to denote a function from objects to these distinguished objects. Frege called functions to the two truth values, *concepts*.⁶⁸ Since functions are incomplete entities, we have the desired result (for Frege) that an incomplete expression denotes an incomplete entity.⁶⁹

Such a function might be thought of, in modern day terms, as the characteristic function of a class (the class of objects to which the function assigns *The True*). But to Frege, and to Russell at the time of *PoM*, the function could not *be* the class because (and only because) classes were objects. So they took the courses-of-values of such functions (courses-of-values already being objects) to be classes.⁷⁰ It is not clear why this happened. My best guess is that somehow both Frege and Russell, encouraged by confused talk about courses-of-values being the

⁶⁷ In *Grundgesetze*, these objects are identified with particular courses-of-values.

⁶⁸ We translate Frege’s term for such functions (‘Begriff’) as ‘concept’, but again, as with Russell’s *denoting concepts*, there is nothing cognitive about them, and, in Frege’s case, there is nothing even intensional about them. As noted, both Russell and Frege used ‘concept’ in the sense of ‘classifier’. See n. 16.

⁶⁹ I repeat, there is nothing cognitive or intensional about Frege’s *incomplete* functions. What differentiates them from the current, primitive notion of a function (primitive, as compared with a representation, for example as a set of ordered couples) is that they are one of a pair of entities in Frege’s metaphysics that are fused in the current notion. Though even Frege calls courses-of-values *extensions* of concepts, all of Frege’s functions are themselves as extensional as can be. These functions, incomplete though they are, are the denotation, the *Bedeutung*, of predicates, not the sense. Frege’s complete/incomplete distinction is entirely his own and is entirely independent of the distinction between sense and denotation (which also shows up in Russell’s distinction between the meaning and the denotation of a denoting phrase). As noted, the former is ‘syntactic’, both at the level of expressions and of the entities they denote. In both cases the concern is with parts fitting together to form wholes (unity from plurality). The sense/denotation distinction is semantic; it concerns how denotation is determined. The extensionality of Fregean functions is beautifully argued in Montgomery Furth’s valuable ‘Editor’s Introduction’ to *Basic Laws*. See especially sect. 6 pp. xxxvii–xlvi. *Russellian* propositional functions are not extensional. They do have plausible extensions.

⁷⁰ Among the minor reasons to question this identification is that although a class may be determined by its characteristic function, the function is not determined solely by the class. The characteristic function is also dependent on what there is outside of the class. In a normal set theory, characteristic functions don’t exist because their domains would be the universal set.

extensions of such functions, talk that Frege consistently indulges in, precipitously identified the courses-of-values with an already known entity, the class.⁷¹ Of course, as noted, Frege's unsaturated functions are already as extensional as can be.⁷² In fact, they (or a surrogate that uses two distinguished propositions, say, a particular tautology and its negation, to replace Frege's truth values) are already the natural entities to serve as the extension for one of Russell's equally unsaturated, but intensional, propositional functions. This suggests a rather natural treatment of extensions of propositional functions in Russell's type theory, one that uses these surrogates for Fregean concepts and does not depend on contextual elimination. But that's another story.

⁷¹ In reading the following, keep in mind that for Frege, a *concept*, though unsaturated, is simply an extensional function from individuals to the two truth values. Russell writes to Frege on July 24, 1902, 'every day I understand less and less what is really meant by "extension of a concept"'. Frege responds on August 3, 1902, 'You find doubtful whether concepts with the same extension have the same range of values. Since for me the extension of a concept or class is only a special case of a range of values, concepts always have the same range of values if they have the same extension; for the extension is the range of values.' Russell replies on August 8, 'many thanks for your explanations concerning ranges of values. ... But I still lack a direct intuition, a direct insight into what you call a range of values ...'. On September 23, in an effort to resolve the Contradiction by depriving the dangerous concepts of their courses of values, Frege writes, 'it may be asked whether there is not a characteristic mark by which those ... concepts that have a class pertaining to them can be distinguished from those that have no extension; and here I am using the word "class" for "extension of a concept"'. The letters all appear in Frege's *Correspondence*. It should be added that Frege was severely critical of the theory of sets ('Mengen'), explicitly on grounds of vagueness, but perhaps because he did not see how to reduce that theory to logic. But he advocated a theory of classes ('Klassen'), which he *defined* as the extensions of concepts. This he regarded as already a logical notion.

⁷² Despite Frege's seeming disclaimer that ' $(x)(f(x) = g(x))$ ' is as close as one can get to saying that the function *f* is identical with the function *g*, I do not think that this is the case. In particular, since Frege has second order functions that carry first order functions to objects, we should be able to adopt Leibniz's idea of using indiscriminability to define identity. The fact that Frege does use exactly this method to define identity between objects shows that he believed that there were enough functions to discriminate between every non-identical pair. The identity of the first order functions *f* and *g* would be expressed, using a second order variable '*M*', by ' $(M)(M(f) = M(g))$ '. Then the extensionality of functions should be expressed by,

$$(f)(g)[(x)(f(x) = g(x)) \supset (M)(M(f) = M(g))].$$

Let us call this the *Principle of Extensionality* for functions. In Frege's notation, an additional operator is required after the ' (M) ' to fill the hidden argument place of the final '*f*' and '*g*', so the foregoing isn't quite well-formed in his notation, but a well-formed version can be formulated. Given what Frege says about his intentions, this *Principle of Extensionality* should be a theorem of his system. At the moment I don't know its standing in *Grundgesetze*, but I trust that others do. What I have called 'Frege's seeming disclaimer' is my reading of the following passage quoted by Furth on p. xliv of *Basic Laws* from Frege's review of Husserl: '... coinciding in extension is a necessary and sufficient criterion for the holding between concepts of the relation corresponding to identity for objects. (Identity does not in fact, properly speaking, hold for concepts.)' Where concepts are involved, Frege's talk of 'coinciding in extension' is equivalent by his Axiom V (see below) to my ' $(x)(f(x) = g(x))$ '. I have avoided talking about extensions or other courses-of-value because it is the *functions* whose extensionality we want to establish, and because courses-of-values are already problematic.

I think that we should ignore this identification of the course-of-values of a concept with a class, and just think of courses-of-values as mysterious objectifications of functions. Mysterious, because I have trouble keeping a fix on why Fregean unsaturatedness makes functions unfit for duty as numbers.⁷³ Frege has no compunction about quantifying over functions. So the requirement that numbers be saturated (and thus *objects*) is presented in a way that seems to flow from the metaphysics rather than from the expressive or derivational demands of the logic. The situation would be quite different if Frege had said, 'When I proposed that the natural numbers were functions, I discovered that I could not prove that there were a sufficient number of these functions. Then I realized that if there were an object at the bottom of the hierarchy corresponding to each function, I could succeed in the proof'. This, in essence, is what Russell and Whitehead said about the Axiom of Reducibility. In this situation, there would have been no elaborate discussion of incomplete expressions. So the introduction of courses-of-values seems *motivated* by metaphysics; they are certainly given an elaborate metaphysical justification.^{74,75} This is not to deny their importance in satisfying the derivational demands of Frege's project (though they do so at a heavy price). Russell, in *PoM*, accepts something like Frege's metaphysical distinction, with the courses-of-values of a propositional function taken to be what Russell called a 'class as one'. In section 104 he writes, 'A class as one, we shall say, is an object of the same *type* as its terms; i.e. any propositional function Φx which is significant when one of the terms is substituted for x is also significant when the class as one is substituted.'⁷⁶

1.2.4 The notorious Axiom V

Frege wrote an axiom, the notorious Axiom V, which embodies the idea that courses-of-values are merely objectifications of functions. The axiom states the principle of individuation for courses-of-values:

⁷³ Frege famously insisted that numbers had to be objects (for the usual syntactical reasons). In the end, Russell made them functions.

⁷⁴ A justification that I find completely unpersuasive.

⁷⁵ I do not and would not argue that Frege's distinction may not be suggestive of various *other* important and valuable distinctions, the class versus set distinction broached in von Neumann's (1925) set theory immediately springs to mind. But what it *is* and what it *suggests* are two different things.

⁷⁶ In saying that a class as one is 'an object of the same *type* as its terms', Russell means such a class of individuals counts as another individual from a type theoretical point of view. Thus, if a propositional function $\Phi(x)$, from individuals to propositions, has a class as one associated with it, that class is among the values of ' x '.

courses-of-values are identical if and only if they are the courses-of-values of identical functions (functions with the same domain that assign the same value to the same argument). Given that courses-of-values are just the objectification of functions, how could it be otherwise?

Let us use the notation ' $\lambda x f(x)$ ' for the course-of-values of the function $f(\xi)$, (where ' ξ ' is a gap holder).⁷⁷ Then we can write Axiom V as follows:

$$\text{Axiom V: } (x)(f(x) = h(x)) \equiv \lambda x f(x) = \lambda x h(x)$$

Note that Axiom V does not appear to assert that certain, or all, functions *have* courses-of-values. That claim is embedded in the syntax and logical rules of Frege's language, in particular, in the rules that treat course-of-values abstracts like any other (denoting) singular expression and allow existential generalization, using an *object* variable, upon them.⁷⁸ The Axiom simply states the obvious principle of individuation for courses-of-values: same function, same course-of-values; different function, different course-of-values.

The axiom can be given a seemingly innocent justification. Let's call the left to right direction of Axiom V, 'Axiom Va' and the right to left direction of Axiom V, 'Axiom Vb'. Axiom Va is a simple principle of extensionality for course-of-values. It is, or should be, derivable from the other axioms.⁷⁹ I'll return to this.

Now what about Axiom Vb? Suppose, in an effort to understand what these mysterious courses-of-values *are*, we propose to investigate the relation that holds between the objects that satisfy the function and the function's course-of-values. Let's call this relation 'R'.

$$\text{Def: } R(x, \lambda y f(y)) \equiv f(x)^{80}$$

What can we learn about this relation? By Leibniz's Law, we get:

⁷⁷ This is not written in Frege's actual symbolism, but it tracks Frege's symbolism. I write ' λx ' for word processing convenience and for familiarity, where Frege wrote ' \dot{x} '; a variable with a 'smooth breathing' diacritical mark above it. Frege also has conventions concerning the use of Latin, Greek, and Gothic letters, which I ignore. Frege's gap-holder notation is an improvement over the gappy notation because it can identify which gaps are to be filled by the same thing and which may be filled by different things.

⁷⁸ In *Grundgesetze*, ' $(f)(\exists y)y = \lambda x f x$ ' is a theorem, derivable from ' $(f)\lambda x f x = \lambda x f x$ ', which is derivable from ' $(x)x = x$ '. So if we wish to deny that some particular function $F(\xi)$ has a course of values, we cannot do so by writing, ' $\sim \exists x y = \lambda x F x$ '. That would only produce inconsistency (of which no more is needed).

⁷⁹ Axiom Va follows immediately from my second order *Principle of Extensionality* in n. 72 (which may or may not already be a theorem in *Grundgesetze*, but should be).

⁸⁰ Frege likes relations to be defined 'everywhere', so let's stipulate that if y is not a course-of-values, ' $R(x, y)$ ' is false.

$$\lambda x f(x) = \lambda x h(x) \supset R(x, \lambda y f(y)) \equiv R(x, \lambda y h(y))$$

From this, using Def, we can derive:

$$\lambda x f(x) = \lambda x h(x) \supset f(x) \equiv h(x)$$

and thus,

$$\lambda x f(x) = \lambda x h(x) \supset (x)(f(x) \equiv h(x))$$

which is Axiom Vb. Interesting!⁸¹

If we thought of courses-of-values as sets, we might think of the relation we call 'R' as that of set membership, \in . So let's try that.

$$(E): \quad (x \in \lambda y f(y)) \equiv f(x)$$

Since (E) has the form of Def, we could take ' \in ' as a primitive, and by repeating the argument given in connection with 'R' establish that (E) implies Axiom Vb. Also, with ' \in ' as a primitive, we could define course-of-values abstracts $\lambda x \Phi x =_{\text{DF}} \text{The } y (x)(x \in y \equiv \Phi x)$. Using Russell's OD theory of descriptions, (E) and Axiom Va imply that all of the abstracts are 'proper'.

Now in *Grundgesetze* ' \in ' is defined in terms of course-of-values abstraction:

$$x \in y =_{\text{DF}} (\exists f)(y = \lambda z f(z) \cdot f(x))$$

Using this definition, we can immediately prove that Axiom Vb implies (E).⁸²

So, to sum up, we can take course-of-values abstracts as primitive, define ' \in ', and Axiom Vb will be equivalent to (E). Or, we can take ' \in ' as primitive, define course-of-values abstracts, and Axiom Vb will be equivalent to (E). So (E) holds a key to the dual nature of Axiom Vb. If (E) tells us that ' $x \in \lambda y f(y)$ ' says nothing more than ' $f(x)$ ', then it tells us that $\lambda y f(y)$ is nothing more than the objectification of the function $f(\xi)$. On the other hand, if (E) tells us that for any function $f(\xi)$, $(\exists y)(x)(x \in y \equiv f(x))$, then it tells us that there are sets.

Once we have (E) we can verify our earlier claim that Axiom Va is the analog for courses-of-values to the Axiom of Extensionality for sets. Using Axiom Va and (E) we can immediately prove:

⁸¹ Innocent though it seems, it is Axiom Vb that brings inconsistency to *Grundgesetze*. So it couldn't *really* be derivable from a proper definition. I'll leave the further study of how seeming innocence can mask evil as an exercise in the virtues of logic.

⁸² By immediately *prove*, I mean that each step is secure and does not veer into the neighbourhood of the Contradiction.

(Ext): $(y)(y \in \lambda x f(x) \equiv y \in \lambda x h(x)) \equiv \lambda x f(x) = \lambda x h(x)$

So Axiom V is, in part, an analogue to the traditional axiom of extensionality, which gives the identity conditions for sets; it gives the identity conditions for courses-of-values. But in saying that courses-of-values are as fine-grained as their functions, the axiom shows its dark side.

We now know, from Cantor, that not all functions from objects to truth values can be objectified. Russell, who had been reading Cantor, was thus led to his formal derivation of the Contradiction in Frege's system.⁸³ Both Frege and Russell quickly put the blame on Axiom V.⁸⁴ It is obvious that without Axiom V, Russell's proof of the Contradiction wouldn't go through,⁸⁵ because without Axiom V, we might take Julius Caesar to be the common course-of-values for every function. But then courses-of-values would not be what they were intended to be, *objectifications* of functions.

With or without (E), in Frege's logic every course-of-values abstract must denote *something*. So when it is said that we can deny that certain functions have a course-of-values by meddling with Axiom V, what is meant is that we can identify the course-of-values of a particular function with something that it isn't, and thus rob it of its natural powers. To proceed in this way, is to think that Russell's robust sense of reality would allow him to deny that Hamlet exists by identifying Hamlet with Shakespeare. But this would be doubly wrong in that it doesn't make 'Hamlet exists' false and it does make 'Hamlet=Shakespeare' true. Those two wrongs don't make a right. In Frege's logic we must distinguish the singular term *denoting* (all singular terms denote) from its

⁸³ Russell acknowledges the debt to Cantor in *PoM* section 100. The introduction to the first volume of *Grundgesetze* contains a poignant example of the truism: Be careful what you wish for! Frege writes, with bravado, about how he hopes his work will be received, 'Not that only a laudatory review could satisfy me; on the contrary, I should far prefer an attack that is thoroughly well informed than a commendation in general terms not touching the root of the matter'. In the introduction to the *second* volume, he writes, 'Hardly anything more unwelcome can befall a scientific writer than that one of the foundations of his edifice be shaken after the work is finished'.

⁸⁴ Frege himself, both in his Introduction to *Grundgesetze* and in the Appendix to the second volume (1903) in which he discusses Russell's derivation of the Contradiction, casts doubt on Axiom V and writes as if it asserted the existence of the course-of-values of a function. 'It is a matter of my Basic Law (V). I have never concealed from myself its lack of the self-evidence which the others possess, and which must properly be demanded of a law of logic, and in fact I pointed out this weakness in the Introduction to the first volume. ... Is it always permissible to speak of the extension of a concept, of a class?' (Appendix to the second volume.) One might think that a dose of Russell's theory of descriptions would be salutary right here, in that it shows how while maintaining bivalence, we can 'speak of', i.e., introduce a notation for, without assuming that the notation is 'proper'. In the preceding, it is (E) that makes this claim.

⁸⁵ Nor would most of Frege's derivations of theorems that are central to the logicist program.

being *proper* (denoting what it professes to denote). In Russell's theory of descriptions these two are identified.

1.2.5 The ontological commitments of syntax

Two of Frege's ontological ideas are enshrined in the syntax of *Grundgesetze*. The first is that the functions form a hierarchy separate from the objects. Frege believed this hierarchy to be 'deep in the nature of things'. He even thought that the relation between an object and a first-level function was a *different relation* than that between a first-level function and a second-level function.⁸⁶ These fundamental ontological differences, their belonging to different realms, allow the functions of different levels to have distinct domains. And it is only this that justifies the syntactical restrictions that institute Frege's type theory, because every function must be applicable to everything in its domain. It is fundamental to Frege's view of logic that *every complete expression must denote*. Frege saw this as requiring that there be no partial functions. A function's domain is always a complete realm. So he requires that the *plus function* assign a denotation to 'the sun + 1', though this could be done arbitrarily.⁸⁷ Thus, it is only because the first-level function $\xi \notin \xi$ belongs to a different realm from its arguments, that Frege justifies the type theoretic syntax that rules out application of the function to itself as being ill-formed. (And it is only because the course-of-values of this function does belong to the realm of the function's arguments that application of the function to its own course-of-values is well-formed.)

As is well-known, in Frege's theory of sense and denotation, it is not expected that every singular term will have a denotation. Sentences containing singular term that do not denote will lack a truth value.⁸⁸ But Frege believed that *logic* required every well-formed expression to denote. One may speculate that this view was derived from the expecta-

⁸⁶ '[the difference between first level and second level functions] is not made arbitrarily, but founded deep in the nature of things.' From 'Function and Concept' (1891) in Gottlob Frege *Translations from the Philosophical Writings of Gottlob Frege*; hereafter *Translations from Frege*. In the following, remember that a *concept* is, for Frege, just a function whose value is always one of the two truth values. 'Second-level concepts, which concepts fall under, are essentially different from first-level concepts, which objects fall under. The relation of an object to a first-level concept that it falls under is different from the (admittedly similar) relation of a first-level to a second-level concept. (To do justice at once to the distinction and to the similarity, we might perhaps say: An object falls *under* a first level concept second; a concept falls *within* a second level concept.)' From 'Concept and Object' in *Translations from Frege*.

⁸⁷ 'What rules we lay down is a matter of comparative indifference.' From 'Function and Concept'.

⁸⁸ Because Frege calculates truth values by applying functions to arguments, it is likely that he thought that if, at any point, there were no argument to which to apply the relevant function, no value for that function would ensue. Thus, in the end, no truth value would ensue.

tion that a non-bivalent logic would be impossibly cumbersome. Russell's criticisms of Frege in OD, wherein he states that 'the King of France is bald' is *plainly false*, suggests that although he too was committed to bivalence, he did not derive from this the conclusion that every singular term must denote.^{89,90} As we know from OD, Russell found Frege's idea of forcing a denotation on intuitively non-denoting singular terms 'plainly artificial', and he never adopted any version of it. Following the writing of OD, during which Russell saw the potential of treating a notation as an *incomplete symbol*, the introduction of a *notation* was certainly not tantamount, for him, to the introduction of a realm of entities.⁹¹ However, Frege warns that if a function did not assign a value to every object, and in particular if a concept (a function to truth values) did not assign a definite truth value to every object, 'it would be impossible to set forth logical laws about them,'⁹² seemingly in part because the language would contain sentences with no truth value. In fact, Frege seems never to have contemplated the possibility that not every complete expression of logic would denote. This presupposition, that in logic every term must denote, is enacted through the formulation of the logical rule of universal instantiation, one of Frege's Basic laws. As a consequence, any primitive notation that Frege introduces into the logic is fraught with ontological commitment.⁹³

Frege triggers this commitment when he introduces the operator that allows him to express the courses-of-values of functions. The introduction of a *notation* for the courses-of-values of functions *was* tantamount, for Frege, to the introduction of a realm of entities. This is the second ontological commitment enshrined in Frege's syntax. Frege was aware of the ontological implications of his notation.

The introduction of a notation for courses-of-values seems to me to be one of the most important supplementations that I have made of my Begriffsschrift since my first publication on this subject. By introducing

⁸⁹ I read this criticism of Frege's theory of sense and denotation as reflecting Russell's pre-theoretical understanding of the sentence. His own theory of descriptions, of course, *makes* the sentence come out false.

⁹⁰ In OD and in later work, for example 'The Nature of Truth', Russell expresses his commitment to bivalence but calls it 'the law of excluded middle' (in OD the law is that a sentence or its negation is true). 'The Nature of Truth' is in *CP4*.

⁹¹ See n. 56 and the reference therein.

⁹² 'Function and Concept'.

⁹³ So for Frege, every definite description *denotes*, but this does not imply for Frege (as it does for Russell) that the description is 'proper'.

it we also extend the domain of arguments of any function.⁹⁴ [Underlining added.]

Frege's type theory protects against the application of a function to itself through a syntactic prohibition,⁹⁵ and so should have protected his theory from the Contradiction. Unfortunately, the courses-of-values give functions of all types a presence in the realm of objects, where they may commingle, thus undoing the syntactical constraints of the type theory. Frege's two ontological ideas, both enshrined in syntax, work against one another.

As objectifications of functions, courses-of-values do a lot of work for Frege. They generate an object, call it 'A', corresponding to the function that assigns *The False* to every object. Then they generate an object, call it 'B', corresponding to the function that assigns *The False* to every object but A. And so on. In this way, the courses-of-values guarantee an infinite supply of objects.

They also allow Frege to truncate his type theory after only two or three levels because the functions that serve as arguments to higher order functions can be represented by their objectifications.

It may be briefly observed here that this economy [not needing quantification over functions of higher than second-level] is made possible by the fact that second-level functions can be represented in a certain manner by first-level functions, whereby the functions that appear as arguments of the former are represented by their courses-of-values.⁹⁶

Frege explicitly treats second-level functions (functions whose arguments are functions on objects), presumably because both quantifiers (over objects) and (unobjectified) cardinal numbers appear at this level.⁹⁷ But the availability of a representation of functions of higher levels by functions of lower levels allowed him to stop at level three and go no further.⁹⁸

⁹⁴ *Grundgesetze*, sect. 9. One may question whether the supplement was 'important'; it certainly was consequential.

⁹⁵ To be precise, the syntactic prohibition doesn't prevent the act; it only prevents our talking about it. Syntactic prohibitions cannot prevent what happens behind closed doors. My contention that courses-of-values just *are* the functions is one of those behind-closed-doors claims; it cannot be talked about in Frege's language.

⁹⁶ *Grundgesetze* sect. 25.

⁹⁷ The primitive function that carries first order functions to their objectifications also appears at this level. Frege also takes as primitive the *third* level function required to institute quantification over first-level functions.

⁹⁸ Frege announced the availability of this method of representing higher order functions by lower order ones in 'Function and Concept' (1891) even before *Grundgesetze*. He could have stopped at an even lower level, but he may have thought that one finite level is as good as another. As noted, going to level three allowed him to give more intuitive definitions of a number of notions.

The contradiction shows that not all of Frege's functions can be objectified. Because of the way that objectification of functions is embedded in Frege's syntax, this forces us back to a fundamental issue about denoting: how, without artificiality, should we treat a denoting phrase like ' $\lambda x x \notin x$ ', which intuitively does not denote, in a language in which ' $(\exists x)x = \lambda y \Phi y$ ' is provable? Perhaps it was this issue that Whitehead and Russell hoped the present King of France would solve. Of course, even if the Royal intellect had been up to the task, the solution would not, by itself, have solved the contradiction. But it would have clarified the logical situation.

1.2.6 Eliminating denoting phrases to attack the Contradiction

As noted, the language of *Grundgesetze* includes among its primitives a notation for an operator that can be applied to an incomplete expression to form a name of the course-of-values of the function denoted by the incomplete expression. ' $\lambda x F(x)$ ' denotes the course-of-values of the function denoted by ' $F(_)$ '.⁹⁹ The notation alone seems to commit us to what may turn out to be dubious entities.¹⁰⁰ One way of bringing such entities under control is to revise the treatment of expressions like ' $\lambda x F(x)$ ' so that instead of presupposing the existence of the denotation, it asserts it.¹⁰¹ It is this that Russell's theory of descriptions finally succeeds in doing.

How would Frege's system fare with the notation for the dubious courses-of-values transformed and eliminated in the manner of Russell? This is an endeavour of the speculative imagination, but let's try it. Following Russell's method, we would introduce a new primitive for a relation between an object y and a function $\phi(\xi)$ (read as ' y objectifies the function $\phi(\xi)$ '). We might write something like, ' $Ox(y, \phi(x))$ ' as the new primitive, and then define ' $\lambda x f(x)$ '.¹⁰²

⁹⁹ Keep in mind that the incomplete expression ' $F(_)$ ' denotes something unsaturated and that the complete expression ' $\lambda x F(x)$ ' denotes something saturated (an object).

¹⁰⁰ The worries about the denotation of the denoting phrase 'some man' being a *very paradoxical object* must have been amplified for Russell when he realized that the denotations of denoting phrases like ' $\lambda x x \notin x$ ' yield something even more challenging than paradox, provable inconsistency.

¹⁰¹ Another way would be to allow non-denoting singular expressions. Another way would be to assign an arbitrary object as denotation for singular expressions that do not denote in a natural way. Frege advocates both of these methods in suitable contexts, but he allows neither for ' $\lambda x F(x)$ '. His fruitless revisions of Axiom V might be viewed as tacit application of the second method, but that is not the way *he* viewed what he was doing.

¹⁰² The reason for the variable binding operator ' Oz ' is that I am trying to follow Frege's dictum that a functional expression can never appear without its argument place filled, but perhaps I shouldn't try. Even Russell states that 'the great difficulty of [Frege's] symbolism' prevented him

$$\lambda x f(x) =_{\text{DF}} \text{The } y \text{ O}x(y, f(x)).$$

Axiom V should now require that there *be* objectifications of the two functions:

$$\text{Axiom V}^0: (u)(v)[\text{O}x(u, f(x)) \cdot \text{O}x(v, h(x)) \supset ((x)(f(x) = h(x)) \equiv u = v)]$$

Axiom V⁰ immediately implies that there is *at most* one objectification of a function and that no object objectifies distinct functions.¹⁰³ But it doesn't imply that any functions are objectified. We would want to replace Frege's definition of '∈' with something like:

$$x \in y =_{\text{DF}} (\exists f)(\text{O}z(y, f(z)) \cdot f(x))$$

In this form, Axiom V⁰ might be seen as an appropriate focus for attempts to repair the difficulty.^{104, 105}

Interestingly, in his initial response to the Contradiction, Frege starts down the path of questioning which functions have courses-of-value. However, he quickly abandons that route and returns to the assumption that every function *has* a course-of-values. He describes what he does as modifying Axiom V to accommodate a slightly reconceived notion of course-of-values. He does not see himself as accepting the view that some functions don't have a course-of-values, and hence that their course-of-values abstract would be non-denoting (or at least, *improper*).¹⁰⁶

from immediately grasping its content. As for me, if I stop reading *Grundgesetze* to eat dinner, when I return, I can no longer understand the notation.

¹⁰³ Drop 'h' to 'f'. Then '(x)(f(x) = f(x))' is a logical truth, and drops away. For the second part, drop both 'u' and 'v' to 'w'. Then 'w = w' drops away.

¹⁰⁴ Here I have tried to follow Russell's general scheme for putting an arbitrary singular term into standard form as a definite description by adding a new relation. If 'x ∈ y' holds in the above sense, it holds under Frege's definition of '∈' in *Grundgesetze*, but the converse is not true, because in Frege's logic, '(∃y) y = λx f(x)' does not imply that the description abbreviated by 'λx f(x)' is proper. This is due to the fact that, as noted, having a denotation and being *proper* are distinct in Frege's system (unlike Russell's system). An alternative definition of course-of-values abstracts in terms of '∈' as a new primitive was discussed in the section on Axiom V (on p. 958) λx f(x) =_{DF} The y (x)(x ∈ y ≡ f(x)). We cannot both define '∈' in terms of course-of-values abstraction and define course-of-values abstraction in terms of '∈'. So the earlier way of defining course-of-values abstracts assumes that '∈' will be taken as a primitive. Building a theory of classes with '∈' as a primitive seems like a promising idea. But it may not be a part of *Pure Logic*.

¹⁰⁵ In contrast to my speculations, Urquhart's 'Introduction' provides a detailed historical account of the actual ways in which Russell thought his theory of descriptions was of help in solving the Contradiction.

¹⁰⁶ Frege's initial response is in the Appendix to Volume II; translated in the *Basic Laws*. He writes, 'We must take into account the possibility that there are some concepts [functions to truth

1.2.7 How to derive Russell's type theory from Frege's *Grundgesetze*

A number of alternatives are available for exploration once the issue is seen clearly to be: Which, if any, of the functions *have* an objectification? One alternative is to attempt to discriminate between those functions that have courses-of-values and those that don't. This seemed a promising route, and Russell followed it for a few years producing what he later called the 'zig zag' theory.¹⁰⁷ However, fussing with Axiom V (which occupied Russell and preoccupied Frege) was not a fruitful way of walking that route. Axiom V is simply too deeply embedded in Frege's metaphysical presuppositions. Frege's first attempt to repair the Contradiction was to pin the problem on concepts that apply to their own courses-of-values. So he tried, fruitlessly, to identify courses-of-values in a way that ignored self-applicability. He revised Axiom V to:

Axiom V': $(x)[x \neq \lambda x f(x) \cdot x \neq \lambda x h(x) \supset (f(x) \equiv h(x))] \equiv \lambda x f(x) = \lambda x h(x)$

But this would not suffice.

From a type theoretical point of view, the courses-of-values undo the benefit of the type theory, so the simplest alternative from that point of view is to undo the undoing by doing away with the courses-of-values entirely and saying that *no* functions have courses-of-values. The original justification of the courses-of-values, I argued, was more from metaphysical ideology than from derivational need (which is not to deny their derivational power). This approach amounts to discarding Axiom V as well as the whole syntactical apparatus of course-of-values abstracts.

It is important to recognize that Russellian type theory, said to be Russell's ultimate resolution of the Contradiction, does exactly this. Frege's metaphysical distinction between (unsaturated) functions and their (saturated) objectifications is simply ignored. Cardinal numbers are taken to be essentially¹⁰⁸ the very second-level functions that Frege identified in his *Grundlagen* in terms of equinumerosity of first-level functions.¹⁰⁹ For Russell, the numbers *are* functions; for Frege, it was

values] having no extension [course-of-values]—at any rate, none in the ordinary sense of the word.' In this, he momentarily entertains the idea that some functions may lack a course of values, and then quickly reverts to the idea that what he needs to do is modify the identity conditions for course-of-values.

¹⁰⁷ The logical/historical situation is beautifully expounded in Alasdair Urquhart's 'Introduction' and in his 'Logic and Denotation' (forthcoming).

¹⁰⁸ The main difference being that where Frege's functions are to truth values, Russell's functions are to propositions. See also n. 110.

¹⁰⁹ In *Grundgesetze* these second-level functions never quite appear because Frege keeps representing the first-level *concepts* (as he calls them) by their objectified courses-of-values. This is done

unthinkable that numbers should not be objects. Let us look at some consequences of the abandonment of courses-of-values.

There would be no way to guarantee an infinite supply of objects, so a separate Axiom of Infinity for objects would be required. In addition, we could not truncate the hierarchy of higher order functions because we could no longer count on being able to represent higher level functions by lower level ones through the objectifications of the arguments of the higher level functions. So an endless hierarchy of types, with new entities at each level, would ensue. We would now be required to identify the cardinal numbers with the (unobjectified) second order functions, but unhappily, a distinct claimant to be that cardinal number would appear at each higher level.

These are among the familiar troubles of type theory. They plagued Russell when he abandoned Frege's course-of-values of a function and struck out with just the functions themselves. Once courses-of-values are eliminated, *Grundgesetze* transforms into type theory.¹¹⁰

Part 2: 'On Denoting'

2.1 Syntax and the Semantical Agenda

2.1.1 When is a phrase denoting?

Turning finally to OD itself, the paper opens with examples of what Russell means by 'denoting phrase'. The examples lean heavily, but not exclusively, on definite descriptions. He then says, stylishly, but confusingly,

Thus a phrase is denoting solely in virtue of its [syntactical] form.¹¹¹

consistently throughout the development of the theory of numbers in *Grundgesetze* (see his statement of intention at the beginning of section 34) and done in a way that adds considerably to the opaqueness of the notation. One finds oneself appreciating Russell's generally transparent, though unsystematic, notational ambiguity.

¹¹⁰ Of course, this is not quite Russell's type theory. Russell considered Frege's incorporation of *The True* and *The False* as distinguished objects to be unnatural. The predicates that Frege took to denote functions from objects to these truth values, Russell took to stand for functions from objects to propositions. Russell's type theory is an *intensional* theory in that his basic entity is a *propositional* function rather than a truth valued function. So for Russell, it made sense to speak of the *extension* of a propositional function, where these extensions had a different principle of individuation than the propositional functions. This distinction is quite different from Frege's distinction between saturated and unsaturated entities (which do not have distinct principles of individuation). I suggested earlier that there are natural surrogates for Frege's truth valued functions that might be taken as the extensions of Russell's propositional functions. I have also been talking as if Russell's type theory was more like that of Ramsey (1925). The surrogates for Frege's truth valued functions definitely exist in Ramsey's theory; I'm less certain that they exist in Russell's.

¹¹¹ OD para 1.

This is an announcement of a fundamental change from the doctrine of Chapter V of *PoM* and indeed from almost all of Russell's unpublished, intervening writing right up to the few days in July 1905 in which he wrote OD. In *PoM*, a phrase was said to be a 'denoting phrase' because it was a phrase that denoted. Now, a phrase will be said to be a 'denoting phrase' whenever it has the appropriate syntactical form. No semantic matters are presupposed. Russell's use of 'denoting phrase' will now be like that of the linguist's 'noun phrase' or 'verb phrase', but whereas the linguist's terminology is explicitly drawn from the language of grammar, the word 'denoting' is drawn from semantics.

The sentence quoted lends itself to the misinterpretation that the semantic issue of whether or not a phrase denotes is determined solely by its syntactical form. This is *not* what Russell is saying. What he is saying is that he will call a phrase a 'denoting-phrase' (I briefly add a hyphen to emphasize that this is an indecomposable idiom) solely on the basis of grammatical considerations. To drive home the point that whether 'a phrase is denoting' is independent of semantical considerations, he then mixes this use with the use of 'denote' and its cognates in their original semantical sense, and remarks,

We may distinguish three cases: (1) A phrase may be denoting, and yet not denote anything; e.g., "the present King of France". (2) A phrase [may be denoting, and] may denote one definite object; e.g., "the present King of England" denotes a certain man. (3) A phrase [may be denoting, and] may denote ambiguously; e.g., "a man" denotes not many men, but an ambiguous man.¹¹²

This sounds like a declaration, but it isn't. What he means is that the following three claims *seem initially plausible*: that some denoting-phrases fail to pick out anything, that some denoting-phrases pick out a unique thing, and that some denoting-phrases either pick things out ambiguously or pick out an ambiguous thing.¹¹³ He explored the third case as far back as *PoM*, where he explicitly rejected ambiguous denoting and perhaps the ambiguous man as well.¹¹⁴ So Russell's three cases are not the announcement of settled views that they appear to be, but rather an intuitive introduction to the subject.

¹¹² OD para 1.

¹¹³ Russell suggests, carelessly, that my 'or' should be 'and' by writing 'e.g.'

¹¹⁴ The question in *PoM* is whether Russell took his 'very paradoxical object'—the disjunction of all men—to be the ambiguous man. In any case, since such expressions as 'a man' cease to denote in OD, Russell certainly is not, at this point, *declaring* that 'a man' denotes an ambiguous man.

It does seem like a shaky start to one of the most widely read pieces of philosophical writing by one of the greatest philosophers of the twentieth century, but then, when Russell, at the age of 33, wrote it in twelve days at the end of July 1905 (with time off for a three day vacation and for mourning the death of a close friend), he may not have known that he would be one of the greatest philosophers of the twentieth century.¹¹⁵

2.1.2 *The Principle of the new theory of denoting*

In order to assess the widely quoted second paragraph of OD, we must glance ahead to the *principle* of the theory of denoting that Russell is going to advocate. It is this: that denoting phrases have no meaning of their own (he usually says 'no meaning in isolation'), although they do, of course, affect the meaning of the whole sentence in which they occur. Given that, for Russell, the meaning of a sentence is a proposition, what this amounts to is the claim that a denoting phrase does not contribute a single element (its own meaning) to the proposition in the way that, say, a proper name contributes the individual named to the proposition. A denoting phrase might contribute the various meanings of its constituent words as well as some structural features to the proposition, but unlike the proper name, there is no single element, no single complex of meanings, that plays the same structural role in the proposition as the grammatical role that the denoting phrase plays in the sentence.

This is a surprising view, because it is roughly true that in English, wherever a name can occur in a grammatically correct sentence, a denoting phrase can also occur.¹¹⁶ This suggests that the propositions that are expressed by English sentences should have an analogous structural feature: wherever the meaning of a name (for Russell, the thing named) can occur in a proposition, the meaning of a denoting phrase should also be able to occur. In fact, we might expect that when we replace a name by a denoting phrase in an English sentence, the resulting proposition is obtained by an analogous operation: we replace the thing named by the meaning of the denoting phrase. Russell is rejecting this hypothesis in a very radical way. He is not only saying that the apparent similarity of grammatical structure between sentences containing names and those containing denoting phrases is not matched by a similarity in structure at the propositional level; he is saying that denoting phrases don't *have* any meaning that *could* play such a role.¹¹⁷

¹¹⁵ Or maybe he did know.

¹¹⁶ 'Harry met Sally', 'A man met a woman', 'Some man met every woman', 'Every man met the woman', etc.

Russell puts this rather clearly with respect to what he calls 'the most primitive of denoting phrases'.

Everything, nothing, and something, are not assumed to have any meaning in isolation, but a meaning is assigned to *every* proposition [he means *sentence*] in which they occur.¹¹⁸

And then he repeats it more awkwardly.

This is the principle of the theory of denoting I wish to advocate: that denoting phrases never have any meaning in themselves, but that every proposition in whose verbal expression they occur has a meaning.¹¹⁹

These *meanings in isolation* that are said not to exist are exactly the *denoting concepts* of his own *PoM*.¹²⁰ Denoting concepts are now banished.

Russell is very aware of the fact that he is opposing his own former views regarding denoting concepts. At the first mention of the theory of denoting he intends to advocate, Russell inserts a footnote.

I have discussed this subject in *Principles of Mathematics*, chapter v., and § 476. The theory there advocated is very nearly the same as Frege's, and is quite different from the theory to be advocated in what follows.¹²¹

¹¹⁷ Russell's claim that grammatical structure is not a correct guide to *logical* structure (the structure of what is meant) and his apparent solutions to puzzles using the hidden logical forms he unearthed was surely a prime mover of the project of trying to solve philosophical problems through the 'correct' logical analysis of systematically misleading grammatical forms. As logic and linguistics grow closer together it may turn out that what misled us was not an incorrect understanding of logical form but an inadequate understanding of *grammatical* form.

¹¹⁸ OD para. 4. The talk of *assigning* a meaning to the sentences in which denoting phrases occur is meant to indicate that his theory will show *how* the meaning of the sentence depends, in a systematic way, on the meaningful elements *within* the denoting phrase.

¹¹⁹ OD para. 4. Here, the word 'proposition' must be given first, the meaning *meaning of a sentence*, and then the meaning *sentence* to prevent the second clause from being nonsense, and even then it becomes a tautology. This is one of those places at which one wishes that Russell had spent a few more days editing his hastily written manuscript.

¹²⁰ As noted, the *denoting concepts* of *PoM* are also central to a series of unpublished papers on *meaning and denotation* that Russell wrote between *PoM* and OD.

¹²¹ OD n. 1. The theory of *PoM* is like Frege's primarily in that definite descriptions have both a meaning (in isolation) and a denotation, and that the meaning (for Russell, a denoting concept; for Frege, a sense) is also said to have a denotation. For Frege, the meaning is the primary vehicle of denotation, and the same holds for Russell. 'Thus it is the meaning, not the name, which denotes the denotation; and denoting is a fact which concerns logic, not the theory of language or of naming.' ('On Meaning and Denotation' p. 318 in *CP4*). However, the theories differ in that for Russell the *rule* is that propositions are about their own constituents. *Denoting* brings in a new and peripheral form of representation, one he rids himself of in OD. For Frege the rule is that thoughts (Frege's analogue to propositions) are about the *Bedeutung* (Frege's analogue to denotation) of their constituents. *Bedeutung* is central to the explanation of how a thought can be about something in the world.

Furthermore, although the bulk of OD is devoted to showing how well we can get along without denoting concepts, the long and difficult Gray's Elegy passage is a head-on attack on denoting concepts. It purports to show that there could not be such things, or, if there were, they would have unacceptable properties (such as being unnameable).^{122, 123}

The *principle* of Russell's new theory is that denoting phrases have no meaning in isolation. But the *project* of OD is to show how to get along without these meanings, that is, how *does* the meaning of a sentence containing a denoting phrase depend on the denoting phrase (as it obviously does).

The project will be carried out in two steps. Russell will first give his analysis of sentences containing denoting phrases involving the determiners 'every', 'some', and 'no', for example 'everything', 'something', 'nothing', 'every man', 'some man', 'no man'. He does this without appealing to denoting concepts. The first two correspond loosely to the quantifiers of modern logic (sometimes read as 'every x is such that' and 'there is an x such that'); the third is usually taken as a compound in modern logic ('it is not the case that there is an x such that').¹²⁴ It is interesting to note that of the six determiners closely studied in chapter five of *PoM*, each of which was said to differ semantically from the others, four are omitted and one, 'no', is added. This sort of 'starting afresh' was not unusual for Russell, who often indicated his awareness of difficulties in views he was advocating. It was probably also a product of the extraordinary ease and fluidity with which he wrote.¹²⁵

¹²² The Gray's Elegy argument is often said to be an argument against Frege, but I think not. Russell argues separately against the specifics of Frege's theory. Russell's unpublished writings between 1903 and 1905 show him ruminating on his own theory of denoting concepts, which are an anomaly within Russell's semantics, and those writings also show the origin of the Gray's Elegy argument, which appears in the course of those ruminations. The argument is founded on the principle that aside from denoting concepts, propositions are about their own constituents. Frege's propositions are *never* about their own constituents (except by a fluke). This argument is Russell versus Russell, not Russell versus Frege. I have indicated my own analysis of, and my scepticism about, Russell's argument in Appendix C to my 'Opacity' (1986). I will explain my view more thoroughly in a sequel to this article.

¹²³ If Russell's argument were correct, denoting concepts would be the first *stubborn objects* in the sense of Quine (1960).

¹²⁴ These 'readings' make no claim to exactness, nor even rough correctness, but they may be useful to those who have had contact with modern logic.

¹²⁵ CP4 contains 640 printed pages of Russell's writing during a three year period. It omits all of his social and political papers during the period as well as his very extensive and detailed correspondence. The original manuscripts are written by hand. In 1950 Russell won the Nobel Prize for Literature 'in recognition of his varied and significant writings in which he champions humanitarian ideals and freedom of thought'. No doubt the Nobel Committee was impressed with Russell's social and political thought, but his writing style also must have contributed to the literature prize.

In the second step, which occupies more than 80% of the article, Russell turns to definite descriptions.¹²⁶ In this case, the project will be guided by a method of transforming sentences containing definite descriptions into putatively equivalent ones in which the definite descriptions no longer explicitly appear. The method makes use of the analyses given in the first step, and thus reduces the problem of analyzing definite descriptions to the already solved problem of analysing the quantificational denoting phrases. Russell writes, 'The above gives a reduction of all propositions [sentences] in which denoting phrases occur to forms in which no such phrases occur'. This reduction of sentences containing definite descriptions to quantified forms in which no corresponding element appears is now commonly referred to as the *elimination* of definite descriptions.

For one familiar with the language of modern first-order logic, the project would have been more perspicuously presented had Russell used that language as an intermediary,¹²⁷ first translating sentences from the denoting phrase language (English) into the language of modern logic (as logic students are presently taught to do), and then describing the semantics of this intermediary language in terms of propositional functions and their properties. But in OD, Russell cuts out the middle man and describes how to assign propositions directly to sentences of the denoting phrase language. This adds considerable difficulty to the text.¹²⁸

2.2 *Knowing and Denoting*

2.2.1 *The epistemological detour*

The second paragraph appears as an epistemological detour on the way to the analysis of denoting phrases. It has the tone of an advertisement for the importance of denoting, in the manner of the *PoM* advertisement quoted above ('This notion lies at the bottom of all theories of substance, of the subject-predicate logic,' etc.).

The subject of denoting is of very great importance, not only in logic and mathematics, but also in theory of knowledge. For example, we know that the centre of mass of the Solar System at a definite instant is some definite

¹²⁶ As noted, these are barely touched on in *PoM*.

¹²⁷ Some, incorrectly, read him as doing that indirectly, but alas he does not. He does provide a few English formulations that try to capture the scope differences that are so perspicuously displayed in logical notation.

¹²⁸ Russell talks as much of propositional functions as he does of propositions, but that talk is best seen, I believe, as part of a metalinguistic description of the proposition expressed. I will come back to this when I discuss his theory.

point, and we can affirm a number of propositions about it; but we have no immediate *acquaintance* with this point, which is only known to us by description. The distinction between *acquaintance* and *knowledge about* is the distinction between the things we have presentations of, and the things we only reach by means of denoting phrases. It often happens that we know that a certain phrase denotes unambiguously, although we have no acquaintance with what it denotes; this occurs in the above case of the centre of mass. In perception we have acquaintance with the objects of perception, and in thought we have acquaintance with objects of a more abstract logical character; but we do not necessarily have acquaintance with the objects denoted by phrases composed of words with whose meanings we are acquainted. To take a very important instance: There seems no reason to believe that we are ever acquainted with other people's minds, seeing that these are not directly perceived; hence what we know about them is obtained through denoting. All thinking has to start from acquaintance; but it succeeds [through denoting] in thinking *about* many things with which we have no acquaintance.¹²⁹

It is clear that Russell considered these matters important because they begin and end the article. He chose to end his article by asserting that his theory had vindicated the preceding claims.

One interesting result of the above theory of denoting is this: when there is anything with which we do not have immediate acquaintance, but only definition by denoting phrases [he means, by singular denoting phrases], then the propositions in which this thing is introduced by means of a denoting phrase do not really contain this thing as a constituent, but contain instead the constituents expressed by the several words of the denoting phrase. Thus in every proposition that we can apprehend (*i.e.* not only in those whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance. Now such things as matter (in the sense in which matter occurs in physics) and the minds of other people are known to us only by denoting phrases, *i.e.*, we are not acquainted with them, but we know them as what has such and such properties. Hence, although we can form propositional functions $C(x)$ which must hold of such and such a material particle, or of So-and-so's mind, yet we are not acquainted with the propositions which affirm these things that we know must be true, because we cannot apprehend the actual entities concerned. What we know is 'So-and-so has a mind which has such and such properties' but we do not know 'A has such and such properties,' where A is the mind in question. In such a case, we know the properties of a thing without having acquaintance with the thing itself, and without, conse-

¹²⁹ OD, para. 2. To my knowledge, this is the first *published* statement of an epistemological principle that will become a staple of Russell's thought, 'All thinking has to start from acquaintance; but it succeeds [through denoting] in thinking *about* many things with which we have no acquaintance.'

quently, knowing any single proposition of which the thing itself is a constituent.¹³⁰

There are several claims here. First, that the propositions expressed by sentences containing singular denoting phrases (henceforth, I will just say *definite descriptions*)¹³¹ need only contain the meanings of the meaningful parts of the denoting phrase and need not contain the denotation itself, second, that this allows us to limit the constituents of the propositions we entertain (Russell says *apprehend*) to 'entities with which we have immediate acquaintance', and third, that through the use of definite descriptions we can have *knowledge about* things with which we are not acquainted.

This addresses the worry that if the denotation itself had to be an element of any proposition expressed by a sentence containing a definite description, then entities we could *describe* but could not plausibly be acquainted with would creep into the proposition, challenging our ability to entertain it. And this, in turn, would conflict with our seeming ability to understand such sentences (i.e. know their meaning). Worse, if the denotation *replaced* the meaning, informative identities, like 'Scott is the author of *Waverley*', would be transformed into trivialities.

Russell is not here suggesting that there is anything ontologically insecure about other minds or space-time points.¹³² He does not think that they exist merely through description (as he seemed to think of mythological characters). Their existence is just as secure as that of the middle-sized material objects that we perceive. They are just too inaccessible or too small to present themselves directly.

In fact, although Russell's theory of descriptions is often described as a model for avoiding ontological commitments, it is essentially neutral with respect to ontological commitment.¹³³ This, I think, is one of its

¹³⁰ Penultimate paragraph of OD.

¹³¹ Singular denoting phrases are those that purport to pick out a single individual. Russell often uses genitive constructions, like 'Smith's wife', interchangeably with true definite descriptions like 'the wife of Smith'. Russell believed that all singular denoting phrases were easily rewritten as definite descriptions, and that such rewriting had no semantic, logical, or epistemological effect. He writes, '[a singular denoting phrase] is always, in its logical essence, though not necessarily in linguistic form, compounded of a phrase which only has meaning [for example a noun or noun clause], together with the word *the*.' ('On the Meaning and Denotation of Phrases' p. 285.) So, for Russell, the task of analysing singular denoting phrases reduced to the task of analysing definite descriptions. I will play along with Russell, and help to fix ideas, by pretending that all singular denoting phrases *are* definite descriptions.

¹³² In this respect, Russell's treatment of definite descriptions contrasts sharply with his later treatment of *virtual* extensions of propositional functions (see p. 952).

¹³³ As noted, this is not true of the generalized *principle of denoting* that Russell deduced from his work on descriptions (see p. 951).

virtues. Meinong believed that there is a non-existent object that is both round and square. Russell didn't. This is an ontological dispute. If Meinong is right, and nothing else is round and square, then the definite description 'the round square' denotes, and there is no way of using Russell's theory of descriptions to remove this object from the ontology. If Meinong is wrong, then the definite description doesn't denote, and that's the end of it. The one place where Russell's theory of descriptions disagrees with Meinong's, once the prior ontological issues are settled, is that Meinong believed that there is a second non-existent object that is triangular and round and square. And so, for Russell, the description 'the round square' would fail to denote because of an excess of round squares. Note that this denotation failure does not in any way reduce the ontology. But it does show that they had different theories of the semantics of definite description.

To those of us raised on Frege or on Russell's theory of descriptions (introduced in OD), it will seem odd to think that the denotation could be a part of the meaning of a definite description. But this was a real worry for Russell. He can be seen addressing it again and again in various papers leading up to OD.¹³⁴ Furthermore, as Frege explains in S&B, it was exactly the worry that informative identities would become trivialities that drove him, in section 8 of his *Begriffsschrift* to the extreme view that identity, unlike all other relations that are not explicitly about language, was a relation between the linguistic phrases themselves. The view that the denotation is a constituent in what is asserted when a definite description is used has persisted in the work of P. F. Strawson, who, in 1950, defended the view that when we assert 'France's greatest soldier died in exile' the individual referred to is a constituent of the assertion.¹³⁵

¹³⁴ For example, in 'Points About Denoting,' point (2) is 'When a denoting phrase occurs in a proposition [sentence], does that which is denoted form a constituent of the proposition or not?', and in 'On Meaning and Denotation' he characterizes his view as having the 'strange consequence' that 'we may know a proposition about a man, without knowing that it is about him, and without even having heard of him'.

¹³⁵ According to Strawson, there is a *presupposition* whose meaning we may take to be a complex of the meanings of the several words of the description, but *what is asserted* contains the denotation. Strawson would not say 'denotation' but 'individual referred to'. This, at least, *seems* to be what he intended if he is not merely reinventing Frege's theory. I should note that I have considerable sympathy for something like Strawson's idea, especially as modified and elaborated by the work of Keith Donnellan, that the denotation of a definite description can be a part of what is thought or said. Donnellan (1966) calls attention to those cases in which we formulate a definite description intending to describe an individual we already have in mind. I believe this to be the most common use of definite descriptions. However, in the present paper, I am trying to present my discussion and analysis in a way that is recognizably Russellian. Donnellan's 1966 paper is the first in a series.

Knowledge about and *knowledge by description* (as Russell came to speak of it) involves only one kind of denoting phrase, the definite description.¹³⁶ We have knowledge by description when (and *only* when) we know that there is exactly one individual satisfying the description. The more important notion is *knowledge about*. We have knowledge *about* an individual when our knowledge is expressed using a sentence containing a definite description that denotes that individual. As Russell says in OD, we have *knowledge about* 'the things we only reach by denoting phrases'.

2.2.2 An oddity

In the case of definite descriptions, the project of showing how to get along without assigning a separate meaning to denoting phrases is guided by Russell's method for eliminating definite descriptions. So a primary aim of OD is to establish that whenever we have knowledge about an individual, the very same piece of knowledge can be expressed without using a definite description. Thus, someone who speaks a language not containing definite descriptions may express the same propositions as those expressed by one who uses definite descriptions. Suppose one speaker would express his knowledge using a definite description and another speaker would express exactly the same piece of knowledge (the same proposition) without using a definite description. Is the piece of knowledge itself, independently of how the person might put it into words, that is, independently of whether the person reached it through a denoting phrase, a piece of *knowledge about* an individual or not?¹³⁷

There is something very odd about urging the epistemological importance of *denoting*¹³⁸ at the beginning of a work whose purpose is to show that the propositions we entertain when we *know*, *judge*, *suppose*, etc. contain *no* denoting elements.

Denoting is almost entirely absent from the OD theory. Its only presence is through the almost off-hand remark that if a proposition of the

¹³⁶ Remember the pretence of n. 131.

¹³⁷ This difficulty is amplified by the fact that Russell didn't stick with a single logical form for sentences containing definite descriptions but gave many different (though equivalent) forms. A thinker may be unaware that the proposition entertained is equivalent to a proposition expressible using a definite description. In *PM*, he finally gives a standard form for the elimination of definite descriptions when accompanied by scope indicators. (See Ch. 3 'Incomplete Symbols' of the Introduction to *PM*.)

¹³⁸ 'The subject of denoting is of very great importance, not only in logic and mathematics, but also in theory of knowledge.'

form ‘ x is identical with the F ’ is true (where the definite description¹³⁹ is eliminated in accordance with the theory):

We may then say that the entity x is the denotation of the [definite description].¹⁴⁰

And even here, Russell is quick to deflate.

[that which has denotation] will be merely the *phrase*, not anything that can be called the *meaning*.

Denoting has been reduced to a property of proper definite descriptions, linguistic accidents that have no counterparts in the realm of thought. It sidles into the OD picture through mere (and meaningless!) linguistic phrases. An ignoble end for a notion ‘of very great importance’.^{141,142}

To the best of my knowledge, Russell never felt any tension between urging the epistemological importance of *denoting* and his banishment of denoting elements from propositions. He continued to the end of his life to happily emphasize the importance of knowledge by description while insisting that descriptions contributed no unique element to the propositions that are the objects of knowledge.

2.2.3 Whence, knowledge by description and acquaintance?

The distinction between knowledge by acquaintance and knowledge by description feels like a hangover from the *PoM* theory of denoting concepts, where it would have made more sense. In *PoM*, a definite description *had* a meaning in isolation, and the meaning (a denoting concept) had a denotation. There, the piece of knowledge itself was marked by the presence (or absence) of an identifiable denoting concept, so the distinction between knowledge expressed using a definite description and knowledge expressed without such was robustly represented in the objects of thought (propositions). As it turns out, that *is* where the distinction was born. Not in *PoM*, but in the hitherto unpublished ‘Points

¹³⁹ Russell says ‘denoting phrase’ but his remark, ‘there cannot be more than one such [x]’ makes it clear that only singular denoting phrases, which we are pretending to be definite descriptions, are at issue.

¹⁴⁰ OD, p. 488.

¹⁴¹ Presumably, the introduction of this very thin notion of *denoting*, isolated from the body of the logical and semantic theory, is simply to avoid cutting *knowledge about* completely out of the picture. But see n. 162 below.

¹⁴² I have suggested that Russell need not have given up a ‘meaning in isolation’ for definite description to achieve the results his elimination of descriptions achieved, by which I mean that we can separate Russell’s *theorems* of descriptions—the equivalences given by his method of elimination—from his *theory* of descriptions—the semantic theory that banishes denoting concepts. The claim is argued in ‘What is Russell’s Theory of Descriptions?’ p. 244.

About Denoting', written more than a year before OD.¹⁴³ Here, *before* Russell abandoned denoting concepts, are the roots of the distinction between knowledge by acquaintance and knowledge by description, as well as the roots of the *epistemological principle* 'All thinking has to start from acquaintance; but it succeeds [through denoting] in thinking about many things with which we have no acquaintance.'¹⁴⁴ I call the first half of this, that all thinking has to start from acquaintance, the *principle of acquaintance*.

... if I ask: Is Smith married? and the answer is affirmative, I then know that "Smith's wife" is a denoting phrase [i.e. a phrase that *does* denote], although I don't know who Smith's wife is. We may distinguish the terms [i.e. individuals] with which we are *acquainted*¹⁴⁵ from others which are merely denoted. E.g. in the above case, I am supposed to be acquainted with the term [individual] Smith and the relation *marriage*, and thence to be able to conceive a term [individual] having this relation to Smith, although I am not acquainted with any such term [individual]. ... we know that every human being now living has one and only one father. ... Nevertheless, it's a wise child etc. This shows that to be known by description is not the same thing as to be known by acquaintance, for "the father of *x*" is an adequate description in the sense that, as a matter of fact, there is only one person to whom it is applicable. ... It is necessary, for the understanding of a proposition, to have *acquaintance* with the *meaning* of every constituent of the meaning, and of the whole [better, *acquaintance* with every constituent of the proposition, each of which may be taken to be a meaning]; it is not necessary to have acquaintance with such constituents of the denotation as are not constituents of the meaning.¹⁴⁶

Russell's distinction presupposes the idea that the elements of any proposition we can entertain must be, in some sense, *known to us*. I believe that he called that sense of knowing, *acquaintance*.¹⁴⁷ If the pre-supposition is correct, this makes the principle of acquaintance tautological, as I think it should be for Russell. *Acquaintance* is a sense of *know* that takes an object as direct object, *know it*, not *know that*.¹⁴⁸

¹⁴³ In CP4.

¹⁴⁴ The editor's excellent headnote to the article notes that these topics are covered.

¹⁴⁵ This may be Russell's first use of *acquaintance* in his special epistemological sense. He almost invariably used it to contrast with knowledge *about*, which is knowledge by description.

¹⁴⁶ From points numbered (1) and (5) in 'Points About Denoting' (1903) in CP4. The last is not the most graceful formulation of the epistemological principle, but it is unmistakable.

¹⁴⁷ In this way of looking at the notion, the sorts of things we are acquainted with then becomes a matter of one's epistemological *theory*.

¹⁴⁸ In 'Knowledge by Acquaintance and Knowledge by Description', Russell distinguishes *knowledge of things* from *knowledge of truths*. The article, hereafter KA&KD, first appears in *Proceedings*

In this pre-sense-data era, Russell obviously took it that one could be acquainted with an external individual like Smith, perhaps as an 'object of perception'. Thus, in a natural way, one would be acquainted with one's acquaintances. So I will take perception as the paradigm for acquaintance with external material objects. If we do so, the notion that one might be acquainted with Smith, but not his wife, has all the common sense plausibility that Russell seems to have assigned it.¹⁴⁹ It was only after falling under the baleful influence of sense-data theory that Russell came to believe that the objects of perception were *internal*.

2.2.4 Is knowledge by description exclusive of knowledge by acquaintance?

Russell often writes as if there were an opposition between knowing a particular individual *by description* and knowing that individual *by acquaintance*.¹⁵⁰ In particular, he writes as if *not knowing who* a particular description denotes amounts to *not being acquainted* with the individual. But he should not, and almost surely does not, intend that. The point is only that knowledge by description does not *require* knowledge by acquaintance.

In the example, Russell did not *know who* Smith's wife was in the sense of knowing no informative truth of the form, 'Smith's wife = '.¹⁵¹ He certainly did not know that Smith's wife was Triphena (as she turns out to be), but this does not show that he was not acquainted with her. One can imagine Russell being teased, 'Do you know who Smith's wife is?' 'No, though I knew that he was recently married.' 'Your doctor!' 'Amazing! My doctor? Triphena? Are you kidding me?'

Russell may have been able to 'affirm a number of propositions about' Smith's wife,¹⁵² for example, that Smith's wife lives in a grand house and that she has a kind and indulgent husband, but in all such

of the *Aristotelian Society* 11 (1910), pp. 108–28, and then, in slightly different form as chapter five of Russell's *The Problems of Philosophy* (Russell 1912); hereafter *Problems*. The first version seems more closely connected with OD, whereas the second has more hard-core epistemology.

¹⁴⁹ It is explicitly stated in the material quoted from 'Points About Denoting' that one could be acquainted with Smith. It is thus reasonable to conclude, contrary to some readers of OD, that this view prevailed through 1905, and that the 'objects of perception' in the OD passage were the normal, external, material objects we perceive.

¹⁵⁰ The notions frequently appear together, almost always contrastively.

¹⁵¹ *Knowing who* intervenes in a way that confuses matters. It is neither *acquaintance* nor *knowledge by description*. In 'Opacity' (1986) I emphasized its contextual basis. We can point at someone and ask, 'Do you know who that is?'

¹⁵² Here, I use the language of the second paragraph of OD.

affirmations, Triphena would be known only 'by description'.¹⁵³ He might also have been able to affirm a number of propositions about her through acquaintance, for example, that she is an excellent physician and that she takes her patients promptly. It seems obvious that knowledge by description is quite independent of knowledge by acquaintance. In fact, in Russell's most famous example, George IV wishing to know whether Scott was the author of *Waverley*, knowledge by acquaintance and knowledge by description of the same individual are combined in a single thought.

In some cases (other minds, elementary particles, space-time points) the objects themselves may, by their nature and ours, be inaccessible to us. Then we cannot be acquainted with them and have only knowledge by description to fall back on. But this does not affect the general point about the compatibility of the two notions.

2.2.5 Rethinking knowledge by description

I think there is a way of reconstructing the notion *knowledge by description* that helps to resolve the oddity. Russell emphasizes two points: First, that knowledge by description is based on knowledge of truths, and second that the descriptions involved are *definite* descriptions.

Knowledge of things by description ... always involves, as we shall find in the course of the present chapter, some knowledge of truths as its source and ground ... This is a matter which is concerned exclusively with *definite* descriptions.¹⁵⁴

Now suppose that instead of insisting that definite descriptions were essential to knowledge by description he had emphasized *indefinite* descriptions, or better, in the language of logic, *existential generalizations*. The truths that knowledge by description is based on always involve existential generalizations anyway, typically, something like 'there is something such that it, and it alone, is a so-and-so'. Suppose that instead of writing,

What I wish to discuss is the nature of our knowledge concerning objects in cases where we know that there is an object answering to a definite description, though we are not acquainted with any such object. This is a matter which is concerned exclusively with *definite* descriptions ... We shall say that we have "*merely* descriptive knowledge" of the so-and-so when, although we know the so-and-so exists, and although we may possibly be acquainted with the object which is, in fact, the so-and-so, yet we do not know any proposi-

¹⁵³ Remember that although 'Smith's wife' is a genitive construction, we are pretending that it is a definite description.

¹⁵⁴ KA&KD, 1912 version.

tion “*a* is the so-and-so”, where *a* is something with which we are acquainted.¹⁵⁵

Russell had written,

What I wish to discuss is the nature of our knowledge concerning objects in cases where we know that there are one or more objects answering to a description, though we are not acquainted with the objects ... We shall say that we have “*merely* descriptive knowledge” of the so-and-so’s when, although we know the so-and-so’s exists, and although we may possibly be acquainted with some or all of the objects which are, in fact, the so-and-so’s, yet we do not know any proposition “*a*₁, *a*₂, ... *a*_{*n*} are the so-and-so’s”, where *a*₁, *a*₂, ... *a*_{*n*} are things with which we are acquainted.

Note that knowing the truth of an existential generalization involves knowing that *there are* things of a certain kind, though we may not be acquainted with those things. In the language of knowing-who, which Russell sometimes carelessly uses as if it were interchangeable with acquaintance, knowing the truth of an existential generalization involves knowing that *there are* things of a certain kind, though we may not know exactly which things they are. Thus I may know that there are 29 counties in Utah,¹⁵⁶ without knowing what they are and without ever having travelled to Utah. I may know that there are two authors of *PM* without knowing who they are and certainly without being acquainted with them. I may know that there are assassins among us without knowing exactly who they are, though I may be acquainted with them. Such knowledge by description can even be put into the form of a definite description, provided we allow plurals. I don’t know what *the 29 counties in Utah* are. I don’t know who *the two authors of PM* are. I don’t know who *the assassins* are. I may even *wish to know* whether Fred and Ethyl are the assassins.

My notion depends on logical features of the proposition known, not on features of a ‘mere phrase’. Thus it is robust in the way in which Russell’s notion was robust in the pre-OD days, when there were still denoting concepts in propositions.

Because, as I have claimed, Russell’s theory of descriptions simply takes definite descriptions to be a special case of indefinite description, namely, indefinite descriptions with uniqueness added, and because Russell takes sentences involving indefinite descriptions to have a logical form involving existential generalizations, we can see Russell’s knowledge by description as a special case of mine. I would even agree

¹⁵⁵ KA&KD, 1910 version.

¹⁵⁶ Because Alonzo Church has asserted it. I’m counting numerical existential quantifiers such as this as a generalized form of existential generalization.

that through knowledge by description we succeed in thinking *about* many things with which we have no acquaintance. But I hesitate to say that it is through *denoting*.¹⁵⁷

One might restore knowledge through denoting by taking my plural definite descriptions seriously and giving the phrase a denotation.¹⁵⁸ Researchers in the tradition of George Boolos (1984) are pursuing the line of thought that such a denotation would itself be plural. Alternatively, one might restore a more robust form of denoting by following a suggestion of Part 1 of the present paper and treating the propositional functions that inhabit Russell's propositions as denoting their extensions.¹⁵⁹ I will not pursue either line here, but I think that both can be made to work, and both would, I believe, capture an intuitive notion of *knowledge by description* and *knowledge about*.

2.2.6 Thinking about *requires knowledge*

There may be another way to restore robustness to *knowledge about*.

Russell's very notion of knowledge by description seems to require an unmentioned complication in his analysis. Knowledge by description requires knowledge that there is exactly one thing satisfying the description. But a description may be used in expressing attitudes other than knowledge, for example, when George IV asked, 'Is the author of *Waverley* present in this room?' Now this is a *query about* Scott in just the way that George IV *knowing* that the author of *Waverley* was present in the room would be *knowledge about* Scott. Russell says that through denoting we succeed in *thinking* about many things, not just *knowing* about many things. So I read Russell as claiming that *knowledge by description* is what enables all forms of *thinking about*. Keep in mind that knowledge of a thing by acquaintance and knowledge of a thing by

¹⁵⁷ 'Knowledge through denoting' is a form of indirect knowledge of an individual by way of knowledge *that* there is exactly one thing satisfying a description. The knowledge *that* there is exactly one thing satisfying a description enables us to use a definite description to talk and think (but for the 'oddity') about the individual *of* whom we have indirect knowledge. So the existence of a denoting phrase (or better, a denoting concept, as in the pre-OD days when knowledge through denoting first came on the scene) is critical for knowledge 'through denoting'. My hesitation is born from the lack of a phrase that we would not hesitate to describe as a denoting phrase.

¹⁵⁸ I assume that if there are no assassins among us 'the assassins among us' would have no denotation, as opposed to having a null or empty denotation. Thus, in the case of an empty plural noun clause, like 'flying pigs', I am *not* treating the plural definite description 'the flying pigs' as denoting the extension of the noun clause, here, the null set, instead I am treating it as lacking a denotation. In all other cases, it seems all right to treat the definite description as denoting the extension of the noun clause. The Pluralists want the plural definite description to denote the contents of the extension. That would work for me, because the null set has no content.

¹⁵⁹ See p. 957. This suggestion is again subject to the concerns of n. 158. We don't want the proposition *that there are flying pigs* to be about the null set; we want it to be about nothing.

description are Russell's two ways for thought to connect with things. There are, for Russell, no relevant further ways for thought to connect with things. For example, merely *suspecting* that there is exactly one so-and-so does not enable you to think *about* that thing (even assuming your suspicion to be correct). Thought connects directly with things through acquaintance and indirectly through knowledge by description (knowing that there is exactly thing of a certain kind). Mere suspicion won't hook you up. Once we *know* that there is exactly one so-and-so, we can freely use the definite description 'the so-and-so' to express propositions that are *about* (in Russell's italicized way) the denotation of the descriptive phrase. If this is a correct reading of Russell, and I think it is, his notion of knowledge by description is a remarkable anticipation of the presuppositional analysis of definite descriptions, according to which the meaning of a sentence containing a definite description, 'the so-and-so', breaks into two parts, one of which is that there is exactly one so-and-so.

The Russellian variation on the presuppositional analysis is to move it from the semantic to the epistemic.¹⁶⁰ To enable *thinking about*, the presupposition must be *known* by the user of the description. When the speaker is expressing knowledge, we may assume that the presupposition is implied by the known proposition in a way that allows us to say that it too is known.¹⁶¹ But Russell speaks of 'all thinking' and of our succeeding in 'thinking about many things'. He doesn't limit himself to *knowing* about many things. So if in my thinking, I am wont to *query* whether the author of *Waverley* is present at the banquet, the standard Russellian elimination does not correctly capture what Russell tells us about my epistemic state. My query involves two propositions, one queried, which Russell does correctly capture, and another known, which is lost in translation. Note that in 'George IV wished to know whether the author of *Waverley* was present at the banquet' neither choice of scope captures the fact that the query is *about* Scott, and that it involves a bit of knowledge by description. Secondary scope misses the knowledge, and even the mere fact that there *is* exactly one author of *Waverley*, and primary scope makes the query 'by acquaintance'.

¹⁶⁰ It will by now have become clear that I use 'epistemic' and its cognates to cover all the so-called propositional attitudes, not just knowing. However, Russell's two ways for thought to connect with things are epistemic in the narrow sense of requiring knowledge; one requires (direct) knowledge of things and the other requires knowledge of truths.

¹⁶¹ There are some possible scopey issues that I ignore.

Some have criticized Russell's analysis of George IV's query by saying that George IV did not wish to know whether there was exactly one author of *Waverley* because he already knew that. There are two problems with this criticism. First, Russell's analysis of the query does *not* imply that George IV wished to know whether there was exactly one author of *Waverley*. Diogenes wished to know whether there were honest men. This does not imply that he wished to know whether there were men. Second, the criticism gets things backward. The fact that Russell's analysis does *not* imply that George IV knew that there was exactly one author of *Waverley* is a criticism of the analysis, and shows that the mere elimination of the description from the sentential complement to the propositional attitude verb (when the attitude does not imply *knowledge*) does not correctly capture the epistemic situation *as Russell took it to be*.

Here we may hark back to our query whether, according to Russell, one who used a definite description in expressing a thought and one who used the result of Russell's elimination of the definite description to express their thought would express the same objects of knowledge. The answer may be 'yes' for knowledge, because knowledge is a special case, but for thought in general, the answer may be 'no'.

In summary, for Russell, all *thinking about* requires *knowledge*, knowledge by description. If the use of a definite description is to indicate that we know that there is such an individual (which is something like what modern presuppositionalists say), then the mere phrase would signal the presence of this form of *knowledge*, even though the *primary* explicit propositional attitude might be *wishes*, *wonders whether*, *doubts*, etc. In general and in giving examples, Russell neglects to mention this.¹⁶²

The same considerations should apply to my generalization of Russell's knowledge by description. The person who expresses his query by asking, 'Is a Canadian one of the assassins among us?' and the person who expresses her query by asking, 'Is there a Canadian assassin among us?' should be seen, according to the generalized Russell, as being in different epistemic states, the first expressing knowledge that there are assassins among us (along with the wish to know whether one of them is Canadian), the second making no such knowledge claim.

¹⁶² If I am correct in thinking that for Russell the mere phrase should signal the presence of *thinking about*, then the 'very thin notion of *denoting*' in OD may not be so thin after all (though Russell seems never to have noticed this).

2.2.7 Semantics versus Metaphysics and Epistemology

Russell's philosophy of language and his epistemology did not mix smoothly. Russell's semantics (unlike Frege's) took the elements of language to represent worldly things.¹⁶³ So Russell's propositions, with their already worldly constituents, were ready-made for truth values. Russell needs no additional link between senses and worldly properties or objects (as Frege does, or so I have argued) to connect his propositional constituents to the world.

To Frege's complaint that a huge material object like Mont Blanc with its snowfields could not be a constituent of a thought, Russell had famously replied:

I believe that in spite of *all* its snowfields Mont Blanc itself is a component part of what is actually asserted in the proposition "Mont Blanc is more than 4000 metres high". We do not assert the thought, for this *is* a private psychological matter: we assert the object of the thought, and this is, to my mind, a certain complex (an objective proposition, one might say) in which Mont Blanc is itself a component part. If we do not admit this, then we get the conclusion that we know nothing at all about Mont Blanc.¹⁶⁴

This is what his semantics told him. The sentence 'Mont Blanc is more than 4000 metres high', expresses a proposition in which Mont Blanc is itself a constituent.

But Russell also had epistemological commitments as to what could be an object of thought, and these commitments were independent of his semantics. He had his principle of acquaintance: that it is necessary, for the understanding of a proposition, to have *acquaintance* with each of its constituents. This provided an epistemological explanation of how Mont Blanc can be a constituent of an (object of) thought that was separate from and independent of his semantics for names. There is a

¹⁶³ He is explicit about properties and relations being worldly in the 'Introduction' to the second edition of *PM*, 'Logic does not know whether there are *n*-adic relations (in intension); this is an empirical question.' This, of course, was written at a much later time (in 1925), but I have no reason to think that his view of our knowledge of properties and relations was not the same in 1902. (Contrast this with Frege's innateness view.) Regarding names, Russell was certainly a Millian, perhaps more extremely so than Mill, and should not be associated with Frege's view of names simply because he claimed that in certain epistemic situations we cannot give a name the direct use 'it always wishes to have' (see below). In 1903 he writes, 'A proper name, such as *Arthur Balfour*, is destitute of *meaning*, but *denotes* an individual', and as late as 1957 he was still proclaiming that '[names] are words which are only significant because there is something [some object] that they mean [name], and if there were not this something they would be empty noises'. Russell's is probably a more extreme view than that of Mill or any contemporary 'direct reference' theorist, all of whom would at least give empty names, like Russell's 'Apollo', a syntactical role, rather than treat them as 'empty noises'. The first quote from Russell is from 'On the Meaning and Denotation of Phrases' in *CP4*; the second is from Russell (1959).

¹⁶⁴ Letter from Russell to Frege dated December 12, 1904. From Frege's *Correspondence*.

range of worldly things that experience has brought us into contact with in such a way that we can be said to be *acquainted* with them. These things, though worldly, are also suitable objects of thought. They are the things that we have had 'a presentation of'. In the case of a material object this seems to suggest a fairly close form of causal interaction, with perception as a paradigm. It is an immediate consequence, and one that Russell obviously accepted, that differently situated thinkers would differ in the range of individuals with which they were acquainted, and thus would differ in the range of propositions they could entertain. This is in contrast with Frege's view that the repertoire of thoughts is common to all mankind.¹⁶⁵

The worldliness of both Russell's propositions and his explanation of *acquaintance* led to two problems, one metaphysical and one epistemological.

The metaphysical problem was that some names, for example, those from mythology, do not, Russell thought, name any individual, although sentences containing these names seem to have meanings. The sentences seem to express propositions, and even propositions that we understand (i.e. can entertain).¹⁶⁶

The epistemic problem is that there are names in our vocabularies, for example, names of the ancients, which, although they do name individuals, name individuals with whom, according to Russell, we are *not* acquainted. So according to the principle of acquaintance, we should not be able to understand those sentences either, yet we do.

By 1903 he was already aware that his semantics for names was problematic in the case of names from mythology. Russell's way out of this was to make an exception. Names from mythology are not genuine names, but rather abbreviated definite descriptions.¹⁶⁷ But in 1903 he showed no awareness of the problem that proper names of the ancients named individuals with whom we are not acquainted. In the following, note that the worry about 'Apollo' lacking a denotation is not matched by a worry about our being unacquainted with Aeschylus.¹⁶⁸

¹⁶⁵ The view is expressed early in S&B.

¹⁶⁶ One might have thought that the natural Russellian result, the result most consonant with his semantics, would be to allow a proposition to have a gap in it. There are many difficulties with such a proposal, but Russell seems never to have considered it. The closest he came was the rhetorical question in OD, 'How can a non-entity be the subject of a proposition?' Perhaps he ruled it out because he thought there were proper and improper uses of empty names (but see below). Theories of gappy propositions are explored in Caplan (2002).

¹⁶⁷ He thus anticipates the method that he would use eight years later in KA&KD for names of those with whom we are not acquainted.

¹⁶⁸ Either Russell compartmentalized his semantic and epistemological views from 1903 to 1910,

A proper name, such as *Arthur Balfour*, is destitute of *meaning*, but *denotes* an individual. ... We decided that proper names—of which *Apollo* appears to be one—have only denotation, not meaning; but in the present case, the name denotes nothing, since *Apollo* is a figment. It would seem to result that any phrase in which his name occurs must denote nothing; also, if *Apollo* neither denotes nor means, it becomes a meaningless noise ... There is, however, plainly a proper and an improper use of the word *Apollo*, from which it follows that, since nothing is denoted by it, something must be meant. This is, in fact, a general principle with imaginary persons or events; they have not, like actual ones, a definition as *just this*, but they are described by means of a collection of characteristics, of the combination of which they are conceived to be the only instance. Thus when we look up *Apollo* (if we ever do) in a classical dictionary, we find a description which is really a definition; but when we look up (say) *Aeschylus*, we find a number of statements of which no single one is merely definition, for *Aeschylus* was who he was, and *every* statement about him is not tautologous [i.e., *no* statement about him is tautologous]. Thus *Apollo* is not a proper name like *Aeschylus* ... Thus imaginary proper names are really substitutes for descriptions.^{169, 170}

It is hard to see how the introduction of a definite description drawn from the classical dictionary would advance the project of discriminating proper and improper uses of the name 'Apollo'. (I assume that Russell means that there are truths and falsehoods involving the name 'Apollo' and not merely that it is not an empty noise.) Russell suggests in OD that 'Apollo' means *the sun-god*. But 'Apollo is the sun-god', which one might have thought a proper use of 'Apollo', comes out to be false

or, in his earlier work, he often pretended that we were acquainted with things we were not, such as the ancients, in order to better explain a different point. I favour the former hypothesis.

¹⁶⁹ 'On the Meaning and Denotation of Phrases' in *CP4*. Similar remarks appear in papers that postdate 'Points About Denoting', in which he introduces the epistemological principle that we must be acquainted with all the elements of any proposition we entertain. Certainly the fact that 'Apollo' abbreviates the description in a classical dictionary keeps popping up, e.g. in 'The Existential Import of Propositions' (1905) and in OD itself. Russell also spoke freely of Socrates and Plato as constituents of propositions, but the context was not always one in which the propositions are objects of thought. The question of context is important here because the *existence* of propositions with the ancients as constituents never comes into question. The issue is only whether such propositions can be objects of thought for *us*. The principle of acquaintance seems to imply a negative answer to that question. However, in 'The Nature of Truth' (1905) pp. 494–5 he speaks about his *belief* and his *assertion* that Caesar crossed the Rubicon, and argues that the objects of such beliefs and assertions are propositions, 'objective complexes' of which external objects are constituents. 'The Nature of Truth' is in *CP4*.

¹⁷⁰ I cannot resist noting that the name 'Arthur Balfour', though lacking in meaning in the technical sense, was meaning laden for Russell. Originally a philosopher, Balfour was then Prime Minister. Fifteen years later, during World War I, which Russell opposed as an absolute pacifist, Russell was sent to prison for having 'in a printed publication made certain statements likely to prejudice His Majesty's relations with the United States of America'. The case turned on a single sentence,

both in OD and in Russell's pre-OD theory.¹⁷¹ It seems that the substitution of a description for the name will only be helpful in securing the intuitive truths if we allow such descriptions to denote a mythical character, perhaps of the kind suggested by Saul Kripke. But then, why not let the name *name* that character (as also suggested by Saul Kripke)?

Whatever the defect of his treatment of 'Apollo' in this 1903 unpublished article, Russell argues in a surprisingly modern way against the idea that a name of an actual individual could abbreviate a description. His remark—when we look up 'Aeschylus' nothing found in a classical dictionary is tautological—anticipates the idea that what is found there is all contingent, and thus cannot be taken to *define* or give the meaning of the name 'Aeschylus'.

By 1910,¹⁷² he does recognize the conflict and chooses to abandon the idea that the names of ancients, *in our mouths*, remain proper names.¹⁷³ The names of the ancients get the same substitutes-for-descriptions treatment that 'Apollo' got in 1903.

Russell's suggestion that the description of Julius Caesar that we have before our minds may be merely 'the man whose name was *Julius Caesar*' has perplexed modern readers of KA&KD.¹⁷⁴ But remember, Russell was not making a semantic proposal; he was not trying to explain the relation between a name and what it names. He already had a semantics in which *naming* was a primitive. He was just looking for a good candidate for the description in our minds. There *is* the small problem that many men may have been named 'Julius Caesar', so Russell's semantics

which Russell later said that he should have put 'in such a way as to prevent misunderstanding by a public not used to the tone of exasperated and pugnacious pacifists'. He was sentenced to six months' imprisonment in the 'Second Division', a somewhat severe form of prison accommodation that increasingly worried Russell. On appeal, his sentence was amended to the First Division. Russell stated that it was Arthur Balfour's intervention (Balfour was then Foreign Secretary) that put him in First Division. It was said that the rules affecting First Division inmates 'have a class flavour about them and are evidently intended to apply to persons of some means who are in the habit of keeping servants'. In the First Division, Russell was allowed the service of another prisoner to relieve him 'from the performance of unaccustomed tasks or offices'. It was there that he finished *Introduction to Mathematical Philosophy*. While Foreign Secretary, Balfour also wrote the Balfour Declaration of 'a recognition of the right to a Jewish state in Palestine'. See Clark (1975).

¹⁷¹ And Russell seems to know it. See OD p. 491. where he notes that because there is no sun-god, every sentence in which 'Apollo' has primary scope will be false.

¹⁷² In KA&KD.

¹⁷³ His example is 'Julius Caesar' (see below), but 'Bismarck' gets the same treatment because he has coincidentally adopted an epistemology that rules out all acquaintance with external material objects.

¹⁷⁴ Russell was aware of the difference between this and 'the man called *Julius Caesar*'.

needs to be supplemented by an appropriate theory of the individuation of names.¹⁷⁵ With such a supplement, the idea seems superior to most other suggestions. It is universal in two ways: it applies to all names and it applies to all speakers.¹⁷⁶ It also seems to be the form of description that holds the most promise of closing the gap between our lexicons and what we can have knowledge *about*. Some modal tweaking may be required to make 'Aeschylus is the man named "Aeschylus"' tautological, but even that doesn't seem an immediate impossibility.^{177, 178, 179}

Russell ends up with *two* simultaneous views about the 'meaning' of a proper name, that is, two views about what the name contributes to the proposition. One tells us what the name means *simpliciter*; it means (and contributes) its bearer. The other tells us what it means in the mouth (or mind) of anyone who is not acquainted with its bearer; it contributes whatever a particular definite description contributes. Frege, who took the elements of language to represent elements of cognition in the first place never had to face Russell's problem of bifurcating meanings. But Russell stayed pretty firm that the representational function of language was to represent the world, not our thought about the world.

That *we* can't mean what our words mean is puzzling at best. Russell retained a residual ambivalence about allowing the demands of his epistemology to override his semantic convictions. In 1912, he plainly still felt the pull of his 1903 insight that 'Aeschylus was who he was, and *every* statement about him is not tautologous', as is evidenced by these remarks:

Assuming that there is such a thing as direct acquaintance with oneself, Bismarck himself might have used his name directly to designate the particular

¹⁷⁵ One possibility is the view in my 'Words' (1990).

¹⁷⁶ Must the speaker have the concept of *naming* for the epistemologist to attribute the proposition expressed using such a definite description? Russell does say we must be acquainted with all the properties and relations that occur in the objects of our thoughts. But he is also pretty liberal in allowing such acquaintance, and he doesn't discuss the examples much. In any case, one might claim that anyone who can *use* a name must be aware, at some level, that things *have* names. 'What's your name?' becomes answerable at a pretty young age, though it does require that 'name' be in the child's lexicon.

¹⁷⁷ Russell slightly misspoke in saying 'the man'. This phrase probably has to be replaced by 'the individual' to make it tautological.

¹⁷⁸ An ancestor, though probably not the origin, of this idea of Russell is, of course, Frege's claim in his *Begriffsschrift* that identity sentences are about the names. I believe that Frege too, at the time, relied on a semantics in which naming is primitive. The theory becomes incoherent when we try to form a description from properties associated with what is an abbreviation of a description formed from such properties in the first place.

¹⁷⁹ A version of these ideas is developed in Rickless (1996).

person with whom he was acquainted. In this case, if he made a judgement about himself, he himself might be a constituent of the judgement. Here the proper name has the direct use which it always wishes to have, as simply standing for a certain object, not for a description of the object ... It would seem that, when we make a statement about something only known by description, we often *intend* to make our statement, not in the form involving the description, but about the actual thing described. That is to say, when we say anything about Bismarck [he means, when we, who are not acquainted with Bismarck, use the name 'Bismarck'], we should like, if we could, to make the judgement which Bismarck alone can make, namely, the judgement of which he himself is a constituent. In this we are necessarily defeated, since the actual Bismarck is unknown to us. But we know that there is an object B called Bismarck [he means, called 'Bismarck'], and that B was an astute diplomatist. We can thus *describe* the proposition we should like to affirm, namely "B was an astute diplomatist", where B is the object that was Bismarck.^{180, 181} [Underlining added.]

Although this passage comes after 1910, and depends on the sense-data theory (that only Bismarck is acquainted with Bismarck), the thrust of what is said could just as well have been said in 1903, substituting 'the judgment which only those acquainted with Bismarck can make' for 'the judgment which Bismarck alone can make'. The fact that Russell has now concluded that only Bismarck is acquainted with Bismarck is irrelevant to the point being made.

It is a coincidence that in the same paper in which Russell notices that we are not acquainted with the ancients, he also abandons the idea that we are acquainted with *any* external, material objects. This can be confusing because the issues are quite separate. As I read the two KA&KD papers there are two strands of thought. The primary one is to elaborate on the *structure* of his 1903 distinction between knowledge by acquaintance and knowledge by description without prejudice as to what particulars we are acquainted with. But there is also a secondary strand in which he *assumes* that our knowledge of external material objects is only through our acquaintance with sense-data. Given the

¹⁸⁰ KA&KD. The passage appears in both versions. He says 'judgement'; I say 'judgment'.

¹⁸¹ Because Russell speaks of the *use* of a name, I take his view to be that names have several uses, and so the very name that Bismarck can use 'directly', Russell must use as an abbreviation of a description. This suggests that if Bismarck were to assert sincerely, 'Bismarck is an acute diplomatist' (in the style of Bob Dole talking about himself), and Russell were to report 'Bismarck believes that Bismarck is an acute diplomatist', Russell would report falsely. So it seems that, in general, a name must express a description when it occurs within a true belief report, though it may simply stand for the thing named when it is not within such a context. This produces additional regrettable consequences. Even without the sense-data theory, the same problem appears in terms of what Aristotle said using the name 'Plato', and what we can report about what Aristotle said through our use of the name 'Plato'.

changes that Russell's views were undergoing during this time, it is difficult to pick the strands apart. I would argue that a close reading of the two KA&KD papers suggests that he recognized that even in his old sense of *acquaintance*, when the objects of perception were still external, we were not acquainted with the ancients. For example, he talks of *degrees* of acquaintance, and he takes note of the fact that 'those who only know of [Bismarck] through history' were not acquainted with Bismarck. This is his old theory of what we can be acquainted with.

I conclude that he *should* have realized in 1903 that despite the names' being in his lexicon, he was not, in his then current usage, acquainted with the ancients, and he should have realized that those who only knew of Bismarck through history were not, in his then current usage, acquainted with Bismarck.

It is tempting to imagine Russell writing, in 1903, a passage quite like Frege's famous footnote to S&B (1892) about the name 'Aristotle' abbreviating different definite descriptions for different speakers. In fact, it took to 1910 before Russell did write it (about Julius Caesar and Bismarck), but with his own twist.

... in order to discover what is actually in my mind when I judge about Julius Caesar, we must substitute for the proper name a description made up of some of the things I know about him. ... What enables us to communicate in spite of the varying descriptions we employ is that we know there is a true proposition concerning the actual [individual], and that however we may vary the description (so long as the description is correct) the proposition described is still the same. This proposition, which is described and is known to be true, is what interests us; but we are not acquainted with the proposition itself, and do not know *it* though we know it is true.¹⁸²

Russell and Frege both noted and worried about the communication problem: How is it that we are able to communicate in spite of the varying descriptions we employ? But there is a difference between them. Russell never gave up the idea that a name's only *semantic* value was the thing named, so our understanding of the name as abbreviating a description was the best of bad choices, forced by our epistemic limitations. Russell thus has greater resources available to explain, for example, what it means for the description in one's mind to be *correct*. This intuitive notion—that the description in one's mind is *correct*—has no anchor in Frege's theory.

¹⁸² KA&KD 1910 version. A similar, more extended remark about Julius Caesar is made at the end of the 1912 version. In the above quote, the second part, about the fact that different speakers might have different descriptions in their minds, is actually taken from a passage about Bismarck. The passage is repeated in the 1912 version.

The case of names of the ancients is just one symptom of a structural incongruity between the ranges of individuals with whom we are perceptually acquainted and our lexicons of names. Perception is personal, hence local; whereas meaning is conventional, hence communal. Though we inherit most of our lexicon, we must make our own acquaintances. Our meanings owe a debt to our linguistic forebears. But we do not inherit their experiences, only the linguistic fruit. This structural incongruity, stemming from the 1903 principle of acquaintance, was sure to doom Russell's identification of the semantic meaning of the sentence we utter with the content of the associated thought, and it did. But he seemed blissfully unaware of the incongruity until he came upon it for the wrong reason. In 1910, sense-data theory drove him to conclude that a common understanding of the names of the ancients (with whom we are not acquainted) was unlikely and that a common understanding of the names of our acquaintances (with which we *are* perceptually acquainted) was impossible.

2.2.8 *Must we know what we think?*

The 1903 'Points About Denoting' announces, I believe for the first time, the principle of acquaintance—all thinking has to start from acquaintance—which became a staple of Russell's epistemological thought. For the most part, Russell seems to have taken it as self-evident. It is cited again and again, and is part of the foundation for his later, important paper KA&KD, wherein he makes a first attempt to *justify* the principle.

The fundamental epistemological principle in the analysis of propositions containing descriptions is this: *Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.* ... The chief reason for supposing the principle true is that it seems scarcely possible to believe that we can make a judgement or entertain a supposition without knowing what it is that we are judging or supposing about. If we make a judgement about (say) Julius Caesar, it is plain that the actual person who was Julius Caesar is not a constituent of the judgement.¹⁸³

Now by 1910, Russell had fallen under the baleful influence of sense-data theory, which dictated that we could not be acquainted with any of the material objects of the external world. But I think that there is a very important point here that has, to some extent, been lost in Russell's struggles with the objects of *acquaintance*.

I think that the result that we cannot be acquainted with the material objects of the external world already follows, without the sense-data

¹⁸³ KA&KD 1910 version

theory, from the justification Russell offers for the principle of acquaintance. And I think that we will have to accept Russell's incredible alternative if we are to retain worldly objects of thought.

Russell wants us not merely to be acquainted with the constituents of the propositions we entertain, he wants us to know *what they are*. This admittedly vague phrase suggests to me something much stronger than mere perceptual acquaintance. Our liability to make *errors of recognition*, say by not recognizing a friend from the back and falsely judging 'That's not Scott', shows that if we *were* acquainted with the individuals of the external world through perception, we would entertain suppositions or make judgments about them without, in a certain sense, knowing *what it is* that we are judging, at least without being able to identify what it is that we are judging. In the case in point, we would not know that our judgment had the form *Scott is not Scott*, and therefore, having affirmed this judgment, we would be immediately prepared to deny it. Hence, we would simultaneously be prepared to affirm and deny the same proposition. If that doesn't show we don't know what we are affirming and denying, I don't know what does.

Many will think that this is not a case of failing to know what one is thinking, or if it is, it is only in a very special sense. Be that as it may, it is puzzling to say that we should not expect to be able to recognize the same thought when it recurs. If we add to the problem of recognizing objects the problem of recognizing worldly properties and relations (which was discussed in connection with Frege's notion of *Bedeutung* and which also afflicts Russell's theory) things become really puzzling. Furthermore, in my view, such a failure to recognize the same thought when it recurs is one of the phenomena that Russell was trying to rule out in saying that when we make a judgment or entertain a supposition we must know what it is that we are judging or supposing about.

This argument, from misrecognition, against acquaintance with external material objects is not an argument that Russell makes. He does say in the *Problems* version of KA&KD, somewhat out of the blue, that acquaintance is characterized by 'perfect and complete' knowledge of the thing, and this does clearly rule out external objects like our friends (and would seem to rule out misrecognition in general). But in context, the remark reads more like a consequence of his assumption of sense-data theory than an argument. Furthermore the claim that acquaintance yields 'perfect and complete' knowledge doesn't accord with an earlier characterization that begins that very paragraph, 'We shall say that we have *acquaintance* with anything of which we are directly aware, without the intermediary of any process of inference or

any knowledge of truths'. This characterization does seem like a definition, an attempt to explicate a natural and intuitive distinction. By this characterization, the external objects of perception and the worldly properties and relations should count as objects of acquaintance for all those in a normal mental state whose perceptual faculties have not been damaged by excessive indulgence in philosophy. Leverrier may have *inferred* the existence of Neptune, but we don't *infer* the existence of our friends when we see them.

Let's put *perfect and complete knowledge* of a thing aside, and focus on one of its consequences, *perfect recognition* of a thing. There is an important relation between perfect recognition of a thing and a special kind of knowledge of what we are thinking. Without perfect recognition of the objects of thought, we will never have perfect recognition of what we are thinking, and thus we will always be liable to affirm and deny the same proposition. Let us call the liability to affirm and deny the same proposition *the recognition problem*.¹⁸⁴

Since perfect recognition is a consequence of perfect and complete knowledge, the fact that we don't have the latter with regard to external material objects shows that we don't have the former with respect to external material objects. Now if perfect and complete knowledge of what we are thinking is a requirement of our epistemology, then we have an argument for something like sense-data theory that is entirely independent of arguments from illusion and scepticism about material objects. And this argument doesn't require Russell to start over doing epistemology; it just flows naturally from the reasonable things he had been saying since 1903—once we add in his justificatory premise that it seems scarcely possible that we would not have perfect and complete knowledge of what we are thinking.

If we think of Frege's identity puzzle as involving two uses of a perceptual demonstrative, first pointing to Venus in the morning, and then pointing to Venus in the evening, Frege's puzzle can be seen as a form of the recognition problem. Frege's ultimate solution, that the contents of thought are drawn from the realm of cognitions and not from the realm of external material objects, is not so different from Russell's analysis in terms of sense-data, both moved inward to secure perfect

¹⁸⁴ I first expressed my concern about this issue at the end of section XI of 'Quantifying In' (1969). Although the framework is different, the thrust of the point, put in Russellian language, is that no matter how severely we constrain what will count as *acquaintance* with an external material object, we will not be able to avoid the recognition problem. At the time, I didn't think of this as a form of not knowing what one was thinking. I first came to the latter way of describing the situation in 1971 when I was writing my paper 'Dthat' (1978). The recognition problem is widespread, from Frege's 'Hesperus' and 'Phosphorus' to Kripke's Pierre.

recognition, though, as noted, I don't think Russell was motivated by the recognition problem.^{185,186,187} Still, I have raised worries as to whether Frege's semantic theory, when it tries to connect back to the world through *Bedeutung* or some other link, is not itself subject to a form of the recognition problem, the form concerned with the recognition of worldly properties and relations.¹⁸⁸

I accept Russell's transcendental conditional: *If we cannot make a judgment or entertain a supposition without knowing what it is that we are judging or supposing about, then every proposition which we can understand must be composed wholly of constituents with which we are acquainted and for which we have perfect recognition.* However, I think that we do have non-descriptive knowledge of the external world. The fact that external things are *represented* to us (and to other animals) in perception certainly does not imply that our knowledge of them is *descriptive*, and it surely doesn't require 'the intermediary of any process of inference or knowledge of truths' (unless the 'calculations' of our perceptual systems are suddenly going to count as *our* inferences). But perception is always subject to errors of recognition.¹⁸⁹ So I draw the conclusion that Russell found 'scarcely possible to believe', that, in a certain specifiable sense, we often do not know what it is that we are judging or supposing.

My point here does not depend on the 'know what we are thinking' formulation. Put more directly, I claim that although it is puzzling to say that we should not expect to be able to recognize the same thought when it recurs, and puzzling to say that rationality cannot be expected to protect us from simultaneously affirming and denying the same proposition, these results are the inevitable outcome of allowing worldly objects and properties to be constituents of the content of our thoughts.

¹⁸⁵ Russell went further and brought the objects of perception themselves inward; Frege always distinguished the object of perception from its 'presentation'.

¹⁸⁶ Frege was aware of the recognition problem as early as *Begriffsschrift* (1879), where he tried the aforementioned quick fix by claiming that identity sentences were about the names rather than the things named. This, in spite of the fact that he already had all the ideas required for his theory of sense and denotation (announced nine years later in S&B). See section 8 of *Begriffsschrift* for both the quick fix and the ideas required for his later theory.

¹⁸⁷ Given the analogy, why does Russell's sense-data solution seem so awkward and unsatisfying (even to Russell) while Frege's Third Realm of shared cognitions seems so elegant?

¹⁸⁸ I refer to my original discussion of the recognition of thoughts on p. 938.

¹⁸⁹ Even the perception of words, as Kripke's (1979) *Paderewski* case shows.

2.2.9 Conclusion about knowledge by description

In spite of my cavils, I think that Russell's ideas about knowledge by description and knowledge by acquaintance reflect an important insight. In the first years of the century, Russell struggled with the analysis of denoting phrases and especially with the way they could represent things with which we are not acquainted. We need only be able to understand the descriptive predicates to form a representation of a possibly unperceived object. I think this seemed almost magical to Russell, and it is. Russell's *knowledge by description* focused on definite descriptions. But names carry the same power. We need only be able to 'understand' the name to have a representation of the individual named, and to understand names seems to require even less than to understand descriptive predicates. The names of the ancients empower us to represent them, even though all of our descriptive information about them may be subject to severe doubt.

Let us return to our starting point—that language is a system of representation. From that point of view, we see that Russell was concerned with two quite different sets of issues. The first involves questions about what is represented and how it is represented, questions of semantics and syntax. These are questions about the very constitution of the system of representation. The second involves questions about when and how we are able to *make use of* these representations. We do it, so we know we *can* do it. But *how* do we do it?¹⁹⁰ These questions are not about the system of representation itself; they are about who has *access* to it, in thought or in communication. These are post-semantical questions concerning our grasp of systems of representation.

Suppose we take Russell to be roughly correct, as I think he is, regarding what is represented by language and regarding the identification of his *objective propositions* (represented by sentences) with *the objects of thought* or, in modern terms, *the content of a thought*. In many cases we reach the content of a thought *through* language.

But not all linguistic expressions provide us with the means to reach what they represent. Sentences in foreign languages and sentences in our own language that contain words we don't comprehend fail to provide such means. It is in connection with this ordinary and familiar notion of linguistic comprehension that Russell went badly wrong. Russell thought that to *use* language we need a special epistemological relation to what the language represents. He thought that we need to be *acquainted* with all of the constituents of *what is represented* in order to

¹⁹⁰ Other species cannot do it, so we should give thanks to the blessings of evolution for this marvellous and almost magical power.

comprehend the linguistic representation. This, I think, is wrong. To use language we need a special relation (I hesitate to call it *epistemological*) to the *linguistic representations*. I think that this special relation simply *is* what is commonly called *linguistic comprehension* or *understanding*. And I tend to think that *comprehension* is primarily a matter of one's standing within a linguistic community. This standing may itself confer an indirect connection to what is represented within the language, but it by no means requires *acquaintance* with what is represented nor even *knowledge* of it.

We don't know very much about comprehension, in particular, we don't know what the conditions are in which we should say that we comprehend or understand a sentence. It is not a merely subjective matter. If you refer to Aristotle (the philosopher from Stagira) and I take you to be referring to Aristotle (the shipping magnate from Turkey), I may believe that I have comprehended, but I haven't.¹⁹¹ In my view and contra Russell, comprehension does not require a prior relationship to what is represented. In the case of historical proper names, our first awareness of the individual named is often through learning the name. I think that comprehension of proper names and natural kind terms is largely independent of what is represented because the very same indefinite, and not necessarily correct, characterization may suffice to induce comprehension of a great many names of distinct individuals and kinds. Since natural kind terms often play the critical role in predicates, this implies that our comprehension of many predicates does not require acquaintance with the property that is represented.

We often describe linguistic comprehension by saying that we 'know what the sentence means'. I reject this idiom in so far as it is thought to give a literal rendering of what it is to comprehend a sentence. This formulation leads us too quickly into Russell's error of thinking that we must be acquainted with what the sentence represents, and this we know is wrong. We can certainly comprehend the sentence, 'Timbuktu was a trading center for myrrh' (it wasn't) without knowing much of anything about Timbuktu or myrrh, and without ever having seen either. We don't have to *know who* Aeschylus is to comprehend his name well enough to talk about him, as is shown by the fact that if we incorrectly identify him as a student of Plato, it doesn't affect our ability to use the name to refer to him.¹⁹²

¹⁹¹ This is an instance of the recognition problem for words, which I discuss in 'Words'.

¹⁹² It may be important to comprehension to have an idea of who he is, but unimportant whether the idea is right or wrong.

This then is my claim: The key to our *use* of language is comprehension of the linguistic *representations*, not acquaintance with that which is *represented*. It is the language that we need to connect with. When we comprehend the representation, we can use it to reach what it represents, *its* content. When we don't, the linguistic representations are inert.

The foregoing distinction between comprehension-conditions and semantic representation leads us to view Frege's puzzle (where names are involved) as belonging not to semantics but to the theory of comprehension. When true, 'A=A' and 'A=B' represent the same complex state. But our comprehension of these two sentences tells us only that the first is true. The puzzle, loosely reformulated, is this: If 'A=A' and 'A=B' represent the same state of affairs, why is our understanding of the two sentences so different? This is a puzzle that an adequate theory of linguistic comprehension should solve. In particular, we need to know what conditions suffice for us to comprehend a name. Frege's puzzle, as I have presented it, becomes a puzzle that is essentially connected with our grasp of artificial systems of representation. Note that this approach (if it works at all) resolves a version of Frege's puzzle *within* Frege's own theory. Given that 'pail' and 'bucket' are synonymous, 'Every pail is a pail.' and 'Every pail is a bucket.' should, on Frege's theory, 'represent' the same thought. But our comprehension of these two sentences tells us (with certainty) only that the first is true.¹⁹³ We should be able to avoid the implausible result that distinct words cannot have the same sense by using a theory of comprehension to explain how our understanding of the two sentences can differ.¹⁹⁴

The puzzle about identity was a centerpiece for Frege. Frege thought that it showed that names don't mean or represent what they refer to, but he was wrong. What it shows is that we can comprehend names without recognizing what they mean or represent. It is simply by comprehending the sentence 'Bismarck was an acute diplomatist', rather than by knowing Bismarck or knowing who he was, that we can, as Russell wanted us to, entertain the thought that Bismarck himself was an acute diplomatist.

One might think that Frege's theory of *senses* could be taken as a theory of linguistic comprehension. It cannot. For Frege, the senses play

¹⁹³ This is a version of Mates's (1950) puzzle as well as of the paradox of analysis. The paradox of analysis is posed by Langford (1942) against G. E. Moore and replied to by Moore (1942). Moore says that although the *analysandum* and the *analysans* are the same *concept* in a correct analysis, they have different *expressions* [and so may be comprehended differently?].

¹⁹⁴ I owe this point to Joseph Almog.

critical semantic roles: It is the senses that linguistic expressions represent, and it is the senses that determine the denotations of linguistic expressions. In contrast, the theory of linguistic comprehension, as I envisage it, plays no semantic role. It belongs to a layer of general semiotics that lies beyond semantics and that presupposes the results of semantic theory.¹⁹⁵ I believe that reasoning takes place in this layer.

Russell's *principle of acquaintance* restricts each of us to a lexicon of representations of things that we have individually perceived or abstracted from our immediate environment; whereas his introduction of *denoting* and *knowledge by description* extends our epistemic range by applying a determiner-phrase syntax to that restricted lexicon. I believe that language allows us to cast aside the constraints of Russell's individualistic principle of acquaintance and to pool our community's perceptual resources. For me, the most important factors in extending our epistemic range lie outside of both syntax and semantics. Our social natures enhanced by our evolved power to manipulate systems of representation have given us access to a range of objects that creatures locked within their individual perceptual systems cannot hope to attain.¹⁹⁶

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¹⁹⁵ I am tentatively inclined to believe that the *characters* of my 'Demonstratives' play a dual role; they play a semantic role within the system of representation, and (in some internalized form) they are also explanatory of our *comprehension* of indexicals and demonstratives (taken as individual lexical items). This is an unusually high comprehension requirement, so I may be wrong about this.

¹⁹⁶ I think it fair to say that Russell's semantic theory of names has prevailed, while Russell's epistemic problem about names—how do we understand sentences containing names?—is still with us.

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Russell's Notion of Scope¹

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Despite the renown of 'On Denoting', much criticism has ignored or misconstrued Russell's treatment of scope, particularly in intensional, but also in extensional contexts. This has been rectified by more recent commentators, yet it remains largely unnoticed that the examples Russell gives of scope distinctions are questionable or inconsistent with his own philosophy. Nevertheless, Russell is right: scope does matter in intensional contexts. In *Principia Mathematica*, Russell proves a metatheorem to the effect that the scope of a single occurrence of a description in an extensional context does not matter, provided existence and uniqueness conditions are satisfied. But attempts to eliminate descriptions in more complicated cases may produce an analysis with more occurrences of descriptions than featured in the analysand. Taking alternation and negation to be primitive (as in the first edition of *Principia*), this can be resolved, although the proof is non-trivial. Taking the Sheffer stroke to be primitive (as proposed by Russell in the second edition), with bad choices of scope the analysis fails to terminate.

In analytic philosophy, contemporary Anglo-Saxon philosophy, Russell's 'On Denoting'² is surely the most famous paper written in the first half of the twentieth century. Quine's 'Two Dogmas of Empiricism' is no doubt the most famous paper written in the second half. (It probably has Russell's paper beat for the century as a whole.) I'm restricting this to analytic philosophy. The truth is I don't know (though maybe someone can tell me) whether famous papers—this shows my ignorance—as opposed to books, are in fact ever written in contemporary continental philosophy. I've heard of this or that famous book, but of no famous papers.³ I also don't know when philosophical journals and philosophical papers as such began. Previously some essays had been written that might be called 'papers' today, but were chapters of books.⁴

¹ Those familiar with some of my previous writings, especially my first book, will recognize that this paper is based on a transcription from tape. It was delivered at Rutgers University through the good offices of Stephen Neale, editor of this issue. References to 'the discussion', 'the tape' and the like are to the delivery at Rutgers. The abstract following is due to David Harris, editorial assistant on this volume, with slight corrections by the author and S. Neale.

² All references to this paper by page are to the reprint in Marsh (1956), pp. 41–56.

³ In the discussion, I believe someone said that there were some.

⁴ Since I said this, I have done some minimal research, though not enough to find out when the philosophical journal as such began.

Now, although 'On Denoting' was the most famous paper of the first half of the century, it seems basically to have gone unread or been ill-understood—people may have thought that they could be content with reading secondary accounts in the textbooks, or even in *Introduction to Mathematical Philosophy*. And of course the Theory of Descriptions as such can be stated (see formula (4) below) very simply.

In 'On Denoting', Russell defines a denoting phrase as

... a phrase such as any one of the following: a man, some man, any man, every man, all men, the present King of England, the present King of France,⁵ the centre of mass of the solar system at the first instance of the twentieth century, the revolution of the earth round the sun, the revolution of the sun round the earth. Thus a phrase is denoting solely in virtue of its *form*. (Russell 1905, p. 41)

(Notice that some of these denoting phrases have denoting phrases as constituents: 'the twentieth century' is a constituent of 'the first instant of the twentieth century', which is itself a constituent of 'the centre of mass of the solar system at the first instant of the twentieth century'. This will be of some significance later.)

Russell's idea of a denoting phrase corresponds fairly well to the modern linguistic idea of a determiner followed by a predicate. I think this may be mentioned in Stephen Neale's book, *Descriptions*.⁶ Anyway, one might find the implicit syntactic argument here, which is stressed

As a chapter of a book, I had in mind, for example, Hume's famous essay 'Of Miracles', included (as far as I know) from the beginning in his *Enquiry Concerning Human Understanding*, but which could have been a separate journal article today. (It might later have been collected into a volume of the author's papers.) Addison and Steele, in their famous *Spectator*, had introduced the general intellectual magazine or journal; but Hume did not make use of such a publication for this paper or (as far as I know) for any philosophical paper. On the other hand, Kant's famous paper 'On a Supposed Right to Lie for Altruistic Reasons', appeared in an intellectual periodical in reply to a paper by Benjamin Constant in a similar publication. When the specialized philosophical journal began, I don't know.

⁵ I myself am inclined to think that Russell should have written 'king' rather than 'King'. 'x is (now) king of y' expresses a relation between people and countries, and 'x is king of y at t' expresses a relation between people, countries, and times. If England *had* a king, his *title* was 'King of England' or, in this particular case, really 'King Edward VII', or 'King Edward VII of England'. Something of my worry can be given by the description 'the tallest living knight in England'. Maybe there are no knights in the United States or France, but what would it mean for there to be some? Is this a meaningful relation between a person and a country, or simply a title peculiar to England? The distinction is a subtle one, and I must quote Russell accurately.

⁶ Neale (1990). Though Neale gives the syntactic argument that follows in *Descriptions*, he appears to believe that it is not in Russell. I think it *is*, and find it an important part of his motivation. I mentioned this in a seminar Neale gave in Oslo in 1991. In later work, Neale explicitly accepts my point: 'As Saul Kripke has pointed out to me, Russell himself seems to be aware of this in the first paragraph of "On Denoting"' (Neale 1993, p. 130, n. 17).

in Neale's book, that although at first blush a definite description might appear to be a complex term designating a single object, it is parallel in form to the other denoting phrases. If it were natural to analyse the other 'denoting phrases', such as 'every man', 'some man', 'a man', and so on, as really quantifiers and quantifier phrases, so would it be to analyse corresponding phrases beginning with the word 'the'. It is important to realize that 'On Denoting' is not simply a theory of definite descriptions, though this is its most famous and lengthily argued part, but rather of all 'denoting phrases'. So a syntactic parallelism is an important part of 'On Denoting'. In his earlier discussions in *The Principles of Mathematics*, Russell has a complicated and obscure analysis of all these phrases as of the same kind, trying to give complex things to which they refer.⁷

Now, Russell's theory of *all* such phrases is the same: though they look, in terms of their superficial form, like terms, a true logical analysis (an analysis of some sort of underlying structure) will reveal them actually to be quantified. And in most cases the analysis is fairly simple. For example, 'every' is analysed as the universal quantifier, so 'every man is

⁷ The ghost of this theory survives in the first paragraph of 'On Denoting', where it is said that 'a man' denotes 'an ambiguous man'. However, in the terminology of 'On Denoting' a definite description does have a denotation, namely the unique object satisfying it. Nevertheless, it is not a complex term referring to its object. (David Kaplan, in his paper 'What is Russell's Theory of Descriptions?' (Kaplan 1972) does not properly follow Russell's terminology here, and says that according to Russell definite descriptions do not 'denote'. What Kaplan really means is correct, and has just been stated.)

Notice that, contrary to what Joseph Almog claims (1986, pp. 210–42), Russell never *stipulated* as part of his concept of naming that names must be semantically simple (that is, cannot have parts whose semantics contribute to the meaning or reference of the whole). On the contrary, Russell requires particular and complicated arguments that definite descriptions are not names. Like Frege in his concept of *Eigenamen*, Russell allows names to be complex, but disagrees with Frege about definite descriptions on philosophical grounds. For Russell, at this stage of his thought, a clause such as 'that England is a monarchy' genuinely names a proposition. Later, when he abandoned propositions in favour of facts and the multiple relation theory of (pseudo-)propositional attitudes, he denied that such clauses were names, and, as a result, names did become semantically simple (eventually, only 'this' and 'that' in ordinary language).

Also, contrary to what Almog supposes, in Kripke (1980), I *am sympathetic* to the view that Almog attributes to Russell, although I do not make it a *criterion* for what a proper name is (see below). See my discussions of 'The United Nations', Voltaire's 'Holy Roman Empire', and Mill's 'Dartmouth', which may appear to have parts that contribute to the semantics of the whole, but do not. Perhaps the issue is really partly terminological, but in my book I actually stipulate that I simply take the concept of a name as given as it normally is intuitively used in ordinary language without proposing any further criterion. It is decidedly *not* my purpose to give a technical criterion for being a name. (See Kripke 1980, p. 24.) A view, such as Russell's ultimate view that ordinary names are not 'really' names, is ruled out by definition, and must be restated if in *some* sense what it really means is true (see Kripke 1980, p. 27, n. 4). Nor do I take rigidity to be an alternative criterion for naming to replace Russell's alleged opposed criterion. On the contrary, I state that definite descriptions can be rigid too, though typically they are not. In my discussion of ' π ', as used in mathematics, I further state my belief that it is a name whose reference is given by description, rather than an abbreviated description, even though the term would be 'strongly rigid' in either case (see p. 60).

such-and-such' is analysed with a universal quantifier and a conditional:

- (1) $(\forall x)(\text{if } x \text{ is human then } x \text{ is such-and-such}).$

(Russell's use of the predicate 'is human' shows that he uses the term 'man' in a sense that does not make a gender distinction.) The indefinite article 'a' is analysed as the existential quantifier—a pretty important case of Russell's analysis—so 'a man did such-and-such' is analysed with an existential quantifier and a conjunction:

- (2) $(\exists x)(x \text{ is human and } x \text{ did such-and-such}).$

As he puts it, "C (a man)" means "It is false that 'C(x) and x is human' is always false" (Russell 1905, p. 44). The existential quantifier $(\exists x)$ is really written ' $\neg(\forall x)\neg$ ' for Russell. The resulting formulation leads to complex and stilted English when written in ordinary prose. This may simply be because of a preference for taking the universal quantifier as primitive. However, it also could contain an implicit reply to the 'objection', aren't you presupposing some notion of existence here, and thus some of the very philosophical problems that you were trying to solve? Of course, if you write it this way, this objection is less likely to arise. But in any case, in *Principia* the universal quantifier, and not the existential quantifier, is taken as primitive.

Now, a definite description would be analysed as a complex binary quantifier. 'The ϕ ψ 's, where ϕ is a predicate, would be analysed as

- (3) $[\text{the } x](\phi x, \psi x)$

with 'the x ' a binary quantifier. However, it is also important to Russell that all quantifiers that he introduces be definable in terms of the universal quantifier, truth functions, and identity. Let's write this in a compact form, allowing ourselves to use the existential quantifier, as Russell does sometimes. His analysis of this binary quantification is (in effect)

- (4) $(\exists x)((\forall y)(\phi y \equiv y=x) \wedge \psi x)$

which analyses everything in terms of quantification, truth functions, and identity.

Russell also takes 'some' to be synonymous with 'a', both being existential quantifiers. He has a footnote in 'On Denoting' in which he says, 'Psychologically "C (a man)" has a suggestion of *only one*, and "C (some men)" has a suggestion of *more than one*; but we may neglect these suggestions in a preliminary sketch' (Russell 1905, p. 43). But Russell never goes beyond the preliminary sketch (even, as far as I know, in

later writings) and analyses these as the same. Now, actually, on the first page of 'On Denoting', in the passage I quoted earlier, Russell gives 'some man' as his example, while in the footnote he switches to 'some men'. One takes a singular complement, the other a plural. The singular, certainly, does not suggest more than one. Consider, 'Some burglar robbed us last night'. Does that suggest that there was more than one burglar? No, any suggestion is the opposite. Yet it is *compatible* with going on to say, 'Hey, look, I think maybe there were two burglars', without contradicting the first statement, which is more or less equivalent to 'A burglar robbed us last night'. On the other hand, 'Some burglars robbed us last night' does suggest more than one, and suggests a *class*—'Some Greeks were good philosophers' and so on—these are plural uses of 'some'. Russell doesn't note this distinction, though it appears in the paper itself. It could relate to later articles by Gareth Evans and George Boolos, if it had been gone into.⁸ Now, I'm not even saying that the plural form is necessarily *false* if there is only one, but the singular and plural *are* different. In the traditional syllogistic, sometimes we see 'some As are Bs', sometimes 'some A is a B', but these are really different, and the second is probably more proper, given what the traditional syllogistic meant.

It will be clear that when a denoting phrase is analysed as a quantifier, the quantifier will have some determinate scope: it will govern a certain phrase. On the other hand, if it is looked at as a term and unpacked, and is embedded in some complex construction, of which the simplest might be a negation, ' \neg some ϕ did ψ ', it will have two readings, depending upon whether the negation or the quantifier has larger scope. Now, the point is a purely logical one: it arises directly from the theory. This is Russell's notion of scope. It is most interesting in the case of definite and indefinite descriptions, which he emphasizes a great deal. In *intensional* contexts, scope generally makes a difference to what is said, and often to truth-value. In a truth-functional context, scope *can* still make a difference. However, if the appropriate conditions are met, if there is a unique x such that ϕx —I'll use $\exists!x \phi x$ to abbreviate this—scope differences don't matter. By 'don't matter', I simply mean that the different scope interpretations lead to materially equivalent statements. The point is that for all allowable scopes (and we will give further details later), the following conditional is true:

- (5) if $\exists!x \phi x$, then $A \equiv A^*$

⁸ Evans (1977). Boolos (1984).

where A and A^* are identical but for two different occurrences of the description with different scopes. (Actually, (5) as explained assumes that the description has no free variables in its predicate nor embeds any other descriptions. For the general case, see the appropriate discussion below.)

Now, I should say that these doctrines are well known *today*,⁹ but they certainly weren't for a long time, even though 'On Denoting' was supposed to be a famous paper. Quine wrote a very well-known paper, 'Quantifiers and Propositional Attitudes' (Quine 1956)—one of his best known, in fact—treating many of the same subjects, even with surprising coincidences like the ambiguity of 'I want a sloop'. *Sloops* in one case and *yachts* in the other (see Russell's famous parallel example discussed below, p. 1021)! 'Sloops' allows Quine to make the pun that his sentence is ambiguous between wanting a particular sloop and mere 'relief from *slooplessness*', a typical Quinean literary fillip, which could not be done with Russell's original, parallel example of the yacht. Now the two theories are probably different in that Quine suggests a syntactic distinction between *notional* belief and *relational* belief, belief *that p* and belief *of* something that it ψ 's. Daniel Dennett, writing even later, in 'Beyond Belief',¹⁰ pejoratively complains that people seem to think there might be two kinds of belief. Though it *does* look this way in Quine's account,¹¹ this is not Russell's view. In Russell there is only one kind of belief, always belief *that p*. What we would call *de re* belief is

⁹ Even more recently, are they really well known enough? Could Davidson's 'slingshot' arguments—in particular the argument that if we believed in 'facts', there could be only one fact—have been so influential if people had realized that for Russell the problem would be a matter of scope, at least when statements about facts are embedded? It would have been natural for Russell to apply his scope distinctions in Davidson's (1980) examples of the form 'the fact that the ϕ is ψ caused it to be the case that the ζ is η '. These distinctions may be recognized by Stephen Neale in his discussion (Neale 2001, pp. 218–23), but they are not recognized by Davidson, who makes no mention of Russell, nor of the Russellian objections to the slingshot. To me the idea that 'facts' could be *repudiated* by arguments of this form is intuitively preposterous—any theory of descriptions, Russellian or other, should require the appropriate scope distinctions that dispel them. (There might be alternative formulations of the slingshot that do not turn on embedding, in which case the objection from Russell would be different. Gödel (1944) presents a Russellian objection but says '... I cannot help feeling that the problem raised ... has only been evaded by Russell's theory of descriptions and that there is something behind it which is not yet completely understood' (1944, p. 130).) Russell, of course, became a strong believer in facts (in 'The Philosophy of Logical Atomism'). Quine's long-time hostility to modal logic gave rise to slingshot arguments, though finally he admitted he was wrong about Smullyan and scope—see my remarks in the text—and conceded that Smullyan's observations about substitution and scope cleared modal logic of 'any suspicion of inconsistency raised by my slingshot argument' (Quine, 1999, p. 426).

¹⁰ Dennett (1982).

¹¹ Strictly speaking Quine's theory might take belief to be a relation between finite sequences of length n and sentences with n free variables. *De dicto* (or 'notional' belief) might be the degenerate case of $n=0$ (i.e., where the sequence is empty and there are no free variables). See the analogous

explained in terms of quantifying in from the outside, quantifying into a complex proposition. If we are on the inside of all the operators, this is what would usually be called *de dicto* belief. Russell has his own terms for all this, on p. 54 of 'On Denoting'. Where the descriptive operator governs the entire context it has a *primary* occurrence. A *secondary* occurrence is where it is within the context, on the inside. This strikes me as an unfortunate terminology. First, I would have preferred a reversal of the two terms. (If we have an operator applied to p , isn't the reading that unpacks p following the operator the 'primary' notion?) Second, and more important, it makes the distinction look like a *dual* distinction, and so does Quine's parallel discussion.¹² In any case, it is *not* a dual distinction, because there can be a pile up of operators. Then the question where to put the 'the' or the 'a' whether way on the outside or way on the inside, or in between, arises, and it is very important that Russell's theory allows for this. Quine's theory, too, allows for this, though he does not say so. I've given examples of this elsewhere myself.¹³ Here's one with an indefinite description:

- (6) Hoover charged that the Berrigans¹⁴ planned to kidnap a high official.

I actually heard this on the radio once, long ago, and I wondered what was meant. In theory it could have been any of the following:

- (6a) $(\exists x)(x \text{ is a high official and Hoover charged that the Berrigans planned to kidnap } x)$
 (b) Hoover charged that $(\exists x)(x \text{ is a high official and the Berrigans planned to kidnap } x)$
 (c) Hoover charged that the Berrigans planned $(\exists x)(x \text{ is a high official and they kidnap } x)$.¹⁵

relation between truth and satisfaction. But the impression that there are really two kinds of belief (where $n > 0$ and $n = 0$) persists, and their unification is an artificiality. It is also directly reflected in Quine's own terminology.

¹² Quine's theory also allows for more than a dual distinction, though his discussion does not bring this out.

¹³ Kripke (1977).

¹⁴ Here we have a plural definite description, or perhaps an unusual name for a pair of brothers. If this gives any worries, replace the example with 'Berrigan'.

¹⁵ Alan Berger believes that there is yet another reading, a variant of (a): $(\exists x)(x \text{ is a person and Hoover charged that } x \text{ was a high official and the Berrigans planned to kidnap } x)$. (Maybe, unbe-

If (b) was meant, Hoover's charge was that there was a particular high official the Berrigans planned to kidnap, and is *neutral* as to whether Hoover himself said who it was. If (a) is meant, Hoover identified the person. (c) allows, according to Hoover, that the Berrigans hadn't decided *which* high official to kidnap. I really heard this on the radio and didn't know what was meant. (In fact, it was Henry Kissinger whom Hoover had in mind.)

The following also has three readings (also from my previous paper):

(7) The number of planets might have been necessarily even.

We are taking it that there are nine planets and that every even (or odd) number is necessarily even (or odd). Now, the outer scope reading of this, which would mean it is true of the number of planets that it might have been necessarily even, is false because there are nine planets and it is false that the number might even have been even (pun?), let alone necessarily even. Nor is the inner scope reading true, because the inner scope reading would mean it is possible that it should have been necessary that there are exactly x planets and x is even. But that is false. That couldn't have been necessary, because it isn't even true.¹⁶ So we reject that, but what is correct is the intermediate scope reading, which means it is possible that there exists an x such that there is/are exactly x planets, and necessarily x is even. The intermediate scope reading is not mentioned by Russell. (It is not mentioned by Quine either. It took a long time for Quine to see that you might do the same tricks he did in 'Quantifiers and Propositional Attitudes' with necessity also, and he wrote a paper on it. And, he said, not that he believes in necessity, that 'I am in the position of a Jewish chef preparing ham for a gentile clientele' (Quine 1977, p. 270). Why it took Quine a long time to realize this is a little obscure.) Quine's treatment of this was regarded as completely new. There is no reference to Russell in Quine's paper in the mid-fifties. The linguists in the mid-sixties seemed to be rediscovering the same distinctions too. I do not know where I saw this, but I remember, particularly, reading a paper by Emmon Bach calling this a 'very recently noticed distinction'. But these distinctions and the theory of them, which may be different from the theories proposed by some of these

knownst to Hoover, Kissinger had actually resigned.) If this is correct, we must read 'a high official' as 'a person who is a high official' and allow the definite description to be broken up so that 'high official' still goes inside the operator. Whether this agrees with intuition, or is a reading allowable in Russell's theory, are issues I won't discuss.

¹⁶ Experts in modal logic will recognize that this argument presupposes the 'B' axiom—what is true could not have been necessarily false. Intuitively it certainly seems valid here.

later linguists and by Quine, were all in Russell's paper. Moreover, Quine criticized Arthur Smullyan, who simply applied Russell's scope distinctions to necessity, and stated that you don't necessarily get a paradox from universal substitutivity of identity and statements about the number of planets. The story is well told in a paper by Stephen Neale.¹⁷ Now, the wide scope interpretation 'quantifies into' a modal context. So Quine could still object on the grounds that he regards this as 'essentialist'. Instead, he calls Smullyan's proposal a 'modification' of Russell's theory, which he erroneously thought allowed distinctions of scope only in the case of failure of existence and uniqueness (and this, he says, was indispensable for the idea that Russellian descriptions can serve as a surrogate for a theory that takes them as genuine terms). This is not true for intensional contexts, as is emphasized, surely, in 'On Denoting', though the case of a necessity operator is not treated (Russell's other writings showed that he regarded such an operator as illegitimate), and also in *Principia Mathematica*. At the very end of *14 of *Principia* in *14.3, but also in the special cases following, *14.31 et al., it is asserted that in truth-functional contexts, if the existence and uniqueness conditions are fulfilled, then the scope of a single description included in that truth-functional context does not matter:

$$*14.3 \quad \{\forall p \forall q ((p \equiv q) \supset f(p) \equiv f(q)) \wedge E!(\iota x)(\phi x)\} \supset \\ f\{[(\iota x)(\phi x)] \chi(\iota x)(\phi x)\} \equiv [(\iota x)(\phi x)] f(\chi(\iota x)(\phi x))$$

$$*14.31 \quad E!(\iota x)(\phi x) \supset \\ \{[(\iota x)(\phi x)] p \vee \chi(\iota x)(\phi x)\} \equiv (p \vee [(\iota x)(\phi x)]\chi(\iota x)(\phi x))$$

This is the content of *14.31 and subsequent theorems all the way down to the end of *14. Russell says on p. 186,

Propositions of the above type might be continued indefinitely but as they are proved on a uniform plan, it is unnecessary to go beyond the fundamental cases of $p \vee q$, $\sim p$, $p \supset q$, and $p \cdot q$. (*PM*, p. 186)

Thus he clearly asserts that we could continue this for more complex cases.¹⁸

A whole school of writers has emerged who state that *Principia* does not contain metatheorems, a school that includes Dreben, van Heijje-

¹⁷ Quine (1953a), Smullyan (1948). Neale (1999).

¹⁸ *14.3 is not an 'official' theorem of *Principia*, because quantification over propositions has not been introduced. Thus *14.31 et al. are proved independently, not deduced from *14.3.

noort and Goldfarb.¹⁹ The assertions following and preceding²⁰ *14.3 are an explicit counterexample to their claim, though there are many others, and this is not even the most important counterexample. It is an explicit *metatheorem* that in a truth-functional context the scope of a single description does not matter.

Russell may treat this as equivalent to a far more powerful metatheorem that scopes, even with multiple descriptions, and so on, never matter in an extensional context, if we assume an appropriate hypothesis that the existence and uniqueness conditions are fulfilled. Actually, as I have said, his result applies only to a truth-functional context with just one (occurrence of a) description without free variables and no descriptions embedded within the descriptions or quantified into. A statement of the more general case will be discussed later. At any rate, Quine originally said that Smullyan was modifying Russell's theory of descriptions because according to Russell scope never matters when the existence and uniqueness conditions are fulfilled, even in intensional contexts, contrary to Smullyan's treatment. In fact, Russell emphasizes just the opposite.

I pointed out the relevant passages of *Principia* to Quine. In the copy of his book *From a Logical Point of View* which Quine donated to the library at Bellagio he wrote in the margin, 'Kripke has convinced me that Russell shared Smullyan's position.' And in the 1980 edition, the criticism of Smullyan is finally deleted, and explicitly said to be deleted because it was wrong. (The story is well told by Stephen Neale in 'On a Milestone of Empiricism'.) But still Quine misses something here; because there isn't a *position* to be taken, there is simply an *analysis* of descriptions, and it either *follows* that scope matters in an intensional context, or it does not. There is nothing to *postulate*. Smullyan might propose a different analysis, but if he is following Russell's analysis,

¹⁹ Dreben and van Heijenoort (1986), in Feferman et al. (see pp. 44–5). Goldfarb (1979). See also Hylton (1990). Other writers could be mentioned. I hope to write on the general topic of metatheorems and metatheoretical ideas in *Principia* elsewhere.

²⁰ The assertion following has been quoted above. For the assertion preceding, see p. 184. 'This proposition [that is, that scope is irrelevant when the existence and uniqueness conditions are fulfilled—S.K.] cannot be proved generally [that is, for arbitrary contexts, including intensional contexts—S.K.], but it can be proved in each particular case [that is, in every context actually used in *Principia*, which supposedly are all truth-functional—S.K.]. The proposition can be proved generally when $(\lambda x)(\phi x)$ occurs in the form $\chi(\lambda x)(\phi x)$, and $\chi(\lambda x)(\phi x)$ occurs in what we may call a 'truth-function', i.e. a function whose truth or falsehood depends only upon the truth or falsehood of its argument or arguments' (*Principia*, 184). The last sentence expresses the content of *14.3. The middle clause ('but it can be proved in each particular case') expresses the same metatheorem as the assertion on p. 186 quoted in the text above.

what he says either accords with Russell's analysis or it does not. And it *does*.

And eventually Quine applied his own and (at least at that time) more famous analysis to the same thing. Now whether Russell has taken care of all of these issues about ambiguities in, especially, the indefinite article 'a' and the definite article 'the', is a point of controversy, even in contemporary linguistic literature, and we need not discuss this, but the amazing thing is that Russell's discussion was completely ignored.

It must be mentioned also that, in the period when Russell's analysis of scope ambiguities was largely ignored, Alonzo Church did not ignore it, but actually stated that scope ambiguities were a *weakness* in Russell's approach.²¹

I state, hopefully, that this ignorance or misconception is no longer the case, and that now, everyone knows about the virtues of Russell's treatment of scope distinctions. Ramsey called this paper a 'paradigm of philosophy'. Paradigm of philosophy, famous paper indeed! It appears that few read it, or took it seriously, except for Russell and his own immediate circle. Nor did they read the relevant sections of *Principia*.²²

Russell has two targets (contrasting philosophers) in his paper, Frege and Meinong. I also want to say a bit about the later famous criticisms of Strawson (whose views resemble Frege's in some respects, in spite of quite different motivations.) Of Meinong I know very little, outside of what Russell reports. According to Russell, he holds that non-existent entities, such as the king of France (and even the king of France who is not king) have some sort of weak existence, but all the properties attributed to them (so that, as Russell says, the law of contradiction can be violated). Sometimes I have wondered whether Meinong (at least the Meinong of 'On Denoting') was an imaginary figure invented by Russell, who was so upset that he did not really exist that he invented a doctrine that even beings like him have some weaker form of existence!²³

Now, I might mention something which also has a parallel in 'On Denoting', but is clear on p. 186 of *Principia*, in the discussion of 'the King of France is not bald'. Either interpretation, that is narrow or wide scope, might be meant by this: it is not the case that there is a unique

²¹ Church (1950) p. 63.

²² Arthur Smullyan, A. N. Prior, F. B. Fitch (and, following him, his student Ruth Marcus (then Ruth Barcan)), were shining exceptions in their grasp of the intensional aspects of Russellian scope distinctions. (Fitch and Marcus are not totally free of criticism in this regard.)

²³ Actually, of course, in previous writings Russell took the actual Meinong seriously and discussed him with respect. My own ignorance remains.

king of France and that whoever is king of France is bald (narrow scope) or there is a unique king of France and he is not bald (wide scope), in effect. But *Principia* says that it is more natural to take the second, false interpretation, as the meaning of the words. And we have here the germ of a reply to Strawson's much later criticisms. If you are asked, 'So, look, is the king of France bald or isn't he?' you feel reluctant to answer either yes or no. One's reluctance could be explained by the simple remark that the second reply naturally abbreviates, 'No, the present king of France is not bald'. Given the remark in *Principia*, that the wide scope interpretation is the more natural one, we get an explanation of the reluctance that it is purely Russellian.²⁴

Actually, I consider Strawson's 'On Referring' a marvellous paper, but it's too strong in claiming to be a refutation of Russell's theory, that's for sure.²⁵

Why the somewhat impolite phrase 'is bald' in Russell's example? (Strawson decorously changes it to 'is wise' without even saying that he has altered Russell's example.) Here's what Russell says:

If we say "the King of England is bald", that is, it would seem, not a statement about the complex *meaning* "the King of England", but about the actual man denoted by the meaning. (1905, p. 46)

Edward VII was king of England at that time, and bald he was, I am told. Russell goes on:

But now consider "the King of France is bald". By parity of form, this also ought to be about the denotation of the phrase "the King of France". But this phrase, though it has a *meaning* provided "the King of England" has a meaning, has certainly no denotation, at least in any obvious sense. (ibid, p. 46)

Probably this is all Russell means, the analogy. (It would be just possible that he had in mind the sort of mischaracterization or misdescription of the speaker's referent made famous in Donnellan's paper: 'Hey, no,

²⁴ Russell's own late reply to Strawson, 'Mr. Strawson on Referring' (Russell 1957) emphasizes that Strawson's discussion relies on contextual matters (such as 'present' in 'the present King of France') that are not highly relevant to the issue. On the level Strawson presents the matter, Russell seems to me to be basically right about this point, but on a deeper analysis, Strawson's problem can still be upheld, and his distinction between sentence and statement is certainly important. Furthermore, aside from all this, the question what to do with empty descriptions survives, but this is not the whole of the problem. Moreover, in one passage he comes a bit too close to stressing the syntactic ambiguities of ordinary language, perhaps giving the misleading impression that he agrees with the view of Quine discussed below that he was not attempting to analyse ordinary language. But then his reply to Strawson, and the entire debate, would be superfluous. I hope to discuss all this in a sequel.

²⁵ Stephen Neale reports to me that Grice once quipped that 'On Referring' was a wonderful paper marred only by a discussion of Russell's theory of descriptions!

stupid, it's the King of *England* you're thinking of, not the King of *France*.²⁶ But, there's no indication here of that.) Russell continues:

Hence one would suppose that "the King of France is bald" ought to be non-sense; but it is not nonsense, since it is plainly false. (ibid, p. 46)

Both Frege and Strawson would rightly complain that this begs the question against them, that the dichotomy is not correct, true-or-false or otherwise meaningless; it might be meaningful but lacking in truth-value.^{27, 28} However, Strawson (who was criticizing Russell's paper) overlooks other examples Russell already gives that refute the view that whenever you have an empty definite description there is no truth-value:

²⁶ Donnellan (1966).

²⁷ Actually Strawson is ambiguous as to whether there are truth-gaps here; or no 'statement' has been made (even though the *sentence* is meaningful), and 'statements' must be true-or-false, that is, have no truth-gaps. I once asked Strawson about this question. If I understood him correctly, he acknowledged the ambiguity but said that the *second* position was really the intended one. Stephen Neale, who also asked Strawson, reports the same reply in Neale (1990).

²⁸ Perhaps this is the place to discuss the view given the authority of W. V. Quine in his famous *Word and Object* (Quine 1960, see especially p. 259): for ordinary language Strawson is right about the truth-gaps, but for a symbolic language they are an engineer's 'don't care' cases, fillable arbitrarily for technical convenience:

- (1) In 'On Denoting', p. 47, Russell criticizes Frege for doing *exactly* such artificial gap filling (of empty denotations): 'But this procedure, though it may not lead to actual logical error, is plainly artificial, and does not give an exact analysis of the matter'. 'On Denoting' is intended to be a contribution to the philosophy of natural language and of thought.
- (2) Other 'friends' of Russell—including occasionally, the later Russell himself—have 'defended' him as merely proposing an artificial symbolic convention. But they are surely wrong about 'On Denoting' and unjust to Russell's true contribution.
- (3) Taken as such a convention, it is a poor one. Why not use ' $(\exists x)(Ax \wedge Fx)$ ' for 'the *A* *F*s', or alternatively, ' $(\forall x)(Ax \supset Fx)$ '? These are simpler, fill the 'don't care' cases arbitrarily, and don't invoke identity. When I and other logicians have given courses on formalized elementary number theory, we have used precisely the first convention. (Normally the appropriate uniqueness condition is fulfilled.) I have even heard someone attribute a view to some linguist that this is the correct analysis for *natural* language!
- (4) Intuitively, Strawson and Frege are not always right about the gaps. Russell already gave *true* cases (e.g. 'my only son', as discussed below). Further, a con-man who says, 'My company owns the largest of the many corn farms in Kansas', when he owns no company and ('South Pacific' notwithstanding—"I feel as corny as Kansas in August") Kansas grows wheat (and little or no 'corn' in the American sense) and he has no such farm, would be normally considered a *liar*, uttering a *falsehood*. (My thanks to S. B. Coots for the information about the crops and Kansas.)
- (5) Strawson eventually conceded such cases (in Strawson (1964). In assuming as late as 1960 that Strawson is always right about the gaps, Quine is being 'more Catholic than the Pope' and ignores Russell's own counterexamples!

Or again consider such a proposition as the following: “If u is a class which has only one member, then that one member is a member of u ,” or, as we may state it, “If u is a unit class, *the* u is a u ”. (ibid, p. 46)

This is definitely true. We can assume the quantifier u ranges over classes. Two points are ignored by Strawson here. First, that descriptions can be quantified into, they need not be phrases without variables like ‘the present King of France’, but might contain variables that are bound by outside quantifiers. Second, that conditionals of this type can be true even though, according to Frege and to Strawson, some of the instances of the quantification lack truth-value. So this would be a refutation of both Frege and Strawson.²⁹ It’s also, it seems to me, a refutation of what is later stated by Hilbert and Bernays, who say that in both ordinary language and mathematics, we require that a description containing variables be everywhere defined, when it is used.³⁰ Hilbert and Bernays’s statement about ordinary language and mathematics is false in connection with Russell’s conditional and similar cases.³¹

Even for the singular case, without variables in the description, Russell gives an example of a conditional truth that contains vacuous descriptions:

The King in “The Tempest” might say, “If Ferdinand is not drowned, Ferdinand is my only son”. Now ‘my only son’ is a denoting phrase, which, on the face of it, has a denotation when, and only when, I have exactly one son. But the above statement would nevertheless have remained true if Ferdinand had been in fact drowned. (1905, p. 47)³²

A better case, perhaps, would be if there were two children, Ferdinand and Sue, and the King had said, ‘if Ferdinand is drowned, then Sue is my only remaining child’. This is still a true statement, even if ‘my only remaining child’ might be vacuous. It might even be the case that at

²⁹ Actually Frege wouldn’t allow this because it’s not a genuine function unless it’s everywhere defined, but *intuitively* Frege is wrong, and he has to provide artificial denotations for empty terms.

Now, of course, there are other theories of presupposition that are not refuted by this example. I am well aware of various theories and have discussed the so-called projection problem myself (‘Presupposition and Anaphora’, read in 1989 at the Princeton conference on ‘Philosophical and Linguistic Approaches to Language’. This paper is unpublished, but I believe its main ideas are reasonably well-known). My point is that the theories actually propounded by Frege and Strawson are refuted. In terms of the modern discussion of the projection problem they reflect the so-called cumulative hypothesis of Langendoen and Savin (1971).

³⁰ Hilbert and Bernays (1934).

³¹ Parallel instances are given later by Benson Mates (Mates 1973) in refutation of Strawson, but Russell already mentions such a case. Mates appears not to notice this. Mates does give mathematical examples in addition to Russell’s that are quite natural, refuting Hilbert and Bernays.

³² Mates *does* notice this example from ‘On Denoting’.

least one description would *have* to be vacuous. Consider the following disjunction (forget about the incomplete descriptions here, another problem, perhaps, but they could be filled out): You are to imagine that a last minute peace conference has taken place, and the deadline is over, but the speaker has not heard news of the result.

- (8) Either the peace treaty has been drawn up and signed or the war has broken out.³³

One of the two descriptions is vacuous, but we don't know which, and nevertheless may assert the disjunction.

So, Russell has an interesting range of counterexamples to both Frege and Strawson here. I do not discuss another, more complicated argument Russell uses against Frege in 'On Denoting', the famous and obscure 'Gray's Elegy' argument.³⁴ But anyway, as we have just seen, there are much simpler arguments against Frege that are in Russell's paper.

Now in an earlier correspondence between Russell and Frege, which has been made famous in papers by Joseph Almog and by Nathan Salmon, Frege says that surely Mont Blanc with all its snowfields is not a constituent of the proposition, of the thought, that Mont Blanc is over 1000 metres high. And Russell replies (roughly), 'Yes, that's what I think, Mont Blanc with all its snowfields is a constituent of the proposition'. This correspondence is mentioned in a footnote in 'On Denoting':

In the proposition "Mont Blanc is over 1000 metres high", it is, according to him, the *meaning* of "Mont Blanc", not the actual mountain, that is the constituent of the *meaning* of the proposition. (Russell 1905, p. 46)

And Russell here is surprised, I guess, and disagrees. I had the good fortune of a trip to Switzerland recently where I saw Mont Blanc from my own hotel window 'with all its snowfields'. I looked very hard but could not see whether it itself or only its *Sinn* was a constituent of the relevant proposition. But at least I knew what they were talking about anyway. Frege seemed to think that the snowfields made Russell's view implausible. If so, maybe global warming will eventually help Russell.

Now let's take Russell's arguments for his theory otherwise.

³³ Those linguists engaged in the projection problem no doubt recognize cases like these (and Russell's 'Ferdinand' case). However, I myself recall giving the example (8) to G. H. von Wright as early as 1962, presumably long before this literature, or at least most of it. All the more so, the same holds for Russell and his original examples! My thanks to Stephen Neale for a correction of the example.

³⁴ In the present issue Nathan Salmon discusses the argument (Salmon 2005).

I shall therefore state three puzzles which a theory as to denoting ought to be able to solve; and I shall show later that my theory solves them.

(I) If *a* is identical with *b*, whatever is true of the one is true of the other Now George IV wished to know whether Scott was the author of *Waverley*; and in fact Scott *was* the author of *Waverley*. Hence we may substitute *Scott* for *the author of "Waverley,"* and thereby prove that George IV wished to know whether Scott was Scott. Yet an interest in the law of identity can hardly be attributed to the first gentleman of Europe. (1905, p. 47)

Now, first, in this example I would replace 'wished to know' with 'wished that he should know'—not only does it involve the famous newer problem of the *de se*, it is a double embedding (and involves intermediate scope problems), whereas Russell is considering this as a single embedding. Therefore I change it to 'George IV wondered whether Scott was the author of *Waverley*' or 'George IV asked whether Scott was the author of *Waverley*', which was in fact the case at the famous banquet.³⁵

The last sentence is a bit of an insult. Most regard the law of identity as obvious, though a few philosophers have questioned it. George IV appears in almost all places to have been a rather bad man, though not all bad,³⁶ but he was one of the most intelligent and educated kings in the history of the British monarchy. He is more likely to have been interested in this than any other English king I can think of, if I understand the relevant history correctly. So he might well have known what is meant by the phrase, 'law of identity'. (An interesting figure actually. If you've seen the play or the film, *The Madness of King George*—the madness is that of his predecessor, George III—his character is fairly well delineated.)

I will skip for the moment the next two puzzles, which are simpler. This one involves an intensional context. Russell says, 'The puzzle about George IV's curiosity is now seen to have a very simple solution' (Russell 1905, p. 51).

³⁵ There is supposed to have been a famous dinner where George IV asked Scott whether he wrote *Waverley*, and Scott falsely denied having written it. (Actually, George IV, then only 'Prince Regent' not 'King', prepared a toast to 'the author of *Waverley*'; implicitly asking Scott to acknowledge authorship.) Scott wrote a series of novels anonymously. The first one was *Waverley*. A derogator of Scott wrote recently in the *New York Times* that all of these novels, famous in their own days, are far from classics, and every single one of them is out of print except for *Ivanhoe*, which has to be read in American high schools. (Later, after I said this in this very talk, a professional writer told me that the novels *are* in print.)

³⁶ His secret marriage and devotion to his Catholic wife, when British law then forbade marriage between royalty and Catholics, strikes me as exemplary. He also struck an alliance with Charles Fox, the leading British progressive of his time, though this may have been for opportunistic reasons. Otherwise, he was foppish, corrupt, and a schemer. And his relations with a later wife were much less admirable.

When we say George IV wished to know whether so-and-so—and I replace this by wondered whether so-and-so or asked whether so-and-so—or when we say that so-and-so is surprising, so-and-so must be a proposition.

Now here's where the distinction between primary and secondary occurrences is first made, and used, in the paragraph:

When we say ... "So-and-so is surprising" or "So-and-so is true," etc., the "so-and-so" must be a proposition. Suppose now that "so-and-so" contains a denoting phrase. We may either eliminate this denoting phrase from the subordinate proposition "so-and-so," or from the whole proposition in which 'so-and-so' is a mere constituent. Different propositions result according to which we do. I have heard of a touchy owner of yacht to whom a guest, on first seeing it, remarked, "I thought your yacht was larger than it is"; and the owner replied, "No, my yacht is not larger than it is". (1905, p. 52)

I have always enjoyed this witty joke and myself use a simpler version, which I have actually tried out in practice.

A: Hello. Oh, sorry, I thought you were someone else.

B: No, I am not someone else.

This is an ambiguity involving an indefinite description. Is person A saying 'There is an x such that x is not you and I thought you were x '? If so, the existential quantifier has outer scope. But taking it with the inner scope, what A is saying is 'I thought that there is an x such that: x is not you and x is you. This joke actually works—a bit anyway.

Russell's old example may be a good joke too. I have done some research on yachts in order to figure it out.³⁷ Surprisingly enough, though the size of a yacht might be thought to be measured in cubic measure—since, after all it's a three dimensional object—it is in fact measured in linear measure. And it doesn't mean the length of the yacht or the length of the keel on the bottom or any such thing, but is given by a complex formula using various factors involving the yacht, but comes out linear, so a yacht could be thirty metres or thirty yards, but that doesn't mean its length, but its *size*. Russell speaks not of its length but rather of its *size*: it is thirty metres in *size*. Russell's analysis of these things, I said, was ignored too much; now, perhaps, it is ignored too much the other way: the joke is wrong. The meaning attributed to the guest by the owner is that of:

³⁷ From 'Yachting' in my edition of *The Encyclopedia Britannica* (1953). In 1905, the formula for yacht size was actually different in different countries. The next year (1906), there was a new formula adopted throughout Europe.

- (9) I thought that the size of your yacht was greater than the size of your yacht.

That's impossible, and that's what the owner is complaining about. But what the guest actually meant was:

- (10) The size that I thought your yacht was is greater than the size that your yacht is.

That implies that there was a unique size that the guest thought the yacht was. Say, if the yacht was 30 metres in size, he thought it was 35 metres in size. But that plainly need not be true: who said that he previously had any exact idea of the size of the yacht? He doesn't have to, and he still can be surprised and say 'I thought your yacht was larger than it is'. The point is stronger when one realizes that yacht size, rather than length, is in question, though the point holds for the weaker notion.³⁸ So Russell's analysis in terms of his theory of descriptions, as stated, is incorrect. I believe my own example is correct. That is an advantage.

(However, since I said the preceding paragraph, Nathan Salmon, with whom I discussed the problem some time ago—probably a year or more—has recently come up with a purely Russellian analysis. His initial reaction had been to use the apparatus he set up in his book *Frege's Puzzle*.³⁹ Now Salmon points out that the sentence 'I thought that: your yacht was larger than it is' must be analysed as 'I thought that: the size of your yacht was greater than the size of your yacht', which simply does not contain the description 'the size I thought your yacht was', but rather simply 'the size of your yacht'. Give all occurrences of descriptions inner scope and you get the yacht owner's jocular (or 'touchy') reply. Give the second occurrence of the description outer scope and the first inner scope and you get a plausible analysis of the guest's remark. For a more detailed discussion of Salmon's views and a published discussion by David Kaplan, see my projected appendix to this paper in a later issue of this journal.)

How to fix up Russell's example is a little complicated, and not clear.⁴⁰ As far as I know, no one has noted that his famous example is, in

³⁸ It would be very difficult to establish the exact size of yacht, or even get a close estimate, at a glance since the formula for calculating it is complicated. The question of yacht size should not be confused with the question of yacht length.

³⁹ For references to this book and its apparatus, see n. 40 below.

⁴⁰ Remember I said this before Salmon talked to me about his new proposal. I was unconvinced by his earlier proposal.

fact, wrong. There need be no such size as the size the guest thought the yacht was.⁴¹

Now back to the George IV example, modified in the way I have suggested so as to disallow intermediate scope: 'George IV asked whether the author of *Waverley* was Scott'. The inner scope (or secondary) analysis will be:

- (11) George IV asked whether there is an x such that x and only x wrote *Waverley*, and $x = \text{Scott}$.

Now, intuitively one trouble with this, which has been largely overlooked in the literature, is that it does look from Russell's analysis as if one thing George IV wanted to know is whether exactly one person wrote *Waverley*.⁴² Perhaps it was written in collaboration (a possibility Russell mentions elsewhere, in connection with another book that was written in collaboration). But probably, in fact, George IV *presupposed* it was not the product of a collaboration. On the other hand, Scott could perhaps be allowed to reply, 'Actually it was written in collaboration'. And though George IV would be surprised, it is not ruled out. Nevertheless, there is a bit of a question about the orthodox Russellian analysis here.

But now consider, worse, the large scope analysis. (In the first part of the talk it looked as if I came to praise Russell; perhaps now it looks as if I came to bury him. But I think this a *marvellous* piece of work.) So the other analysis is:

- (12) There is an x such that x and x alone wrote *Waverley*, and George IV asked whether $x = \text{Scott}$.

Now, Russell comments, 'This would be true, for example, if George IV had seen Scott at a distance, and had asked "Is that Scott?"' (Russell 1905, p. 52). Common sense suggests this would be a reasonable interpretation. However, we are not just dealing with common sense here, but with Russell's theory. Russell's characterization is a good common sense interpretation of the large scope analysis. However, this is an existential quantifier and the variable takes a unique value. What can that

⁴¹ If one took Russell's example as given, with 'the size I thought your yacht was', an obvious proposal is to replace sizes by size intervals, a proposal I had thought of myself. It is not devoid of problems, and to make it plausible the intervals must be vague in their boundaries. (In the discussion Jason Stanley mentioned a paper on comparatives in linguistics published in 1976 that had noticed the problem and made such a proposal, but at the time of this writing I have not received the reference.)

⁴² A parallel example involving an indefinite description is given by Prior (1968), who attributes it to Geach. I thank Christopher Peacocke for forwarding this reference.

value be? Scott himself! But then the first gentleman of Europe *is* interested in an instance of the law of identity, after all! Since the value of the propositional function here is Scott = Scott, the question *would* express an interest in the law of identity. Now, in the paper, Russell introduces his famous distinction between knowledge by acquaintance and knowledge by description and says we often use definite descriptions to denote objects we know only by description and are not acquainted with. In particular, we're not acquainted with the centre of the mass of the sun. We are also not acquainted with *other minds*, he says at the end of the paper. However, there is no suggestion that Scott is to be identified with his *mind* here, nor that 'Scott' is anything other than a genuine proper name. If so, to repeat, an interest in the law of identity *has* been attributed to the first gentleman of Europe! This despite the fact that his interpretation of the large scope analysis is a very commonsensical one. (That is, intuitively it might seem to be quite reasonable.)⁴³

As time went on, Russell's doctrine of acquaintance grew narrower and narrower. By the time of his Lectures on Logical Atomism, we are not acquainted with Scott himself, nor even with a time-slice of Scott. I would have liked to have thought that we were acquainted only with the things in our minds, but that never appears to have been Russell's view. Perhaps we are acquainted only with things in our own *brain*. (I don't really get it.) When I said something about our own *mind*, a Russell scholar (Gideon Makin) referred to the relevant references. Either way, we're not acquainted with Scott anymore, and 'Scott' will be a disguised definite description and this particular problem is solved.

Some later writers have concluded from this type of example—Nathan Salmon is the most elaborate one—that one can wonder whether $a = a$, but not whether a is self-identical, and set up an apparatus allowing the distinction.⁴⁴ I do not think that this distinction is available to Russell in his apparatus, either in *Principia* or in 'On

⁴³ For a parallel discussion, see Soames (2003) Ch. 5. (I thank Stephen Neale for this reference.) Soames correctly observes that Russell would be saved by his later views about acquaintance, which allows acquaintance with very few things; certainly not Scott (and of 'Scott' as therefore a disguised description). But then, as he says, Russell's example and analysis would be destroyed. To suggest that Russell *already* denied that George IV was 'acquainted' with Scott seems therefore, to be quite impossible. In 1905, he even still seems to suppose, as we have seen above, that Mont Blanc is a genuine component of a proposition, so that we must be genuinely acquainted with the mountain (at least if we have seen it).

⁴⁴ See Salmon (1986), and Salmon and Soames (1988) (see especially their introduction to the collection and Salmon 1986a). Salmon and Soames are the principal advocates of the approach mentioned.

Denoting'. So I don't think that this will go for Russell,⁴⁵ and the doctrine of acquaintance better be narrowed as much as possible to get rid of these examples, even though they seem like common sense.

So, two things have been ignored. First, up to a certain late point, Russell's important treatment of scope distinctions of descriptions in intensional contexts, and even in extensional contexts. Second, every single example Russell actually gives for intensional contexts is either questionable or definitely wrong according to Russell's own philosophy, or to the truth. The first has finally come through;⁴⁶ the second, as far as I know, has been largely unnoticed and unknown.⁴⁷ Nevertheless, Russell is right. Scope does matter in intensional contexts. Too bad his own examples have these problems. The Smullyan example, involving

⁴⁵ In a personal communication Salmon assures me that at least he (I'm not so sure about Soames) never thought that he was in agreement with Russell in this respect, even though I can attest that intelligent readers sympathetic with Salmon's position took him that way, and I did too. However, Salmon makes no explicit claim either way, as far as I know, and those readers have simply read it in. An explicit denial that he is purely Russellian here would have been highly desirable.

The Salmon–Soames apparatus depends on a distinction between $\lambda x\phi x(a)$ and $\phi(a)$, which supposedly are different propositions. Then 'a is self-identical' is expressed by ' $\lambda x(x=x)(a)$ ', while ' $a=a$ ' expresses a different proposition. One can doubt or even disbelieve the latter, but not the former (unless one is an exceptional and bad philosopher). Russell has his own more cumbersome notation in *Principia* for $\lambda x\phi x$. Though the Salmon–Soames apparatus may seem to give a reasonably plausible solution to the philosophical problem of 'reflexivity', it seems to me to be plainly unavailable to Russell for the following reasons:

(a) The very term 'propositional function' clearly suggests that Russell did not intend any distinction between $\lambda x\phi x(a)$ and $\phi(a)$. Nor does a mathematician analogously intend any distinction between $\lambda x(x!)(3)$ and the number 6. Nor did Church, inventor of the lambda notation, intend any such distinction.

(b) Russell obviously intends to use the existence of scope distinctions in intensional and even extensional contexts as an important argument that definite descriptions are not genuine names or terms, but rather require his quantificational analysis. But given Salmon's ideas about the lambda notation this argument is lost. For example one could distinguish between λx George IV believes ϕx (the author of *Waverley*) and George IV believes ϕ (the author of *Waverley*). This solution resembles Quine's, and I believe something close to it (using the lambda notation) is made explicitly by Robert Stalnaker and Richmond Thomason (1968).

Moreover, I myself am disinclined to accept Salmon's idea for the following reasons:

(a') Consideration (a) above strikes me as correct in terms of the truth, not just for Russell.

(b') If Salmon is right, there are distinct propositions $\phi(a)$, $\lambda x\phi x(a)$, $\lambda y\lambda x\phi x(y)(a)$, and so on *ad infinitum*, all closely related but distinct. If *n*-place relations are involved, the situation comes to involve complicated infinite trees. Is all this really plausible?

(c') Someone might argue against the necessity of identity by claiming that only the self-identity of *x* is necessary, while the identity of *x* and *x* is contingent. Similarly, he or she might 'refute' Salmon's own argument against vague identity by a parallel argument. Surely Salmon should be wary of this. I am.

⁴⁶ But see n. 9 on Davidson above.

⁴⁷ With the shining exception of Scott Soames's discussion of the large scope reading of Russell's George IV–Walter Scott example, as mentioned above.

modality, is much more straightforward than the examples as Russell gives them, involving propositional attitudes.

About definite descriptions in extensional contexts, surely Russell's beautiful joke foreshadows his later comments on the tendency to construe 'the present King of France is not bald' with the widest possible scope.

By the law of excluded middle, either "A is B" or "A is not B" must be true. Hence either "the present King of France is bald" or "the present King of France is not bald" must be true. Yet if we enumerated the things that are bald, and the things that are not bald, we should not find the present King of France in either list. Hegelians, who love a synthesis, will conclude that he wears a wig. (Russell 1905, p. 48)

The late Gareth Evans once mentioned to me in conversation that Russell's theory predicts more ambiguities than actually occur, and this remark was meant to be an objection to Russell. Now, first, it can be some credit to Russell's theory that it predicts the existence of scope ambiguities that actually do occur, and predicts them from the very nature of the theory, not as some sort of ad hoc solution to a problem. But second, I think, however, that any defender of Russell must concede that in ordinary language the predicted scope ambiguities don't all occur and are subject to some restrictive conditions. There are various restrictions, expressions such as 'a certain' that often call for a wider scope, and perhaps 'scope islands'. Already in *Principia* Russell mentions that in 'the King of France is not bald', the wide scope interpretation is to be preferred. Moreover, Russell himself, as we have seen, regards 'If Ferdinand has not drowned, then Ferdinand is my only son' uttered by King Alonso in *The Tempest*, as true even if Ferdinand *has* drowned, and there is no son. He does *not* say that the statement is ambiguous, and on a wide scope interpretation is false if Ferdinand drowned. Perhaps Russell is inconsistent. If we wish to be charitable, we must commit him to the view that not all scopes are allowed in English.

Now Delia Graff⁴⁸—and maybe this is even in an earlier paper by George Wilson⁴⁹—observes that we cannot construe 'Aristotle was not a philosopher' as having a true interpretation, namely:

- (13) There exists an x such that x is a philosopher and $x \neq$ Aristotle.

⁴⁸ Graff (2001). Graff gives a long list of references concerned with her main issue, predicative vs. objectual interpretations of definite descriptions, including Wilson's paper mentioned next, but as we shall see, seems ignorant of the earliest and most basic one.

⁴⁹ Wilson (1978).

(13) is true, but no one would take 'Aristotle was not a philosopher' in this way. The corresponding case for definite descriptions is more delicate, but Graff and Wilson are surely right in the *indefinite* description case. Graff uses this example as part of an argument, which surely has independent intuitive appeal, as mentioned already by Strawson and Geach,⁵⁰ that sometimes when you use the word 'the' in the predicate after 'is' we are predicating something of the object rather than identifying it, that this is an 'is' of predication rather than of identity. In 'Gödel was the greatest logician of the twentieth century', we seem to be *predicating* something of Gödel rather than *identifying* him with the greatest logician of the twentieth century.⁵¹ Russell says, in *Introduction to Mathematical Philosophy*, that in 'Socrates is a man' the 'is' used is the 'is' of identity:

(14) There is an x such that x is human and Socrates = x .

On the other hand, in 'Socrates is human', the 'is' simply predicates 'human' of Socrates. Richard Montague, apparently in ignorance of Russell (at least, he doesn't cite him, as far as I can remember), tries to treat 'Socrates is human' as simply an abbreviated form of 'Socrates is a man', and accepts Russell's interpretation of the latter, thus eliminating the 'is' of predication altogether.⁵² (Russell, in contrast, regards it as scandalous that 'is' is used ambiguously between predication and identity.) But intuitively one might feel the exact opposite, namely, that it's 'is a man' which is the predicate, that the 'is' here is the 'is' of predication. The negative instance mentioned by Graff (maybe something similar is already in Wilson) could support this: 'Socrates is not a man' does not have a true interpretation either, whereas if all scopes were allowed it certainly would. Of course, this can be gotten rid of by making a restriction on what scopes are allowed rather than by abandoning the interpretation using the identity sign.

⁵⁰ See Graff (2001) for the references.

⁵¹ Probably the example is better if it is false, with the qualification below. (I think the statement about Gödel is true.) But (with all due respect to him), 'Quine is the greatest logician of the twentieth century' is a false statement about Quine (I don't think he would have disputed my assertion), but does not erroneously equate Quine with Gödel. (Graff already mentions the importance of false examples.)

The example could be improved further if the somewhat artificial tenseless 'is' beloved of philosophers were replaced by the more common tensed use of 'was', 'Gödel *was* the greatest logician of the twentieth century'. The 'was' certainly does not suggest that maybe Gödel became someone else later. Nor does 'Bill Clinton *was* the president of the US, but he is no longer'. (Grice and Myro, who believed that such changes of identity are possible—I don't—are *not* supported by such examples.)

⁵² Thomason (1974).

Really the basic argument for the predicative nature of ‘the’ in predicative form is already in a very old example by Leonard Linsky.⁵³ If someone says ‘De Gaulle is not the King of France’ that would be a natural expression by an opponent of de Gaulle who thinks he’s getting too big for his britches, and too dictatorial. (Linsky himself imagines a parent instructing a child.) It would not appear to presuppose the existence of any king of France, let alone to assert it, and the wide scope interpretation is implausible. The statement seems to deny the predication of something to de Gaulle. However, ‘The King of France is not de Gaulle’ sounds a little weird, and seems more likely to have been asserted by a monarchist, who regards de Gaulle as a pretender occupying the throne, which should be occupied by a true Bourbon (or, more simply, someone who erroneously thinks that France is still a monarchy). Linsky’s example, much earlier than Graff’s (and even Wilson’s) has the germ of all the arguments given by Graff. The first form, with ‘de Gaulle’ as subject is, Linsky argues, predicative, and not the ‘is’ of identity. After all, Linsky points out, $a \neq b$ should be equivalent to $b \neq a$! (As President Clinton once said, it all depends on what ‘is’ is!) Yet Graff, careful to list all her predecessors, seems unaware of the Linsky paper. Really, the Linsky paper foreshadows the later arguments. Take Graff’s central case with indefinites — that ‘Aristotle was not a philosopher’ has no true reading. But now put ‘a philosopher’ in a subject position. (I invent an expanded dialogue to make this more plausible.) ‘A [or: some] philosopher was not Aristotle himself, but held that he faithfully followed all his positions’. ‘Who is it you have in mind?’ ‘Averroes’. Then, with the indefinite article in subject position, the wide scope *is* the preferred interpretation, just as Linsky would have predicted.⁵⁴

However, there is trouble here. ‘Yvonne de Gaulle did not marry the king of France’, ‘Dora Black never married a philosopher’, and the like appear not to have wide scope readings either (making the first true, the second false), but ‘the king of France’, ‘a philosopher’ and so on, do appear to be substantive *objects* of their verbs. (And Linsky’s argument about $a \neq b$ and $b \neq a$ applies to ‘married’ also, since ‘married’ is a symmetric relation.) Maybe the *reason* someone might make the statement about Yvonne is sarcastically to deny that de Gaulle is king of France, but the statement appears to be an assertion about the relation between

⁵³ Linsky (1960).

⁵⁴ But I must admit ‘the greatest living logician is Ernest Nagel’, which I once heard seriously affirmed at a sister institution of Nagel’s own Columbia, strikes me as a false assertion about Nagel, not about Gödel (who I think was alive). The same point is true of other assertions, the ϕ is ψ in x , which are ‘about’ x , so I suppose subject vs. predicate position is not the whole of the story.

two objects.⁵⁵ (Graff proposes a theory that definite descriptions are really *always* predicative, but at this time I have not studied her paper enough to comment, nor have I studied Wilson's; but I am relying on naive intuition, which is just as compelling here as in the apparent predicative uses with the copula.)

Many times scope in a complicated case can be indicated by the form of the words, and is unlikely to be interpreted otherwise:

- (15) I mistakenly took it to be the case that the President of Harvard was a teaching fellow

might be most naturally interpreted with inner scopes and as attributing a dual role to the President of Harvard. Graff's predicative interpretation, at least of the indefinite, *may* also seem to be natural. Well, maybe. In fact, in Princeton, the President at least at one time did teach sections of a course, but that's not the most likely interpretation of the displayed formula about Harvard. More likely, someone ran into the President and he was so youthful looking that he was mistaken to be a teaching fellow, not the President. Now, if you say, 'I mistook the President of Harvard for a teaching fellow' then it is probably interpreted as 'The President is such that I mistook him for a teaching fellow', wide scope for 'the President', narrow for 'a teaching fellow'. If you say, in spite of the symmetry of the relationship involved, 'I mistook a teaching fellow for the President of Harvard', it is likely that 'a teaching fellow' has the wider scope and 'the President of Harvard' the inner scope (that is, some teaching fellow one encountered was so old and distinguished looking that I thought he was President of Harvard).⁵⁶ Here language may contain its own scope indicators.

As I already said, in *Principia* Russell proves a metatheorem to the effect that a single description (or, strictly speaking, a single occurrence of a description) can be moved in or out if the existence and uniqueness conditions are fulfilled. He may think he has settled the scope question

⁵⁵ It should also be noted in this connection that Russell states his analysis in a way that brings out the predication in 'On Denoting' (p. 55) when he says that 'Scott is the author of *Waverley*' can be paraphrased as what amounts to 'Scott and only Scott authored *Waverley*,' though the predication itself still involves identity. (As Stephen Neale has reminded me, Russell does this again in 'Knowledge by Acquaintance and Knowledge by Description', p. 217.) The sentences 'Scott and the author of *Waverley* are one' and 'Scott and the author of *Waverley* are one and the same man' both appear to be statements about the identity of objects and are highly relevant in the historical situation, since many books were published under the by-line 'by the author of *Waverley*'.

⁵⁶ Yet another question, relevant to the predicative versus the object uses of definite and indefinite articles is the issue of whether I have actually confused two people with each other, the teaching fellow in question, if that's whom I encountered, or the president. See my remarks on this in Kripke (1977), and also Ludlow and Neale (1991).

for extensional formal languages, but it is hardly so. First, there may be more than one description, or even more than one occurrence of the same description. Second, as he, himself, mentions in ‘On Denoting’—see the first paragraph, quoted above—a description can occur within a description, which gives more possibilities for scope ambiguities but is not treated. Third, a description can be quantified into, as when it stands for a function, as he himself emphasizes in *Principia*. Now, one needs a fixed set of rules for what is allowed in *all* these cases, and it’s not that the treatment will be essentially different, but that Russell himself omits these cases. (In fact, *14.242 and its two subservient theorems underlies the special case.) A description operator may bind a description within its scope and so may an ordinary quantifier. A general theorem will assert that under general conditions, a description can indifferently be moved to any appropriate scope and you get something equivalent. However, if it is bound by a quantifier or another description, it cannot be moved outside of what binds it. Also, suppose a description occurs within another description, but is not bound by the variable in the first description, then you can move in either of the following orders. Move the inner description out first; or move the whole thing. But the orders of moving around and so on have a rather complicated structure only very partially treated by *Principia*, though the authors certainly have the basic idea.

The various ways of moving a description around can be represented in the form of a tree. In underlying structure, all the descriptions are quantifiers already and there is no moving around. If you look at it from the bottom up, that is, consider the ‘true logical form’ first and then use descriptions as abbreviations, everything has been decided at the bottom. The problem arises when the descriptions appear to be terms, and there are no scope operators. A general metatheorem will have the form of a tree of disambiguations depending on how we give a scope to this or that description. When we do want disambiguation, the result may still be ambiguous, and we disambiguate it further until we get, hopefully, to the end. Now we need sufficient conditions for a ‘scope indifference’ theorem, asserting that it follows from certain hypotheses, that once we get to the ultimate logical forms postulated by Russell’s theory, the resulting forms are materially equivalent, regardless of the choices of scope. This theorem will hold for extensional first-order logic. Formula (5) is a special case, with a weak hypothesis that does not work in general. The Hilbert–Bernays conditions mentioned above, though not correct for English or mathematics (see above), are nevertheless *sufficient* for a scope indifference theorem. The exact for-

mulation of such a theorem need not be given here, but is illustrated by the cases discussed above. Descriptions may be moved around freely, and need not be given explicit scope indicators. But of course, as is clear, descriptions containing a variable bound by a description operator of a quantifier must remain inside the operator or quantifier. The problem of finding weaker sufficient conditions than those of Hilbert–Bernays has been given little real attention in the standard literature—perhaps the literature on free logic pays some such attention, but I am ignorant. (And ‘little real attention’ is itself a ‘scholarly hedge’!)

Whereas in the first edition of *Principia* Russell takes negation and alternation as primitive, in the second edition, he proposes to replace them by the Sheffer stroke, or alternatively, it could be the dual notion (‘joint denial’). The Sheffer stroke $p|q$ means ‘not- p or not- q ’. (The Sheffer stroke was, in fact, already known to Peirce, but forgotten. And presumably Peirce knew the dual notion, which is used by Quine in his *Mathematical Logic*.⁵⁷ Russell thinks that this is the most ‘definite improvement’ of *Principia* if it were to be rewritten—that is, one that uncontroversially should be made (see exact quotation below).

If we’re granted that every truth function can be defined in term of negation and alternation, then these terms can be defined in terms of the stroke, as on page xvi of the introduction to the second edition:

$$\neg p =_{\text{df}} p|p$$

$$p \vee q =_{\text{df}} \neg p|\neg q$$

Now, here is the problem. Eliminating descriptions means taking them as terms and then translating them into quantifiers, but regardless of scope, under the hypothesis for a ‘scope indifference theorem’, and subject to the restrictions that I have mentioned. So, what is Russell’s definition of

$$\psi(\iota x)(\phi x)?$$

We wrote it before as:

$$(\exists x)((\forall y)(y=x \equiv \phi y) \wedge \psi x)$$

Now, assuming for the moment that the material biconditional and conjunction are both primitive, and granting the ‘scope indifference theorem’ sketched above, it should be clear that an iteration of the procedure will terminate. But rarely is the biconditional taken as primitive,

⁵⁷ Quine (1940).

it is usually defined. Suppose the Sheffer stroke is taken as primitive. Then negation is:

$$\neg A =_{\text{df}} A|A$$

$$A \vee B =_{\text{df}} \neg A| \neg B =_{\text{df}} (A|A) | (B|B)$$

$$A \wedge B =_{\text{df}} \neg(A|B) =_{\text{df}} (A|B) | (A|B)$$

$$A \equiv B =_{\text{df}} (A \wedge B) \vee (\neg A \wedge \neg B),$$

where I leave the last expansion into primitive notation to the reader. Alternatively, try defining the material biconditional as $(\neg A \vee B) \wedge (\neg A \vee B)$.

At any rate, what looks like only *one* occurrence of ϕ and ψ in the conventional Russellian analysis of $\psi (\neg x \phi(x))$ is obviously becoming many, many occurrences of ϕ and ψ in the analysis. Now, suppose either ϕ or ψ itself, or worse, both, contain a description, or one or both contain many (occurrences of) descriptions. With an unfavourable choice of scopes there will be more (occurrences of) descriptions in the analysis than there were originally in the analysand! The dangers involved in this situation I call the dangers of a *hydra*; that is where you are trying to unpack things you always have more occurrences of descriptions than you had before. That's what I call the 'hydra problem'.⁵⁸

Now, Russell says in the introduction to the second edition of *Principia*:

The most definite improvement resulting from work in mathematical logic during the past fourteen years is the substitution, in Part I, Section A, of the one indefinable 'p and q are incompatible', (or, alternatively, 'p and q are both false') for the two indefinables 'not-p' and 'p or q'. This is due to Dr. H. M. Sheffer. (Whitehead and Russell 1927, p. xiii)

Now, Russell does not say, contrary to what is attributed to him by Warren Goldfarb,⁵⁹ that this is the most important work done in mathematical logic since the first edition of *Principia*. The 'most definite improvement': Russell is talking about the ways the book should be rewritten if he had the time, and, in fact that's all he means. 'The most definite improvement' means the improvement least open to contro-

⁵⁸ Nathan Salmon once emailed me. He couldn't see the problem, because he had learned logic from the textbook by Kalish and Montague (1964) which takes all the connectives, including the material biconditional, as primitive. This is unusual. Later, Salmon wrote he doubted they were trying to avoid hydras.

⁵⁹ Warren Goldfarb, in the paper cited in n. 18 above.

versy or doubt. It shows that propositional logic needs only a single primitive, and moreover Nicod has shown that you can get by with only one axiom for propositional logic that way. In deference to Goldfarb, I should add, though he has lost the battle perhaps he could have won the war.⁶⁰

Now to state a theorem: In the second edition Russell favours taking the Sheffer stroke as the sole primitive of propositional logic. One theorem that I recall I proved is that with a bad choice of scopes, using a Sheffer stroke or its dual will allow for a hydra. Some paths of the tree will go on infinitely and never come to an end. It is intuitively obvious, although syntactically much more difficult to prove, that all terminating paths are equivalent. But non-terminating paths are equivalent to nothing in particular because they don't lead to any analysis. The general thing to do to try to get a path *not* to terminate is to choose the scopes so they have as many occurrences of descriptions embedded in them as possible. That will improve the chances for an increase in the number of occurrences of descriptions. The opposite strategy, making the scopes as narrow as possible, is what would lead to a termination. Now, even for alternation and negation as primitive, or dually for conjunction and negation, the problem still exists. Temporarily, if everything is in primitive notation, an elimination of descriptions may lead to an analysis with more occurrences of descriptions than there were before. In these cases, however, I recall proving—though it really takes proving!—that there are no real hydras. Every path eventually terminates, and all are equivalent.

Hilbert and Bernays give an analysis in their book, not with the Sheffer stroke as primitive, that a certain particular procedure terminates

⁶⁰ Nicod (1917). Though Goldfarb has lost this battle, in a way his basic point is right. Russell probably did not properly follow later work on logic. Russell may or may not have known of such developments as the work of Löwenheim or Skolem, but, in any event, he would have regarded them as irrelevant to the *Principia* project. However, he is very concerned with the problem of developing mathematics purely predicatively, dropping the axiom of reducibility and adding axioms of extensionality. He believes, what is now known to be in error, that he has managed to prove mathematical induction without postulating it. However, in the introduction to the second edition, he still sees a problem in the Dedekind ordering of the continuum, and hence presumably in the developments of real analysis. But one of the books he cites at the end of his paper as a further development of mathematical logic—this bibliography of further developments also gives the lie to Goldfarb's assertion that he thought the Sheffer stroke the most significant later development in mathematical logic—is Hermann Weyl's *Das Kontinuum*. This book, which postulates mathematical induction and deals precisely with the problem about developing analysis predicatively, assuming induction, and hence with the problem he is concerned with about the continuum, is a work he probably, despite his excellent German, has not read. The proper conclusion is that although he *is* aware (probably contrary to the impression Goldfarb has) that significant other developments in logic have taken place, he probably has not kept up with them, even when they are highly relevant to his project in *Principia*.

and eliminates descriptions. Other treatments of the problem are given by Joseph Shoenfield⁶¹ and Edward Nelson.⁶² A model-theoretic treatment of the problem, which is much easier, has been given by Elliot Mendelson.⁶³ All these treatments show that specific procedures can be given to eliminate descriptions.

As Quine wrote in his original criticism of Smullyan, for a formal language (without intensional contexts and not in natural language— in other words, we eliminate Quine's original errors), under reasonable hypotheses (actually, Quine ignores the case of descriptions with variables, where the Hilbert–Bernays hypotheses we have been using are rather strong), if descriptions are thought of as terms it is unnatural to have scope distinctions in the language. So a 'scope indifference theorem' is important to Russell's theory as a surrogate for one in which definite descriptions are definite terms. Such a theorem does exist in the case of all terminating paths, and this is not brought out in the specific elimination procedures cited in the preceding paragraph. However, as I have said, in the case of the Sheffer stroke and its dual, not all paths terminate, while with disjunction and negation (or its dual, conjunction and negation), all paths do terminate, but the result is not trivial.

In sum, it is hardly so incontestable as Russell thought, that the Sheffer stroke should be taken as primitive. If we want scope to make no difference at all in the case of non-empty descriptions and totally defined functions, perhaps we want *all* paths to terminate and be equivalent—which does not happen (no hydras). If \vee and \neg are primitive, as in the first edition, the desiderata are achieved, but the proof is nontrivial. As far as I can see, only a choice of connectives with redundancies (not all independent) can avoid hydras trivially.

Guess what? I guess I'm through!⁶⁴

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⁶¹ Shoenfield (1967).

⁶² Nelson (1986).

⁶³ Mendelson.

⁶⁴ My thanks to the transcriber, whose identity I don't know. Special thanks go to Stephen Neale and Romina Padró for their invaluable help in the editing of this paper. Since they took such an active part in the editing, clearly any philosophical or technical errors that remain are due to them!

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Plural Descriptions and Many-valued Functions

ALEX OLIVER AND TIMOTHY SMILEY

Russell had two theories of definite descriptions: one for singular descriptions, another for plural descriptions. We chart its development, in which ‘On Denoting’ plays a part but not the part one might expect, before explaining why it eventually fails. We go on to consider many-valued functions, since they too bring in plural terms—terms such as ‘ $\sqrt{4}$ ’ or the descriptive ‘the inhabitants of London’ which, like plain plural descriptions, stand for more than one thing. Logicians need to take plural reference seriously if only because mathematicians take many-valued functions seriously. We assess the objection (by Russell, Frege and others) that many-valued functions are illegitimate because the corresponding terms are ambiguous. We also assess the various methods proposed for getting rid of them. Finding the objection ill-founded and the methods ineffective, we introduce a logical framework that admits plural reference, and use it to answer some earlier questions and to raise some more.

1. Russell’s theory of plural descriptions

Everybody knows that Russell had a theory of definite descriptions. Not everybody realizes that he had two: one for singular descriptions, another for plural descriptions. The contents of ‘On Denoting’ have blinkered the popular conception of his agenda.

1.1 *The Principles of Mathematics*

In the *Principles* class talk is plural talk: ‘so-and-so’s children, or the children of Londoners, afford illustrations’ of classes; ‘the children of Israel are a class’ (1903c, pp. 24, 83). Readers brought up on modern set theory must beware. Russell’s plural descriptions each stand for many things, and accordingly his classes are ‘classes as many’: they are many things—the children of Israel *are* a class—not one. (Unless, of course, they only have a single member. Throughout this paper we use the plural idiom inclusively, to cover the singular as a limiting case. Purists should read ‘the *F*s’ as ‘the *F* or *F*s’ and adjust the context to suit.)

Russell first investigates plural idioms in the chapter on ‘Denoting’. His exposition is complicated, however, by his insistence that distribu-

tive and collective predications need to be given different and separate analyses. To do this, he makes 'every *F*' do duty for 'the *Fs*' in distributive contexts, and makes 'all *Fs*' do duty for it in collective contexts:

I use *all men* as collective, i.e. as nearly synonymous with *the human race*, but differing therefrom by being many and not one. I shall always use *all* collectively, confining myself to *every* for the distributive sense. Thus I shall say 'every man is mortal', not 'all men are mortal'. (p. 45 n.)

This explains what would otherwise be a mystery, namely that his account of 'the notion of *the*' is confined to singular description. The reason there is no discussion of a denoting concept *the men* is that the pair of concepts *all men* (collective) and *every man* (distributive) have taken its place.

Russell's substitution of 'every' is harmless: 'Every inhabitant of Troy was killed' is equivalent to 'The inhabitants of Troy were killed'. But his other substitution is perverse, since the rule is that 'all' does *not* fit collective contexts.¹ 'The Greek soldiers surrounded Troy' is fine, but 'All Greek soldiers surrounded Troy' is not good English. No wonder, then, that he fails to give a single example. Instead he resorts to the special case of a number of named things which he can list, as in 'Brown and Jones are two of Miss Smith's suitors' (p. 56).

His analysis of collective predication ('are two') is significant because it dictates a radical pluralization of the notion of the logical subject of a proposition:²

In such a proposition as "A and B are two", there is no logical subject: the assertion is not about A, nor about B, nor about the whole composed of them both, but strictly and only about A and B. Thus it would seem that assertions are not necessarily *about* single subjects, but may be about many subjects. (pp. 76–7)

In the next chapter he uses plural idioms to explain his notion of classes. It is here that he poses a question 'which is very fundamental in the philosophy of Arithmetic', and was to dog him for the rest of his time as a logician.³

¹ Remember that we are dealing with bare 'all', not 'all the ...'. The only exceptions we know of are cases like 'All men are created equal', where the predicate is collective for the rare and peculiar reason that it does not even make sense in combination with a singular subject.

² For the sake of the narrative we have cut out much of the relevant background philosophical logic of the *Principles*. It is set out in 'Russell's numerical conjunctions', sect. 5.2 of Oliver and Smiley (2004).

³ See Russell (1906d, p. 189; 1910, p. 376), and Whitehead and Russell (1910, p. 75). Also see Whitehead and Russell (1912, p. 4), with its dire solution that 'a class α consisting of many terms ...

Is a class which has many terms to be regarded as itself one or many? ... it seems plain that it is many; yet it is quite necessary that we should be able to count classes as one each, and we do habitually speak of *a* class. Thus classes would seem to be one in one sense and many in another. (p. 76)

His immediate response is to exploit the distinction between the class as many and the 'class as one', the latter being introduced as a special kind of whole made up of the many items of the former. The distinction 'is often made by language ... the army and the soldiers, the navy and the sailors, and the Cabinet and the Cabinet Ministers' (p. 68), where the first item in each pair stands for a class as one and the plural description stands for a class as many. This gives him an answer to his question. Classes as many 'are only many, and are not also one', whereas the corresponding classes as one are 'only and essentially one' (pp. 76, 68).

Classes as one soon drop away because of the contradiction they generate, and in an appendix Russell argues by elimination of five rival candidates that 'the class as many is left as the only object which can play the part of a class' (p. 515). The fact that 'object' is being used here in a special sense covering both singular and plural, raises 'grave logical problems' (p. 55 n.; see also p. 136) and suggests that he is still flailing about. Eventually, however, he settles for the view that classes are really many and not one. They can be counted 'as though (*sic*) each were a genuine unity', but this is only a special, derived sense of *one* (pp. 516f.). He rounds off the discussion by asserting:

The fundamental doctrine upon which all rests is the doctrine that the subject of a proposition may be plural, and that such plural subjects are what is meant by classes that have more than one term. (p. 517)

1.2 'On Denoting'

The denoting phrases of the *Principles* are reproduced *en bloc* in 'On Denoting'. In particular, its opening list includes both his substitutes for plural 'the men' — 'all men' and 'every man'. 'The' itself is confined to the singular, just as it was before. Like the rest, sentences containing 'all men' and 'every man' are reduced to forms in which the denoting phrases do not occur. By now, however, the supposed collective meaning of 'all' has been forgotten and abandoned. 'C(all men)' now means the same as 'C(every man)' (1905a, p. 44), and is reducible to "If *x* is

seems to be at once one and many. But in fact it is α that is many, and $\iota'\alpha$ that is one.' Dire because a unit class $\iota'\alpha$ is only one if it has just one member, that is, if α is one; so we are back with α 's being one and many.

human, then $C(x)$ is true" is always true' (p. 43). If Russell had given a moment's thought to his discussion in the *Principles*, and tried out his pattern of reduction on 'Brown and Jones are two of Miss Smith's suitors', he would have seen that it cannot be right; but he did not. The upshot is that he avoids any serious engagement with plural descriptions. After all, 'On Denoting' is only a 'preliminary sketch', and the grammatical difference between singular and plural is played down as a mere matter of psychological suggestion (p. 43 n.).

Suppose he had taken plural descriptions seriously, and imagine an addendum to his article. First he would knock out rival theories that treated them as genuine terms. We would hear about the difficulties presented by 'The present Consuls of Rome are bald' and 'Beaumont and Fletcher are the authors of *The Maid's Tragedy*', and how the meaning of the denoting complex 'the first two lines of Gray's *Elegy*' leads to an inextricable tangle. We would also be told that some cases may escape the net and be treated as genuine terms, plural logically proper names such as 'these' and 'those' when they stand for sense-data.

So far this is routine, but now he has to produce his own positive account, eliminating plural descriptions in favour of pieces of quantificational apparatus. A first thought would be a simple variation on his treatment of singular descriptions, reducing 'the F s G ' to 'There is at least one F and every F G s'. This is fine as long as F and G are both distributive predicates, as in 'The sons of Mr So-and-so are bald'. It is a different story with 'The sons of Mr So-and-so are two of Miss Smith's suitors' or 'The men who wrote *The Maid's Tragedy* are bald'. We have seen that Russell was well aware of such collective predicates, and he would realize that the simple pattern cannot cope with them. Nor can a satisfactory account be given within his current logical framework, since it only contains singular quantification. He would need to add plural quantification. With F distributive and G collective, 'The F s G ' can then be reduced to 'There are some things such that every one of them and nothing else is F , and they G '. When F is collective, a different pattern of reduction applies: 'There are some things such that they F and no other rival things F , and they G '.

We said that Russell's arguments against other theories would leave room for some residual plural terms, the logically proper names. Now we can see that a successful Russellian elimination of plural descriptions actually *needs* the notion of a plural term, in the shape of plural variables to represent the pronoun in 'they F ', 'they G '. In other words, the doctrine of the *Principles*, that the logical subject of a proposition

may be plural, is demanded by an adequate treatment of plural descriptions within the framework of 'On Denoting'.

1.3 The role of 'On Denoting' in the genesis of *Principia Mathematica*

Russell's actual theory of plural descriptions is not at all like our imaginary addendum. As we shall see, it depends on the theory of classes of *Principia Mathematica*. Describing the gestation of that theory, he says: 'In April 1904, I began working at the Contradiction again ... I tried to do without ι as an indefinable,⁴ but failed; my success later, in the article 'On Denoting', was the source of all my subsequent progress' (1906a, p. 79). And later, 'My first success was the theory of descriptions, in the spring of 1905 ... This was, apparently, not connected with the contradictions, but in time an unsuspected connection emerged' (1959, p. 79). What was this connection?

To answer the question requires a potted history of Russell's (philosophical) activities from 1903 on. He had already lost faith in both halves of the 'fundamental doctrine' of the *Principles*. In thinking about a sequel he had raised an objection which, if correct, tells against the very idea of a plural term (see section 4.1 below). Then too, the book's theory of types, though blocking the Contradiction for classes, could not solve a closely analogous paradox concerning propositions. It also drew a distinction between a unit class and its member, and introduced a null class, both quite at odds with his explanation of classes as many. Looking back on it all in the Preface, he confessed, 'I have failed to perceive any concept fulfilling the conditions requisite for the notion of *class*'.

The following period was dominated by attempted solutions to the Contradiction, whose only common feature is that none try to explain class talk in terms of plural talk and all steer clear of classes as many. In 1903 he told Frege of his discovery that one can 'do arithmetic without classes' by eliminating them in favour of propositional functions: 'this seems to me to avoid the contradiction' (Russell 1903b, p. 159). As Frege pointed out, the idea is a flop, since Russell allows that a function may be its own argument, and the contradiction simply recurs for functions. Later he drew up a cost-benefit analysis of Zigzag, Limitation of Size, and No Classes theories, before plumping for the last (1906c, p. 164 n.). It contends that

all significant propositions concerning classes can be regarded as propositions about all or some of their members ... The method of substitution, by

⁴ Prompted, we guess, by Whitehead's 'We cannot either way get rid of $(\iota x).\phi'x$ as a primitive idea, can we?' (1904).

which I have proposed to effect this interpretation, is more or less in the nature of a technical device, to be replaced by a more convenient device if one should be discovered. The important point is merely to provide a mode of interpreting the ordinary statements about classes without assuming that classes are entities. (1906b, p. 200)

The 'more convenient device' turned out to be propositional functions, though now (1908) governed by a Fregean distinction of levels that avoided the earlier objection, and this became the theory of *Principia Mathematica*. Shorn of irrelevant complications and using 'order' in the modern sense, it analyses the apparently first-order predication $G(\hat{x}Fx)$ as the higher-order predication $G(F)$.

Returning to our question, we can see at once that 'On Denoting' cannot be credited with being the inspiration for the elimination of classes, since that predated it by two years. (The article itself only mentions classes four times in passing and takes them at face value: see pp. 43, 46, 47, 55.)

Russell himself tried to assimilate the Theory of Descriptions and a No Classes theory:

classes are in fact, like descriptions, logical fictions, or (as we say) 'incomplete symbols'. (1919, p. 182)

classes ... are 'false abstractions', in the sense in which 'the present King of England', or 'the present King of France' is a false abstraction. (1906d, p. 166)

This is all over the place. In his search for a covering formula, he confuses use and mention in a way that is for once really pernicious. It is phrases, not things, that are incomplete symbols. It is things, not phrases, that are fictions or false abstractions. The theory of descriptions is not a No Kings theory.⁵ The present King of England—the thing, not the phrase—was not a fiction or a false abstraction: he was an authentic concrete object, Edward VII in all his corpulent majesty.

To draw a tight analogy between *Principia's* contextual elimination of classes and 'On Denoting's' theory of descriptions would be to commit a quantifier-shift fallacy. *Principia* eliminates every sort of reference to one particular sort of thing (classes). 'On Denoting' eliminates one particular sort of reference (definite description) to every sort of thing.

⁵ Cf. Neale (2001), p. 135: 'Gödel thought some of the central difficulties of *Principia* arose precisely because Russell refused to admit classes and concepts as real objects. I suspect Gödel's worries about defining away classes by contextually defining the expressions that purport to refer to them may have clouded his thinking about contextually defining descriptions. There is an important ontological difference: contextually defining class expressions gave Russell a way of defining away *classes* themselves (so to speak); contextually defining descriptions gave him a way of defining away the king of France and the round square (so to speak) but it did not give him a way of defining away *objects*.'

Since in fact they are doing different jobs, it is no surprise that the supporting arguments are also different: 'in the case of descriptions, it was possible to prove that they are incomplete symbols. In the case of classes, we do not know of any equally definite proof' (Whitehead and Russell 1910, p. 75). Had they been doing the same job, the arguments would have been the same. Just as we hear (pp. 69–71) about the difficulties presented by 'the round square' and 'Scott is the author of *Waverley*', we would have heard about ' $\hat{x}(x \notin x)$ ' and ' $\emptyset = \hat{x}(x \text{ wrote } \textit{Slawkenburgius on Noses})$ '. As a result, a class abstract $\hat{x}(\phi x)$ —'the class determined by ϕ '—would have been treated in the same way as 'On Denoting' treats descriptions in general, except that the 'at most one' clause would not be needed because it is axiomatic of classes. This treatment of class abstracts is indeed just what we find in the manuscript 'On Fundamentals', written immediately before 'On Denoting', where $\hat{x}(\phi x)$ is treated in tandem with $\lambda x(\phi x)$ (1905b, sect. 41).⁶

The influence of 'On Denoting' on and after the development of *Principia* is undeniable, but it was a matter of stimulus and change of worldview. Its immediate effect was a revival of interest and confidence in the possibility of eliminating classes. Within four months he had mooted a new version of the abandoned 'substitutional' No Classes theory (1906c), and after two more he felt 'hardly any doubt that [it] affords the complete solution of all the difficulties' (1906c, p. 164 n.). The 'unsuspected connection' between the new theory of denoting and the new theory of classes is that each eliminates some expressions that 'inevitably suggest[s] the existence of something denoted' (1906c, p. 155). Anything stronger is ruled out by the differences described above.

The other effect was Russell's Pauline conversion to a conspiracy theory that has linguistic appearances generally misleading about the make-up of reality—an intoxicating revelation that led him to believe that 'practically all traditional metaphysics is filled with mistakes due to bad grammar' (1918, p. 269), and turned him into an eliminaholic.⁷

⁶ It is thus extraordinary that the otherwise admirable editor of the fourth volume of Russell's *Collected Papers* should think that 'On Fundamentals' contains not only the basic ideas of the theory of descriptions but also those of 'the contextual elimination of classes' which 'led to the treatment of classes as incomplete symbols in *Principia Mathematica*' (Urquhart 1994, pp. 359, xxxv). This is a howler. 'On Fundamentals' has nothing to do with eliminating classes. Indeed the first assertion of the relevant sect. 41 is that every propositional function determines a class.

⁷ He was not the only one to be affected. People are attracted to conspiracy theories, and much of the popular appeal of 'On Denoting' lies in its 'somewhat incredible interpretation' (1905a, p. 44) of its subject matter. On the debit side, a conspiracy theory of logical form provides an excuse for lazy or impatient disregard for the workings of natural languages. On the other hand it creates job opportunities: if things aren't really as they appear, philosophers have work to do by saying how they really are.

1.4 The predicative theory of plural descriptions

Now, finally, Russell's theory of plural descriptions. In his *Introduction to Mathematical Philosophy*, he devotes two chapters to *the*. The first is entitled 'Descriptions' and deals with '*the* in the singular'. The second is entitled 'Classes' and tackles '*the* in the plural: the inhabitants of London, the sons of rich men, and so on. In other words, we shall be concerned with *classes*' (1919, p. 181). He is summarizing *Principia Mathematica*, which makes exactly the same comparison between singular and plural *the*:

the symbol ' $(\lambda x)(\phi x)$ ' is used in our symbolism in such a way that it can always be read as 'the x which satisfies $\phi \hat{x}$ ' ... The symbol should be compared and contrasted with ' $\hat{x}(\phi x)$ ' which in use can always be read as 'the x 's which satisfy $\phi \hat{x}$ '. (Whitehead and Russell 1910, p. 31)

Indeed, Whitehead and Russell constantly treat class talk and plural talk as interchangeable, both in definitions and illustrations. For example,

the class of terms which have the relation R to a given term y are called the *referents* of y , and the class of terms to which a given term x has the relation R are called the *relata* of x ... Thus taking R to be the relation of parent and child, $\hat{x}(xRy)$ = the parents of y and $\hat{y}(xRy)$ = the children of x .⁸

and, dealing with the 'very important idea' of 'plural descriptive functions',

we now introduce the notation ' $R\beta$ ' to mean 'the terms which have the relation R to members of β ' ... Generally, $R\beta$ is the class of those referents which have relata that are members of β ... sin α will be the sines of the various members of α ... the fathers of the children of wise fathers are the class of wise fathers. (pp. 293, 315, 463)

Although this equation of plural talk and class talk goes back to *The Principles of Mathematics*, the relationship between the two is now quite different from the earlier account. There plural idioms were first independently analysed, then used to explain talk of classes. In *Principia*, there is no prior analysis of plural idioms and no explanatory connection. The equation between plural descriptions and class symbols is simply taken for granted. Given this, and the elimination of class symbols in favour of talk of propositional functions, the result is that a plural predication 'the F s G ' is analysed as a higher-order predication ' $G(F)$ '. On analysis, plural descriptions turn out to function as predicates.⁹ Call it the predicative theory of plural descriptions.

⁸ Pp. 255f., with their typographically difficult superscript notation replaced by their own definition of it.

⁹ Compare Dummett: 'a plural noun phrase, even when preceded by the definite article, cannot be functioning analogously to a singular term ... it is only as referring to a concept that a plural

Every English predicate that can go with a singular description can go with a plural one too. So the predicative theory must say that the predicate is in fact two: when it combines with a singular description it is first-level, when it combines with a plural description it is second-level. But no one predicate can be of both levels.

The predicative theory is unacceptable, then, since it makes plainly univocal expressions equivocal. If you ask ‘Who wrote *The Maid’s Tragedy*?’, believing it to have been written by one man, you may be surprised to be told ‘The authors of *A King and No King*’, but you won’t treat the reply as an answer to a different question, as you would if ‘wrote’ were equivocal. If you don’t know how many there were, you may say ‘the killer or killers escaped’. If ‘escaped’ is really equivocal, this ought to produce an incongruous effect. It would be a case of syllepsis or zeugma, where a single occurrence of a phrase with different meanings does double duty: compare ‘went straight home, in a flood of tears and a sedan chair’. But, unlike the example from Dickens, there is no shadow of incongruity here, and so no evidence of equivocal usage.

Univocity of predicates is also needed for the validity of arguments. We give two kinds of examples, one involving distributive predicates, the other involving collective predicates.

- (1) From ‘Whitehead smoked and Russell smoked’ one can infer ‘The authors of *Principia* smoked’.
- (2) *Candyland: A Novel in Two Parts* presents itself as written by Ed McBain and Evan Hunter. Just from reading the book, you would surely say ‘The authors of *Candyland* wrote in quite different styles’, since you would never know that they were the same man, Evan Hunter. But now you can correctly infer ‘Evan Hunter wrote in quite different styles’. Or suppose you read three textbooks. One states that the Axiom of Choice implies *P*, another that the Multiplicative Axiom implies *Q*, and the third that *P* and *Q* together imply *R*. You assert ‘The axioms imply *R*’. The teacher points out that the Multiplicative Axiom *is* the Axiom of Choice, and so you rightly conclude ‘The Axiom of Choice implies *R*’.¹⁰

phrase can be understood, because only a concept-word admits a plural. But to say that it refers to a concept is to say that, under a correct analysis, the phrase is seen to figure predicatively’ (1991, p. 93). He imputes this predicative analysis to Frege, but in fact Frege said no such thing (see Oliver 1994, and Oliver and Smiley 2001, pp. 292–3). In Dummett’s text, for ‘Fregean’ semantics read ‘Whitehead and Russell’s’

¹⁰ A version of this argument was first used to show that Boolos’s representation of plurals within second-order logic is fatally flawed, since he too must find equivocality everywhere. See Oliver (2000, p. 872).

In both cases, however, the predicative theory detects the fallacy of equivocation. In (1), the plural predicate in the conclusion is second-level, while the singular predicate in the premiss is first-level. Similarly in (2), but the other way round. The plural predicate cannot be forced down a level, so the only way to preserve validity is to force the singular predicate up. Yet this is utterly implausible: it would require denying that any predicate can really apply to singular terms.

We need to treat plural descriptions as subjects, not predicates, and so return to the doctrine of the *Principles* that a term may stand for more than one thing.

2. Plural terms and many-valued functions

Though Russell's two theories are completely different in form and rationale, the territory itself cannot be neatly divided into singular and plural. For the two kinds of description can be intertwined via nesting of arbitrary complexity: 'the parents of the son of Mr So-and-so' (singular within plural), Russell's own 'the number of the inhabitants of London' (plural within singular; 1918, p. 243), and so on through Rolf Harris's 'the fascinating witches who put the scintillating stitches in the britches of the boys who put the powder on the noses of the faces of the ladies of the harem of the court of King Caractacus'. Descriptions of both kinds need to be treated simultaneously if one is to have an adequate theory of either. This phenomenon of nesting is characteristic of and generated by functions, and nested functions are essential to mathematics.¹¹ A comprehensive theory of descriptions must be able to deal both with plain descriptions ('the man', 'the men') and those generated by functions ('the square of 4', 'the square roots of 4').

In Oliver and Smiley (2004, sect. 4.1), we make the case for admitting a category of genuine plural terms to stand alongside singular terms. A plural term is a plural noun phrase that purports to stand for some definite individuals (it may in fact be empty). Examples are plural proper names¹² and plural definite descriptions, which may or may not be numerically specific ('the senses', 'the five senses'; 'the men who wrote *Principia*', 'the two men who wrote *Principia*').

¹¹ Smiley (2004, sect. I) objects to Russell's theory of (singular) descriptions on the ground that its elimination of functional terms makes even the simplest mathematical manipulations (e.g. solving a quadratic equation) humanly impossible.

¹² Regularly noted by grammarians. See for example Quirk et al. (1985, sect. 5.72), who mention 'Burnham Beeches' and 'The Pyrenees' among many others.

Our main concern in this paper is with functional value terms ('functional terms' or 'value terms' for short). This is our label for expressions that result from applying a functor to its argument term. Functors may be primitive or descriptive (' $\sqrt{}$ ', 'the square roots of'). Readers of 'On Denoting' will notice that almost all its descriptions are actually value terms of descriptive functors ('the King of', 'the author of', etc). While these value terms are singular, others are plural: ' $\sqrt{4}$ ' and 'the square roots of 4' both stand for 2 and -2.

Linguistic functors express worldly functions. A functor whose value terms are singular expresses a *single-valued* function, that is, one which always produces at most one value. A functor whose value terms are plural typically expresses a *many-valued* function, that is, one which sometimes produces more than one value (not necessarily always, e.g. $\sqrt{0}=0$). Like single-valued functions, many-valued functions may be partial (consider $\sin^{-1}2$, or the even factors of 3).

Many-valued functions are rife in mathematics. Besides square roots, cube roots, etc, there are the inverse trigonometric and hyperbolic functions, and numerous functions of complex numbers such as the logarithm and the exponential. Mathematics expresses them by both primitive and descriptive functors: 'log ξ ', 'the prime factors of ξ ', ' $\xi^{1/2}$ ', 'the members of ξ '. Non-mathematical examples are often expressed using the genitive followed by a common noun or noun phrase, as in 'Henry VIII's wives' or 'Euler's great discoveries'. These genitive constructions should be distinguished from their descriptive counterparts ('the wives of Henry VIII').

So far we have only mentioned 1-place functors, which combine with just one argument term. These express 1-place functions. We shall also speak of *n*-place functors and functions.

A functor may combine with plural argument terms, as in 'the twins' father' and 'the hcf of the even numbers'. The corresponding function will typically be *multigrade* in the sense that it can take variably many arguments—the twins or the triplets, the even numbers or the numbers from 1 to 10. Similarly for *n*-place functions, but for each place separately. A function may be both multigrade and many-valued. When taken at face value, the plural descriptive functions of *Principia* are of this kind: consider *the squares of* applied to the even numbers.

A function that can only take a single argument at a given place is *singular* at that place. Based on its application to the natural numbers, one might think that + is plainly singular at each place. But in the field of complex numbers + shows itself to be multigrade, as witness the

equation $\log ab = \log a + \log b$, bearing in mind that *log* is an infinitely many-valued function (one of Euler's great discoveries).

Much of this discussion of functors and functions carries over to predicates and relations. Predicates may combine with plural argument terms: 'the men are bald' (1-place), 'the reals are more numerous than the rationals' (2-place). An *n*-place predicate expresses an *n*-place relation. A 1-place relation is multigrade if it holds of variably many arguments, otherwise it is singular; similarly for *n*-place relations at each place separately.¹³

The distributive/collective distinction applies to both linguistic predicates and worldly relations. A 1-place predicate *F* is *distributive* if it is analytic that *F* is true of some things iff it is true of each of them; otherwise it is *collective*. Contrast 'smoked' (distributive) with 'wrote *Principia*' (collective). For *n*-place predicates the distinction applies to each place separately. Analogously, a 1-place relation is distributive if it holds of some things iff it holds of each of them; otherwise it is collective. For *n*-place relations the distinction applies to each place separately.

There is a familiar interplay between functors and predicates in which *n*+1-place predicates generate *n*-place functors via singular or plural description. For example, from a predicate expressing the relation of father to son, we can derive the descriptive functors 'the father of', 'the fathers of', 'the son of' and 'the sons of'. The principal use of description in *Principia* is to construct such descriptive functors; there are no primitive functors.

These are the phenomena as they appear to us and, as we shall now see, to mathematicians—but not to logicians.

3. Mathematicians vs logicians

Although we have given plenty of examples of plural terms in everyday use, we do not apologise for emphasising mathematics. The matter is well put by Anscombe and Geach: 'It is indeed quite possible that a philosophy of logic primarily aiming at a satisfactory account of mathematical thought may be inadequate in its account of non-mathematical thought; but if a philosopher is not willing to be taught by the requirements of mathematics at all, we cannot expect his philosophy of logic to be worth much' (1961, p. 131). In this section we contrast the views of

¹³ Beware: 'multigrade' as applied to linguistic items—functors and predicates—means that they take variably many argument terms. A multigrade function or relation may be expressed by a multigrade functor or predicate, but need not be. Here we are not concerned with multigrade linguistic items. For an extended treatment of them, see Oliver and Smiley (2004).

mathematicians and logicians about many-valued functions. On the principle that authorities should not be multiplied beyond necessity, we cite just three mathematicians: ‘the master of us all’, Euler; Russell’s contemporary and reviewer of both the *Principles* and *Principia*, G. H. Hardy; and from last year, Roger Penrose.

Finally, we must make a distinction between single-valued [uniformis] and multiple-valued [multiformis] functions. A single-valued function is one for which, no matter what value is assigned to the variable z , a single value of the function is determined. On the other hand, a multiple-valued function is one such that, for some value substituted for the variable z , the function determines several values. Hence, all non-irrational functions, whether polynomial or rational, are single-valued functions, since expressions of this kind, whatever value be given to the variable z , produce a single value. However, irrational functions are all multiple-valued, because the radical signs are ambiguous and give paired values. There are also among the transcendental functions, both single-valued and multiple-valued functions; indeed, there are infinite-valued functions. Among these are the arcsine of z , since there are infinitely many circular arcs with the same sine. (Euler 1748, p. 7)

This notion of functional dependence of one variable upon another is perhaps the most important in the whole range of higher mathematics ... we shall, in this chapter, illustrate it by means of a large number of examples. But before we proceed to do this, we must point out that the simple examples of functions mentioned above possess three characteristics which are by no means involved in the general idea of a function, viz.: (1) y is determined for every value of x ; (2) to each value of x for which y is given corresponds *one and only one value of y* ; (3) the relation between x and y is expressed by means of *an analytical formula*. It is indeed the case that these particular characteristics are possessed by *many of the most important* functions. But the consideration of the following examples will make it clear that they are by no means essential to a function. All that is essential is that there should be some relation between x and y such that to some values of x at any rate correspond values of y [Example 3] Let $y^2 = x$. Then if x is positive this equation defines two values of y corresponding to each value of x , viz. $\sqrt{\pm x}$. (Hardy 1908, pp. 25–6)

It is not immediately obvious that such an inverse to e^z will necessarily exist. However, it turns out in fact that, for any complex number w , apart from 0, there always does exist z such that $w = e^z$, so we can define $\log w = z$. But there is a catch here: there is more than one answer. ... This feature of the complex logarithm seems, at this stage, to be just an awkward irritation. However, we shall be seeing in §7.2 that it is absolutely central to some of the most powerful, useful, and magical properties of complex numbers. Complex analysis depends crucially upon it. (Penrose 2004, pp. 94–5)

It is clear where these eminent mathematicians stand. What about the logicians? For the period up to the 1960s there seem to be two groups. Frege, Russell, Carnap and Church all believe that the very idea is vulnerable to an obvious objection; see section 4. Tarski, Kleene, Rosser and Quine do not object to them as such, but decide to ignore them nonetheless. Thus Tarski thinks it ‘inexpedient—at least on an elementary level—to denote [many-valued functions] as functions, for this only tends to blot out the essential difference between the notion of a function and the more general one of a relation’ (1941, p. 102). It does not occur to him that adding ‘single-valued’ would be enough to mark the difference. Rosser says ‘We do not make the claim that the notion of “many-valued function” can never be of value ... However, throughout the present text it is futile to try to preserve the distinction between relations and “many-valued functions”, and we do not try’ (1953, p. 286). In the same vein Quine says ‘In analytical geometry and the differential calculus there is indeed point in distinguishing between so-called many-valued functions and other relations, out of considerations of continuity; but not here’ (1969, p. 23). Kleene keeps his cards closer to his chest, only revealing his hand by the insertion at two points of a parenthetical ‘single-valued’ (1952, pp. 32, 33).

Skipping to the logic of the present day, one finds that the situation has changed. Many-valued functions are no longer rejected, or even considered: they are silently defined out of existence.

all that is necessary for a *function*—all that is ‘essential to its nature’—is that it assign exactly one object to anything over which it is defined. (Beall and van Fraassen 2003, p. 16)

What for Hardy was ‘by no means essential to a function’ has become for these authors the one thing that is ‘essential to its nature’. Their introductory example is the ‘familiar ... positive square-root function’. His counterexample, the familiar square-root function with its two values, one positive and one negative, has been ‘disappeared’. The contrast between the two camps could not be more complete.

4. Against many-valued functions: three types of ambiguity

The objection is always that where many-valued functions are concerned, functional value terms are ambiguous, but it comes in three very different versions according to different models for construing such terms. Although the objections are targeted at functional terms, if they work they will work against plural terms of every sort.

4.1 Russell: functional value terms are plural terms

We shall regard it as part of the meaning of a function that it is one-valued; for otherwise our symbols cease to have a definite meaning. Thus $x^{1/2}$ for example can only be admitted if it is accompanied by a decision as to which of the square roots of x it is to denote; otherwise it is ambiguous, and therefore inadmissible. (Russell 1903a, p. 51)

We can agree that ' $\sqrt{4}$ ' is ambiguous in the sense that it denotes 2 and denotes -2 , without agreeing that the ambiguity is damaging. ' $F(\sqrt{4})$ ' is true iff ' F ' is true of what ' $\sqrt{4}$ ' denotes. There is bound to be trouble if only one number can be *what ' $\sqrt{4}$ ' denotes*, since there are two rival candidates. But we should say that 2 and -2 (two numbers, not one) are *what ' $\sqrt{4}$ ' denotes*. The ambiguity (in Russell's sense) of ' $\sqrt{4}$ ' is harmless, since what is said is nonetheless fixed. What matters is *what ' $\sqrt{4}$ ' denotes*. Naturally there is multiplicity here, but no damaging ambiguity. It simply isn't true that ' $\sqrt{4}$ ' can only be admitted if it is accompanied by a decision which of 2 and -2 it denotes. To think otherwise is to confuse ' x denotes y ' with ' y is what x denotes'.¹⁴

Although it is true to say that ' $\sqrt{4}$ ' denotes 2 (without mentioning -2), it is liable to mislead. If someone wants to know what is conveyed by 'The Brontë Sisters lived together', and you say merely that 'The Brontë sisters' denotes Anne and denotes Charlotte, without mentioning Emily, you violate Grice's maxim of quantity governing cooperative conversation: 'make your contribution as informative as is required' (1967, p. 26). The other party will think that you believe that Anne and Charlotte are the *only* individuals denoted by 'The Brontë sisters', and hence that they are *what 'The Brontë sisters' denotes*. (Similarly, 'Brutus stabbed Caesar' is true, but that doesn't make 'Brutus' the right answer to 'Who stabbed Caesar?'. Witnesses do not just swear to tell the truth: they swear to tell 'the whole truth'. The correct answer is a list of the whole huddle of conspirators—Brutus, Casca, Cassius, Cinna, et al.—or at a pinch 'Brutus for one'.)

4.2 Frege: they are singular terms

Frege's inspired idea was to apply the notion of function to the analysis of predication and quantification. He was conscious of having extended the familiar mathematical notion, yet at the same time he was sharply critical of it ('wrong expressions ... wrong thoughts'; 1904, p. 292). In

¹⁴ In Oliver and Smiley (2004, p. 642), we opt for a different approach, by treating the denotation relation as collective rather than distributive at its second place. In this sense ' $\sqrt{4}$ ' denotes 2 and -2 together, but not either separately. It is not now ambiguous in Russell's sense, and ' y is/are what x denotes' does indeed follow from ' x denotes y '. The two solutions are equally viable: the collective and distributive senses of denotation are interdefinable.

particular, he rejected both partial and many-valued functions, and thus frustrated his own ambition to analyse mathematical, and more ordinary, thought and talk.

His rejection of partial functions and the empty terms they generate, is reasoned even if not reasonable.¹⁵ His rejection of many-valued functions is harder to motivate. He was certainly well aware of them, and does not always demur. Thus in *Grundlagen* he explicitly describes $\sqrt{}$ and *log* as many-valued, without raising any objections (1884, sect. 96). They also appear in *Begriffsschrift* under the guise of ‘procedures’, as contrasted with ‘single-valued’ procedures, in his alternative rendering of ‘*B* stands in the relation Ψ to *A*’ as ‘*B* is a result of an application of the procedure Ψ to the object *A*’ (1879, sects 10 and 31). Elsewhere, however, he objects vehemently:

we cannot allow the sign ‘ $\sqrt{4}$ ’ to be equivocal ... Signs must be so defined that it is determinate what ‘ $\sqrt{4}$ ’ means, whether it is the number 2 or some other number ... The sign ‘ $\sqrt{4}$ ’ ... has the stamp of a proper name. (1914, p. 237)

Since Frege’s only model of a term (‘proper name’ in his idiosyncratic use of that phrase) is a singular one, when he says that ‘ $\sqrt{4}$ ’ ‘has the stamp of a proper name’, he means that it should stand for *one* object. His response is therefore to construe ‘ $\sqrt{4}$ ’ as equivocal: it oscillates between the two roots. As he points out in a similar case (1881, p. 16n.), this kind of ambiguity yields contradiction: $2 = \sqrt{4} = -2$, whence $2 = -2$. Hence in the absence of a disambiguating gloss (‘positive’, ‘negative’), ‘ $\sqrt{4}$ ’ is to be banned, and so with it the many-valued function for which ‘ $\sqrt{}$ ’ is supposed to stand.

In *Grundgesetze* he explains the ‘logical danger’ in applying the definite article:

if we wanted to form from the words ‘square root of 2’ the proper name ‘the square root of 2’ we should commit a logical error, because this proper name, in the absence of further stipulation, would be ambiguous, hence even devoid of denotation. (1893, sect. 11)

He does not pause to consider plural ‘the’. Someone who talks of ‘the square root of 2’ may indeed be committing a mathematical error, if he doesn’t realize that he should be saying ‘the square roots of 2’. But Frege will not allow him to correct himself. Similarly, he will not allow us to read ‘ $\sqrt{4}$ ’ as ‘the square roots of 4’, but only as ‘the square root of 4’. But on the face of it, ‘ $\sqrt{4}$ ’ is a term standing for the outcome of applying the function $\sqrt{}$ to the argument 4. Unlike ‘the square root of 4’ it doesn’t

¹⁵ For sharp criticism, see Smiley (2004, sect. III).

have a singular 'stamp' unless something is said or done to give it one. It is a plural term, not an ambiguous singular one.

It should be no surprise that many-valued functions need to be handled with care if fallacies are to be avoided. Maxwell's (1959) splendid collection of fallacies in mathematics duly includes some examples. But it also includes lots of others: division by 0, naturally, but also geometrical fallacies, fallacies of differentiation, integration and limits, fallacious arguments from impossible assumptions, etc. etc. If his work has a moral, it is that *all* mathematics needs to be approached with caution and handled with care.

' $2 = \sqrt{4} = -2$, therefore $2 = -2$ ' is the crudest of the fallacies involving many-valued functions. But to use it to impugn ' $\sqrt{4}$ ' is itself a crude fallacy. Only if ' $\sqrt{4}$ ' is, absurdly, misidentified as a singular term is the original fallacious argument forced upon us. Frege is not the only culprit here. Carnap does the same when arguing that it is only possible to replace a predicate by a functor when it expresses a many-one relation. For, he says, consider a case where

each of ' Rac ', ' Rbc ' and ' $a \neq b$ ' is true. If we were to introduce a functor ' k ' as a surrogate for ' R ', then ' $k(c)$ ' would designate indifferently either a or b and so be ambiguous. Such an ambiguity leads to contradiction: we could write ' $a = k(c)$ ' and ' $b = k(c)$ ', and hence infer ' $a = b$ ' in contradiction to our presupposition. (Abbreviated from Carnap 1958, p. 74)

He has begged the question by taking for granted that ' $k(c)$ ' is a singular term.

4.3 Church: they are common names

It is the idea of a many-valued (singular) function that, for a fixed argument, there may be more than one value of the function. If a name of the function is written, followed by a name of an argument between parentheses, the resulting expression is a common name (see footnote 6) denoting the values of the function for that argument. Though many-valued functions seem to arise naturally in the mathematical theories of real and complex numbers, objections immediately suggest themselves to the idea as just explained and are not easily overcome. (Church 1956, p. 16, n. 41)

What objections? The key phrase is 'as just explained'. In the footnote he cites, Church reports Mill's idea that the general or common name 'man' denotes each man, and adds that common names in natural languages are analogous to free variables in formalized languages. He declines to say that they 'denote' things, reserving that for singular names: 'single denotation ... is replaced by the possibility of various *values* of the variable' (p. 9). So we have two theses: a functional term

is a common name, and it has various values after the manner of variables. That would make it ambiguous in the sense of being indefinite—not standing for anything in particular—rather than equivocal—trying to stand for two things at once. ‘ $\sqrt{4}$ is positive’, like ‘ x is positive’, would fail to have any definite truth-value, which is objection enough.

But why should Church think that a plural functional term is a common name in the first place? He would himself distinguish the functional terms ‘ $+\sqrt{4}$ ’ and ‘the positive square root of 4’ from the common name ‘positive square root of 4’, so in the plural case he should distinguish ‘ $\sqrt{4}$ ’ and ‘the square roots of 4’ from the common name ‘square roots of 4’. He appears to have conflated functional terms and common names on the basis of a vague analogy: in some sense or other, they both indicate more than one thing.

Once common names are recognized as an irrelevance, it becomes clear that the comparison between functional terms and free variables is misconceived. If we were as careful as Church usually is, we should not say ‘ $\sqrt{4}$ is positive’ but ‘ $\sqrt{4}$ are positive’ just as we say ‘the square roots of 4 are positive’. The latter sentence is not indeterminate in truth-value: it is plainly false.

5. Ideas for eliminating them

Church (1956, p. 16) says that because of the objections to them ‘it is usual to replace such many-valued functions in one way or another by one-valued functions’ (he includes relations as one-valued propositional functions). He lists three methods. We examine them along with two more, copying his use of 1-place functions for illustration.

5.1 Replace functions by relations

Starting with the case of a single-valued f , what connection might there be between f and a (singular) 2-place relation R ? The standard modern answer seems to have been first given by Peano: ‘a function is a special relation, where to each value of the variable there corresponds just one value’ (1911, p. 365).

This cannot be the whole story, however. For as Church says, ‘it lies in the nature of any given function to be applicable to certain things and, when applied to one of them as argument, to yield a certain value’ (1956, p. 15). Equally, it is in the nature of a relation that it holds or does not hold of things. No account of functions is complete without the notion *value of*, and no account of relations is complete without the

notion *holds of*. Granted, identifying f with R sets up a link between these two notions: the value of f for argument x is the y such that R holds of x and y , and conversely R holds of x and y iff y is the value of f for argument x . But to be linked is not to be the same. Even if a function and a relation are identified with the same object, the role of this object *qua* function is quite different from its role *qua* relation; a difference reflected by the fact that functors and predicates belong to quite different syntactical and semantical categories.¹⁶

How does this bear on many-valued functions? Peano simply omits the restriction to many-one relations: 'For the authors who talk of a many-valued function, the word "function" is equivalent to "relation"' (1911, p. 365). It is worth noting that the situation as between functions and relations is now completely symmetrical. Quine's 'many-valued functions may best be referred to merely as relations' (1969, p. 23) is matched by Gödel's 'relations can be thought of as many-valued functions' (1940, p. 48). As before, any account of functions needs to include *values of* (the plural now included for the obvious reason), and any account of relations needs to include *holds of*. As before, identifying f and R sets up a link between *values of* and *holds of* without however making them the same: the values of f for argument x are the things y such that R holds of x and y , and R holds of x and y iff y is/is one of the value/s of f for argument x .

So replacing a many-valued function by a relation does give us an alternative way of talking about its values. Instead of ' fx ' or 'the values of f for argument x ' we have 'the things y such that R holds of x and y '. But the objections, remember, applied to the use of plural terms, so merely replacing one such term by another is no solution at all.

5.2 Replace the many values by a set

Some mathematicians do indeed adopt this strategy. Beardon, for example, thinks it is all right because it 'does not lead to any contradiction' (1979, p. 46). But he can only say this because he limits himself to a particular domain, the complex numbers, whereas logicians' terms of reference demand that what they say should apply to all subject matters. The proposal is a version of what we call the 'changing-the-subject strategy', which treats an apparently plural term as a singular term standing for some single object, in this case a set. In Oliver and Smiley (2001) we show that no version of the strategy can work. Here it suffices

¹⁶ See, for example, Mendelson's textbook (1987). Functions are defined as relations in the usual way, but this is accompanied by a notation for the value of a function for an argument (p. 6) which is subsequently used to state the semantics of functors in his system of predicate calculus (p. 48).

to put a single objection. A many-valued function may map its argument to too many things to form a set, in which case they cannot be replaced in the proposed fashion. An example is *the sets that have ... as a member*; another is *the things that are not ...*. Multigrade examples include the generalized identity function, economically expressed by the plural functor 'ξ'.

5.3 Change the domain of arguments

Church's last method is to replace each x in the domain of a many-valued f by all the ordered pairs $\langle x, y \rangle$ for which y is one of the values of f for argument x . Then f can be replaced by the single-valued function 'the second member of' applied to these pairs.¹⁷

Artificial though this procedure is, it works for functions that take only single arguments, for then the new domain contains sufficient information from which to reconstruct the original function. But now suppose that f is multigrade as well as many-valued. A non-mathematical example will be easiest to follow, so consider *the reviewers of ... 's first book*. Who reviewed *Principia Mathematica*, Vol. I cannot be inferred from who reviewed *A Treatise of Universal Algebra* and who reviewed *The Foundations of Geometry*. So no amount of information in the shape of ordered pairs $\langle \text{Whitehead}, y \rangle$ and $\langle \text{Russell}, y \rangle$ will be any guide to the values of our f when it takes the two arguments, Whitehead and Russell. Church's procedure is thus unable to distinguish between multigrade functions that happen to coincide within the restricted territory of single arguments. It therefore fails in its purpose, because it is liable to replace different many-valued functions by the same single-valued one. He might respond by substituting $\{\text{Whitehead}, \text{Russell}\}$ for Whitehead and Russell, so that his domain contains extra elements $\langle \{\text{Whitehead}, \text{Russell}\}, y \rangle$. But this replacement of many arguments by single sets cannot succeed as a general strategy, for the same reason as the replacement of many values by sets, discussed above.

5.4 Other methods

Church does not mention the Fregean idea of postulating an arbitrary default value (say o), and rightly so. For although in the case of partial

¹⁷ Church cites Riemann surfaces in support of the idea, but this is potentially very misleading. Riemann was not trying to get rid of many-valued functions, but to unify the theory of many- and one-valued analytic functions, so that results from either could be extended or applied to the other. See Riemann (1857) and Knopp (1947, sect. II, 'Multiple-valued Functions'). Moreover, the point of his construction lies in the topological interplay between a function's (continuous) single-valued branches, but Church's procedure obliterates all talk of branches.

functions detailed argument is needed to show that it is unworkable,¹⁸ in the many-valued case the fact that it would equate ' $\log a = \log b$ ' indiscriminately with ' $0 = 0$ ' speaks for itself.

The idea of exploiting the principal value of a function might seem to offer a better prospect. It depends, however, on there being some particular range of values from which the rest can be predicted, like positive square roots or the angles between 0 and 2π in trigonometry. It is hard to see how it could cover functions in general. What could be the principal grains of sand of the world's various beaches, and how could the others be predicted from them? What would be the principal members of all the diverse sets, and how could their fellow members be predicted from them?

6. Plural logics

We used many-valued functions as a test case in support of a number of theses about plural reference: that it needs to be taken seriously (section 3), is legitimate (section 4), and not reducible to singular reference (section 5). Here we sketch a formal framework that allows for plural reference, and use it to revisit some earlier topics. Standard practice with predicate logic is to divide it into portions representing different selections of the material, first-order logic being the weakest in expressive power, then second-order logic, and finally higher-order logic. We adopt an analogous procedure.

6.1 Minimal plural logic

The weakest system adds four novelties to the apparatus of first-order logic. (1) Plural variables: while singular variables range over individuals taken one at a time, plural variables range over any number (≥ 1) of individuals taken simultaneously. (2) A logical predicate expressing the relation of inclusion, understood as covering both the inclusion of one thing among several things and the inclusion of several things among other things. We symbolize it by \leq , since identity is included as a limiting case (and is the only possibility when the term on the rhs is singular). The best English rendering of \leq is therefore disjunctive: *is/are* or *is/are among*. (3) A plural description operator, symbolized by an infix colon as in $x:A(x)$, which binds a singular variable to make a plural term out of a formula. If $A(x)$ is satisfied by one or more values of x , then $x:A(x)$ denotes them; otherwise it is empty. (4) Predicates and functors may take plural terms as arguments, and functors may also

¹⁸ On its inability to handle the theory of partial recursive functions, see Smiley (2004, sect. III).

produce plural value-terms; there may also be plural constants. As usual, the semantics assumes that there is at least one individual, though the choice of individuals is not limited to the members of a set. The distinction between singular and plural terms is semantic—singular terms cannot denote more than one thing, plural terms can. It does not need to be marked syntactically, except for variables, since in this minimal system plural variables cannot be bound.

Like first-order logic, the system is axiomatizable, and we present the axioms as an appendix to give the reader a feel for it. A completeness proof is given in Oliver and Smiley (2006), along with a full exposition of the system. Here we merely remark on the power of the plural description operator. Standard first-order quantification is definable in terms of it, namely $\forall x A(x)$ is definable as $x:A(x) = x:x=x$, where the first '=' is understood as in the next paragraph. Contrariwise, it is not itself eliminable in favour of first-order quantification.¹⁹ The singular description operator \imath corresponds to the special case in which a formula is satisfiable by at most one value of x . There is therefore no strict need to include it as a separate primitive: $\imath x A(x)$ can be defined as $y:\forall x(A(x) \leftrightarrow x=y)$.

An obvious use of the system is to provide a formal framework for the expression and manipulation of many-valued functions. Fallacies are avoidable by exploiting the inclusion relation. For example, to express that 2 is one of the square roots of 4, though $2 = \sqrt{4}$ is a howler, $2 \leq \sqrt{4}$ is perfectly correct.²⁰ Where both sides are plural terms, an equation may be appropriate, not of course using singular identity but plural identity. This is definable as reciprocal inclusion: $a=b$ is $a \leq b \wedge b \leq a$. An illustration shows how closely this reflects informal mathematical practice:

The function $\text{Log } z$ satisfies the equation $\text{Log } (z_1 z_2) = \text{Log } z_1 + \text{Log } z_2$, that is to say every value of either side of this equation is *one* of the values of the other side. (Hardy 1908, p. 384)

6.2 Full plural logic

The minimal logic seems to be adequate for a great deal of workaday mathematics. For example, it can express *Principia's* plural descriptive functions: 'the squares of the odd numbers' becomes $x:\exists y(x=y^2 \wedge y \text{ is odd})$. It cannot however represent 'the men who wrote *Principia*' with

¹⁹ Pace Chomsky (1975, p. 98f.), who offers the same elementary variant of Russell's treatment of singular description that was shown to be inadequate in sect. 1.2.

²⁰ Pace Frege's insistence that 'the root sign cannot properly be used to help express that an individual falls under the concept of a root' (1881, p. 16 n.).

its intractably collective predicate. ' x : x wrote *Principia*' is empty, since no single things satisfy the predicate.

To do justice to the wider range of plural descriptions requires moving to the next stage, in which plural variables can occur bound. As with second-order logic, however, the extra expressive strength is gained at the expense of axiomatizability. Using bold letters for plural variables for expository purposes, we now have formulas of the form $\forall \mathbf{x}A$ and $\exists \mathbf{x}A$, and we can carry over the semantics of the \imath operator by analogy from singular to plural variables. That is, $\imath \mathbf{x}A(\mathbf{x})$ will denote some things just in case they satisfy $A(\mathbf{x})$ and no other rival things do so. 'The men who wrote *Principia*' becomes $\imath \mathbf{x}(\mathbf{x}$ wrote *Principia*).²¹ (The numerically specific cases of section 2 can be dealt with in the same way by inserting a clause that exactly n things are included among \mathbf{x} .) Our original plural description operator now corresponds to a special case of the new one: $\mathbf{x}:A(\mathbf{x})$ need not now be taken as primitive, since it is definable as $\imath \mathbf{y} \forall \mathbf{x}(A(\mathbf{x}) \leftrightarrow \mathbf{x} \leq \mathbf{y})$. This nicely takes care of 'the F s' for distributive F , where it would be an error to use the bare $\imath \mathbf{x}F\mathbf{x}$. Likewise for numerically specific 'the n F s' for distributive F .

Readers might expect that plural \imath will be eliminable, by analogy with Russell's contextual definition of singular \imath or the plural versions of it in section 1.2. They would be wrong. The proof turns on the notion of a co-partial function.²² Just as partial functions may map some things onto nothing, co-partial functions may map nothing onto some things. We have already mentioned the obvious many-valued example, namely the 'complement' function *the things that are not ...* or more colloquially *everything but ...* The things that are not the present King of France are all the things there are. Everything but the present Consuls of Rome is everything.

If co-partial functions are taken into account, the description operator is not eliminable. For let F be a primitive predicate and f a primitive

²¹ Here we take issue with Sharvy's 'more general theory of plural descriptions' (1980). In our notation, his proposal is to reduce 'The F s G ' to $\exists \mathbf{x}(F\mathbf{x} \wedge \forall \mathbf{y}(F\mathbf{y} \rightarrow \mathbf{y} \leq \mathbf{x}) \wedge G\mathbf{x})$. But this does not work for collective F . Consider for example 'The men who between them solved the equation did not use Gauss's method'. Suppose Tom and Dick between them solved the equation using Gauss's method, while Tom, Dick and Harry between them solved it by a different method and no one else solved it at all. We think that on the natural reading the test sentence is false, but Sharvy's proposal makes it come out true. If we are right, his claim that 'the' is not to indicate uniqueness. Rather, it is to indicate totality' (p. 623) does not stand up.

²² It is an abbreviated plural version of the proof of non-eliminability of singular \imath in Smiley (2004, sect. IV). Even for the range of contexts in which it is eliminable, he stresses the difference between genuine eliminability from a formal system of logic and what is offered in 'On Denoting' or *Principia*, for Russell's point was precisely the denial that there can be a legitimate logic containing \imath in the first place, and it is impossible to state, let alone prove, an equivalence of which one side is missing.

functor, and consider the sentence $F(f(\lambda x(x \neq x)))$. Since f may for all we know express a co-partial function, the fact that the description is empty does not imply that $f(\lambda x(x \neq x))$ is empty too. We therefore cannot infer anything about the truth-value of our sentence, unlike $F(\lambda x(x \neq x))$ with its empty subject, and the equivalence between it and the logically false $\exists y(\forall x(x \neq x \leftrightarrow x=y) \wedge F(f(y)))$ breaks down, leaving nothing to put in its place.

6.3 Higher-level plural logic

Full plural logic is a vehicle for expressing some of what Russell needed to say about classes as many ‘in spite of the apparent logical difficulty’ (1903c, p. 516). He required ‘a sense for diversity of collections, meaning thereby, apparently, if u and v are the collections in question, that $x \in u$ and $x \in v$ are not equivalent for all values of x ’ (p. 516). Remembering that $x \in u$ will mean ‘ x is one of the u ’s’ (p. 516),²³ his sense for diversity can be expressed using plural $=$. The men who wrote *Principia Mathematica* are not the men who wrote *Grundlagen der Mathematik*. In symbols, $\lambda x Fx \neq \lambda x Gx$.

We can also agree that a class as many is ‘one in one sense and many in another’ (p. 76). Within full plural logic we can define plural numerically specific existential quantifiers by replacing singular by plural variables in the standard definitions of $\exists_n x$. The men who wrote *Principia* are one in this sense: $\exists_1 y(y = \lambda x Fx)$. Yet the men who wrote *Principia* are two individuals as well. This is expressible using a singular numerical quantifier, as $\exists_2 x(x \leq \lambda x Fx)$. There is no contradiction, and hence no problem of the one and the many.

If F is ‘are joint authors of multivolume treatises on logic’, $\exists_2 x Fx$ is true, since the predicate is true of Whitehead and Russell, and of Hilbert and Bernays, and—let us suppose—no other rival things. Since we can count these couples, we would expect to be able to refer to them both at once. Carrying over the semantics of the $:$ operator by analogy from singular to plural variables gives $x:Fx$. In Russell’s words, it stands for ‘many many’s’ (p. 516)—not four men, but a couple of couples. It is therefore a plural term of second level, higher than $x:Fx$.

We have now entered the murky waters of higher-level plural logic. Second-level plural terms will naturally be accompanied by second-level plural variables which will be bound by second-level plural quantifiers and second-level λ . Third-level plural terms can then be created

²³ In thus equating u with the u ’s, Russell surely drew inspiration from Peano: ‘la formule $\overline{x \in} p$ indique la classe des “ x qui satisfont à la condition p ”. On peut lire le signe $\overline{x \in}$ par le mot “les x , lesquels”’ (1897, p. 30).

by again carrying over the semantics of : by analogy, but now from first-level plural variables to second-level ones. And so on up.

A logician who tackles higher-level plural logic needs to answer four questions. (1) Is the idea intelligible? (2) If so, how is it properly expressed? Can we blithely acquiesce in Russell's singular talk ('a couple of couples') and ask for a pinch of salt, or must we always find some genuinely plural mode of expression, whether in a natural or formal language? Then there is breadth: (3) Are the levels cumulative or somehow exclusive? Finally, there is height: (4) How far do the levels go? Once one goes beyond the first level, there is no natural stopping place at any higher finite level. But should the levels proceed into the transfinite? If not, why not? If yes, why stop somewhere, and why there? Recent writers have given very different answers to these questions.²⁴

Long ago, however, in the appendices to the *Principles*, Russell voiced his own opinions. As to expression, he offers no way round singular talk of a class, a class of classes ('associations of clubs') and so on; but at the same time he insists that classes are many's, classes of classes are many many's etc. As to structure, he starts with an exclusive stratification of levels—individuals, classes, classes of classes and so on through every finite level: 'this seems to give the truth ... underlying Frege's distinction between terms [individuals] and the various kinds of functions' (1903c, p. 518). In particular, selection restrictions are imposed: 'in $x \in u$ [x is one of the u 's], u must always be of a type higher by one than x ' (p. 525). Almost immediately, however, he bolts on a cumulative structure accommodating mixed classes such as 'Heine and the French' (p. 524). Correspondingly, selection restrictions are lifted. For example, identity applies to every level and across levels. The construction is thus forced into the transfinite. *All objects* form a level of 'infinite order' (p. 525).

Russell put forward his plural logic 'tentatively ... ; it requires, in all probability, to be transformed into some subtler shape' (p. 523). He never did so, because of his preoccupation with solving the entire span of contradictions from Epimenides to Burali-Forti, in one go. Since it didn't help there, it was abandoned, eventually being usurped by the utterly different ramified theory of types. The first edition of the *Princi-*

²⁴ See Simons (1982, sect. 7), Hossack (2000, pp. 419–20), Linnebo (2004, sect. 5) and Rayo (forthcoming). A common feature of their discussions, however, is the absence of any English examples of higher-level terms. Linnebo resorts to Icelandic. He might have mentioned Breton: see Jespersen (1924, p. 197) on 'plural raised to the second power'. But there may well be cases nearer home. For example, 'The joint authors of multi-volume treatises on logic are Whitehead and Russell, and Hilbert and Bernays' seems to employ a second-level plural description and a second-level nested list.

ples was announced as Volume I. What a pity that he didn't use the second volume to straighten out his plural logic instead of wasting his time on *Principia Mathematica*.

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Appendix. Axioms for minimal plural logic

The axioms are the instances of the following schemes, as they stand or with any or all of their free singular variables universally quantified.²⁵

1. A where A is tautologous
2. $\forall x(A \rightarrow B) \rightarrow (\forall xA \rightarrow \forall xB)$
3. $A \rightarrow \forall xA$ where x is not free in A
4. $\forall xA(x) \rightarrow A(y)$ where $A(y)$ has a free singular variable y wherever $A(x)$ has free x
5. $x=x$
6. $a \equiv b \rightarrow (A(a) \leftrightarrow A(b))$ where $A(b)$ has free b at some places where $A(a)$ has free a
7. $Fa_1 \dots a_n \rightarrow E!a_i$
8. $a \leq b \leftrightarrow E!a \wedge \forall x(x \leq a \rightarrow x \leq b)$ where x is not free in a or b
9. $a \leq x \rightarrow a=x$ where x is a singular variable

²⁵ Letters ' x ' and ' y ' stand for both singular and plural variables, unless they are said to be singular or must be singular because they occur bound. In axiom 6 'free a ' means that no variable free in a is bound at that occurrence of it. In the same axiom $a \equiv b$ abbreviates $\forall x(x \leq a \leftrightarrow x \leq b)$ where x is not free in a or b .

10. $y \leq x: A(x) \leftrightarrow A(y)$ where $A(y)$ has a free singular variable y wherever $A(x)$ has free x

Rule of inference: from A and $A \rightarrow B$ infer B

This list represents a default option in which constants are plural and potentially empty unless otherwise stipulated, functors stand for potentially many-valued functions unless otherwise stipulated, and predicates are collective unless stipulated to be distributive. To make a constant a singular, add an axiom $\forall x(x \leq a \rightarrow x=a)$, and to ensure its non-emptiness add $E!a$, short for $\exists x(x \leq a)$. Single-valuedness conditions on functions can be imposed in a similar fashion. To make a predicate F distributive, add an axiom scheme $E!a \rightarrow (Fa \leftrightarrow \forall x(x \leq a \rightarrow Fx))$, where x is not free in a , or its n -place analogue.

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On Designating

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A detailed interpretation is provided of the 'Gray's *Elegy*' passage in Russell's 'On Denoting'. The passage is sufficiently obscure that its principal lessons have been independently rediscovered. Russell attempts to demonstrate that the thesis that definite descriptions are singular terms is untenable. The thesis demands a distinction be drawn between content and designation, but the attempt to form a proposition directly about the content (as by using an appropriate form of quotation) inevitably results in a proposition about the thing designated instead of the content expressed. In light of this collapse, argues Russell, the thesis that definite descriptions are singular terms must accept that all propositions about a description's content represent it by means of a higher-level descriptive content, so that knowledge of a description's content is always 'by description', not 'by acquaintance'. This, according to Russell, renders our cognitive grip on definite descriptions inexplicable. Separate responses on behalf of Fregeans and Millians are offered.

1.

One of the most important contributions to philosophy of the previous century was made when the century had barely begun. Few articles in philosophy have been studied as carefully as Russell's 'On Denoting',¹ even if its insights have not always been sufficiently appreciated. And few passages have received as careful scrutiny as the famous sequence, eight paragraphs in all, in which Russell presents his argument involving 'the first line of Gray's *Elegy*' and 'the centre of mass of the Solar System'. The argument presents objections to the semantic theory that ascribes to expressions a distinction between 'meaning', that is, semantic content (sense, John Stuart Mill's 'connotation', Frege's *Sinn*), and 'denotation', that is, designation (semantic reference, Frege's *Bedeutung*). Russell's own emphasis demonstrates that the argument plays an important role in the article. Yet the presentation is garbled and confused, almost to the point of being altogether inscrutable and incomprehensible. Alonzo Church commented that Russell's objections in the passage in question 'are traceable merely to confusion between use and mention of expressions, of a sort that Frege was careful to avoid by the

¹ Russell (1905).

employment of quotation-marks. Russell applies quotation-marks to distinguish the sense of an expression from its denotation, but leaves himself without any notation for the expression itself; upon introduction of (say) a second kind of quotation-marks to signalize names of expressions, Russell's objections to Frege completely vanish.² This has proved to be a challenge few can resist.

I present here a new, detailed interpretation of that paradigm of obscure philosophy and discuss specific issues raised by the argument. I believe that previous attempts to decipher the difficult passage fail to capture important aspects of the principal thrust of the argument as Russell intended it.³ Commenting on one previous interpretation, David Kaplan (*op. cit.*, p. 143) said, 'the complete justification of any analysis of Russell's argument clearly awaits a fully annotated version of the two pages.' Yet after listing various interpretations for Russell's use of the phrase 'denoting complex', he added, 'all these (indeed all possible) views regarding the meaning of "denoting complex" are supported by the text' (*op. cit.*, p. 144). I do not claim that my interpretation is the correct one. The textual evidence is insufficient to warrant such a conclusion about any possible interpretation. Although I do not claim that my interpretation is correct, I believe it comes significantly closer to Russell's intentions than previous interpretations have. The interpretation I provide is not merely supported by the text in Kaplan's weak sense; it is strongly suggested by the text. As is to be expected, there are areas of overlap between my interpretation and some previous efforts, but there remain significant differences, while other interpretations have little in common with mine. I will argue that Church's dismissive remarks have greater merit than subsequent interpreters have recognized, but I also hope to show that Church's assessment is fundamentally mistaken.

My objective is by no means purely, or even mostly, historical. My primary purpose, rather, is almost entirely philosophical and ahistorical. It is unimportant philosophically whether my interpretation is faithful to Russell's intent (though I aspire to make it largely so); what is important is whether the main elements of the argument I attribute to

² Church (1943) p. 302.

³ Discussions subsequent to Church include the following, chronologically: Butler (1954); Searle (1958); Geach (1959); Jager (1960); Kaplan (1969); Ayer (1971) at pp. 30–2; Cassin (1971); Dummett (1973) at pp. 267–8; Hochberg (1976); Blackburn and Code (1978a); Geach (1978); Blackburn and Code (1978b); Manser (1985); Hylton (1990) at pp. 249–64; Turnau (1991); Pakaluk (1993); Wahl (1993); Kremer (1994); Noonan (1996); Landini (1998); Demopoulos (1999); Makin (2000); Levine (2004). (I make no attempt to address these discussions, though some comparisons will be made, especially in n. 34 below.)

Russell succeed or fail, and why they do. I believe the intended argument is significantly more germane and forceful—and therefore more pressing—to very contemporary philosophical concerns than has been appreciated. I shall present a sketch of what I believe to be the correct reply to the argument as here interpreted.

Here is the chestnut in a nutshell: The seemingly innocuous thesis that definite descriptions are singular terms is untenable. For the attempt to form a proposition directly about the content of a definite description (as by using an appropriate form of quotation) inevitably results in a proposition about the thing designated instead of the content expressed. I call this phenomenon the *Collapse*. In light of the Collapse, Russell argues, the thesis that definite descriptions are singular terms must accept that all propositions about a description's content are about that content indirectly, representing it by means of a higher-level descriptive content. And this, according to Russell, renders our cognitive grip on definite descriptions mysterious and inexplicable.

'On Denoting' is concerned with the semantics—specifically with the designation, the semantic content, and the logical classification—of expressions of a certain grammatical category, what Russell calls the *denoting phrase*. This is a noun phrase beginning with what linguists call a *determiner*, like 'every', 'some', 'no', or 'the'. A *definite description* is a determiner phrase whose determiner is the definite article 'the', or alternatively a possessive adjective, like 'the author of *Waverley*' or 'my favourite son'. A definite description is said to be *proper* if there is something that uniquely answers to it, and is otherwise *improper*. (To say that something is *uniquely* such-and-such is to say that it and nothing else is such-and-such.) An *indefinite description* is a determiner phrase whose determiner is the indefinite article 'a' or 'an', or alternatively 'some'. Russell calls semantic content *meaning*. This has misled some readers, notably P. F. Strawson, who argues in opposition to Russell that an expression like 'the present queen of England' has the same "meaning" in every context ("occasion") of use, and this meaning fixes whom or what the speaker "refers to" in using the description, so that the designation may vary with the context.⁴ In response, Russell correctly notes that this is utterly irrelevant.⁵ It is perfectly consistent with Russell's views to posit a separate semantic value of a designating expres-

⁴ Strawson (1950), sect. 2.

⁵ 'Mr. Strawson on Referring', in Russell (1959) at pp. 238–40. In this article and also in 'On Denoting' Russell scores additional points against the Fregean theory that Strawson advocates, though I believe Russell does not gain a decisive victory over Frege–Strawson. Cf. my 'Nonexistence' (Salmon 1998).

sion that determines for any given context whether the expression has a content, and if so what that content is.⁶ In order to guard against confusing this semantic value with Russell's notion of "meaning", I shall consistently use the word 'content' for the latter.⁷

Russell's principal topic is the question: How do determiner phrases get at the objects of which we think and speak when we use those phrases? A *singular term* is an expression with the semantic function of designating a single individual or thing.⁸ The very terminology that Russell uses for determiner phrases raises an intriguing possibility: Are determiner phrases perhaps singular terms? In *The Principles of Mathematics*, Russell answered this question affirmatively. In 'On Denoting', he is dissatisfied with his previous effort. Indeed, some determiner phrases are clearly not singular terms. Which single individual or thing would the 'no minor' in 'No minor will be admitted unless accompanied by an adult' designate?⁹ Another class of determiner phrases, the indefinite descriptions, sometimes seem to function as singular terms, sometimes not ('A colleague has invited me to dinner' versus 'No minor will be admitted unless accompanied by an adult'). Still other determiner phrases—the definite descriptions—appear always, or nearly always, to be singular terms.¹⁰ So many theorists, including Frege and the author of *The Principles of Mathematics*, have taken them to be.

One of the central tenets of 'On Denoting' is that determiner phrases are never singular terms. According to the general Theory of Descriptions presented in 'On Denoting', a universal sentence like

Every author is a genius

is properly analysed as:

$\forall x(x \text{ writes} \supset x \text{ is ingenious})$

⁶ Cf. Kaplan's notion of *character* as distinct from content, in Kaplan (1989) at pp. 505–7.

⁷ Fregeans may insert the word 'sense' wherever I use 'content'.

⁸ The context-sensitivity of such terms as 'I' and 'you' does not disqualify them as singular terms. An expression may have the semantic function of designating a single individual even though the matter of which single individual it designates varies with context. Also, an expression may have the semantic function of designating a single individual without necessarily fulfilling its function. Hence, 'the present king of France' is not disqualified simply because France is no longer a monarchy (and would not have been disqualified even if France had never been a monarchy).

⁹ Russell's theory of determiner phrases in *The Principles of Mathematics* omits the determiner 'no'. The omission is rectified in 'On Denoting'. This suggests that its earlier omission was an oversight.

¹⁰ One possible exception would be such definite descriptions as 'the typical woman', which may be a paraphrase for something like 'most women', which is a determiner phrase that, like 'no minor', is clearly not a singular term. There are other exceptions.

or in plain English, *Everything is such that if it writes, then it is ingenious*. The analysans expresses about the conditional property (or ‘propositional function’) of *being ingenious if a writer* that it is universal. By Russell’s lights, the original sentence therefore expresses a proposition that may be seen as consisting of two things: this conditional property and the second-order property of universality. The proposition predicates its second component of its first. There is nothing here—no unified entity—that can be identified as the distinct object contributed to the proposition by the phrase ‘every author’. The first half of the phrase contributes one of the proposition components, and the other half only contributes toward part of the other proposition component. In Russell’s words, the phrase itself “has no meaning in isolation” though the sentences in which it figures do have content. Nor therefore does the phrase ‘every author’ have the semantic function of designating. At best, it corresponds to an “incomplete” quantificational construction: ‘Everything is such that if it writes, then ... it ...’. Similarly, a sentence like

Some author is a genius
is properly analysed as:

$$\exists x(x \text{ writes} \wedge x \text{ is ingenious})$$

or *Something both writes and is ingenious*. The indefinite description ‘some author’ is also relegated to the status of an incomplete symbol for which there is no corresponding proposition component—no “meaning in isolation”—and consequently, no designation. That it does not designate any particular author said to be a genius is confirmed by the fact that, semantically, the English sentence is true as long as some author or other is a genius—any one will do (even if the particular author that the speaker means is not one). A sentence like ‘No author is a genius’ may be analysed either as the denial of the proposition just analysed, or equivalently as a universal proposition, *Everything is such that if it writes, then it is not ingenious*. Either way, the determiner phrase ‘no author’ is seen to lack the status of a singular term.

The special Theory of Descriptions concerns definite descriptions. On this theory, a sentence like

(1) The author of *Waverley* is a genius

is properly analysed as follows:

(2) $\exists x[(\forall y)(y \text{ wrote } Waverley \equiv x = y) \wedge x \text{ is ingenious}]$

or *Something both uniquely wrote Waverley and is ingenious*. By Russell's lights, sentence (1) expresses a proposition consisting of the conjunctive property of *both uniquely having written Waverley and being ingenious* and the second-order property of *being instantiated*, that is, *being a property of something or other*. There is nothing in this proposition that can be identified as the object contributed by the phrase 'the author of *Waverley*', any more than there is a component contributed by the phrase 'every author' to the proposition that everything is ingenious-if-a-writer. Even a definite description, therefore, does not have the semantic function of designating a single individual. In fact, on Russell's analysis the definite description 'the author of *Waverley*' is completely replaceable, with no change in the proposition expressed, by an indefinite description: 'a unique author of *Waverley*'.

Although the description 'the author of *Waverley*' is analysed in such a way that it is not a singular term, the proposition that some unique author of *Waverley* is a genius might still be said to be *about* the author of *Waverley*—to wit, Sir Walter Scott. Since Scott is not actually designated, the proposition is 'about' him only in an extremely attenuated sense. The proposition is straightforwardly about the conjunctive property of *both uniquely having written Waverley and being ingenious*, and it is only through the sub-property of *uniquely having written Waverley* that the proposition 'gets at' the author himself, *qua* unspecified property instantiator. Though the definite description is not a singular term, there is an obvious sense in which it *simulates* designating Scott. Like a name for Scott, it is completely interchangeable with any genuine singular term designating Scott, with no effect on grammar and for the most part with no effect on truth-value—but for contexts like those of propositional attitude in which not mere designation, but the content itself, is at issue. For that matter, the indefinite paraphrase 'a unique author of *Waverley*' also simulates designating Scott. In presenting the Theory of Descriptions, Russell coins (or usurps) a cover term for the disjunction of designation with its simulation. He calls either *denoting*. He should have called the latter *pseudo-denoting*. I believe Russell saw this kind of simulated designation as the chief virtue of his Theory of Descriptions. For him, the simulation of designation of individuals through the genuine designation of properties, and the resulting attenuated *aboutness* of propositions, is the epistemological conduit by which we gain cognitive access to the world beyond the narrow confines of our "direct acquaintance". Though we cannot actually designate those things with which we are not immediately acquainted, sometimes, often in fact, we can "get at" them by describing them as *a such-*

and-such or as *the so-and-so*, pseudo-designating them by these descriptions, knowing them the only way we can: “by description”. The propositions we know are more straightforwardly about properties that we know to be instantiated, not the instantiators themselves.

2.

The ‘Gray’s *Elegy*’ argument must be viewed against this background to be properly grasped. My interpretation of the argument differs from previous attempts in the fundamental issue of exactly what theory is Russell’s primary target. Previous commentators have disagreed about whether Russell is arguing against Frege’s theory of *Sinn* and *Bedeutung* (as Church, Searle, and Blackburn and Code contend), or instead against the particular theory of designating developed in Russell’s own *Principles* of a short time before ‘On Denoting’ (Geach, Cassin, Hylton, Pakaluk, Kremer, Noonan, Landini, Levine, Makin). Some interpreters have maintained that Russell criticizes an arcane and baroque theory that few have held (Jager, Pakaluk). Some reconstruct Russell’s argument in such a way that he primarily attacks a straw-man theory that no one actually held (Butler, Searle). I believe Russell’s target is not exactly any of these.

In one sense, each of the hypotheses, that Russell’s intended target was Frege’s theory, or instead that of Russell’s earlier self, is too broad. The main issue over which these theories differ concerns propositions of a certain stripe. If a proposition *p* is genuinely *about* an object *x* in the sense that *x* is actually designated (and not merely in the way that (2) gets at Scott), then the proposition is about *x* (roughly speaking) in virtue of some proposition component. A *singular proposition* is a proposition that is about one of its own components by virtue of containing it. If *p* is a singular proposition about an object or individual *x*, then the component in virtue of which *p* is about *x* is simply *x* itself and the proposition is about *x* by containing *x* directly as a constituent. By contrast, if *p* is a general proposition about *x*, then the component in virtue of which *p* is about *x* is some sort of conceptual representation of *x*, like the content of a definite description to which *x* uniquely answers, and the proposition is thereby about *x* only indirectly. I shall say of the component of a proposition *p* in virtue of which the proposition is about *x* (whether directly or indirectly) that it *represents* *x* in *p*. A singular proposition about *x*, then, is a proposition in which *x* occurs as a self-representing component. The ‘Gray’s *Elegy*’ argument proceeds by considering the prospect of certain singular propositions. The theory of

the earlier Russell accepted singular propositions. Frege did not. Yet the 'Gray's *Elegy*' argument is not applied specifically against the earlier Russell's acceptance of singular propositions. Russell still accepts them in 'On Denoting', and thereafter. Nor is it applied specifically against Frege's broad prohibition on singular propositions. (Whereas the 'Gray's *Elegy*' argument assumes the existence of singular propositions, it does not require the reader to accept them.) When explicitly criticizing Frege (and also when criticizing Alexius Meinong), Russell focuses on the truth conditions of sentences containing improper definite descriptions, arguing that Frege gets the actual truth-values wrong. The 'Gray's *Elegy*' argument is not concerned with such matters.

In a more significant sense, the hypothesis that the 'Gray's *Elegy*' argument targets Frege's theory, and the rival hypothesis that it targets Russell's earlier theory, and even the conjunction of the two hypotheses, are too narrow in scope. Russell's target is instead a much broader and more basic account of one kind of expression: the definite description. The 'Gray's *Elegy*' argument explicitly targets the theory that a definite description has a semantic content, a "meaning", and that this content determines the description's designatum. The argument is not concerned more generally with theories that ascribe a content/designation distinction to other types of expressions, for example, proper names or sentences. But even the tightly restricted theory that definite descriptions in particular have a content/designation distinction (whether or not proper names, pronouns, demonstratives, etc., do as well) is only the tip of an iceberg. It is a virtual corollary of a more basic theory that Russell wants to displace.

Russell's ultimate aim in 'On Denoting' is to supplant the view that a definite description is a singular term. This view is by no means peculiar to Frege or the earlier Russell. It was also held, for example, by John Stuart Mill and Meinong. And it remains commonplace among language scholars today. It seems obvious that the phrase 'the author of *Waverley*' designates a single individual, namely, whoever it is who wrote *Waverley*. The burden of 'On Denoting' is to depose this very basic, and seemingly innocuous, account of definite descriptions. (Since 'On Denoting', this account is no longer uncontroversial. Still, I myself am strongly inclined to accept the view—with respect to English at any rate.)

It is one thing to persuade an audience that the determiner phrases 'every author' and 'no author' are not singular terms, and quite another to argue convincingly that even the indefinite description 'an author' is not a singular term. Assuming one can overcome that hurdle, there is a

still higher order of difficulty involved in arguing that even the definite description 'the author of *Waverley*' is not a singular term. Russell is aware of the almost irresistible force of the view he opposes, and of the magnitude of the daunting task before him. His logistical strategy is typically bold, and intimidating. He first presents his alternative account, the Theory of Descriptions, admitting that 'This may seem a somewhat incredible interpretation; but I am not at present giving reasons, I am merely *stating* the theory.' Only then does he present objections to the rival accounts of Meinong and Frege (as he interprets them). Russell explicitly labels these objections as evidence favouring his own theory. (In fact, he labels them as *the* evidence favouring his theory, although in the third paragraph of the article he says that the material following his discussion of Meinong and Frege—which includes the 'Gray's *Elegy*' argument—gives the grounds in favour of his theory.) Russell also explicitly characterizes both Frege's theory and his own earlier theory as versions of precisely the sort of theory that, before long, he will attack in the 'Gray's *Elegy*' argument. Thereupon follows a list of puzzles against which he proposes to test any theory of designating that might be proposed, including the Theory of Descriptions. Before showing how his theory solves the puzzles, however, he pauses to present the 'Gray's *Elegy*' argument. Afterward, he shows how the Theory of Descriptions solves the puzzles. He closes by challenging the reader to come up with a simpler theory of designating before daring to reject this one of Russell's invention.

If the best defence is a good offence, then the optimality of Russell's defence is questionable. Not the audacity. The very placement of the 'Gray's *Elegy*' argument, however, raises a question about Russell's overall strategy. If the argument were targeting the theory of Frege, or that of his earlier self, or even both of these, its coming after the presentation of the test puzzles rather than before would constitute a careless lapse in an otherwise impressively brave and aggressive campaign. I submit that Russell places the argument where he does because the puzzles he has just listed presuppose a much broader theory—the theory that definite descriptions are singular terms—and the same puzzles appear to be (indeed, in some sense, they *are*) solvable on that theory, simply by drawing the distinction between content and designation as a corollary.

It is exactly this basic, and seemingly innocuous, account—nothing less—that I believe Russell is ultimately attempting to refute in his 'Gray's *Elegy*' argument. Rather than apply the puzzle test to the theory (which if fairly applied, would result in a clear pass), Russell aims to

refute the theory once and for all. This pre-empts any solution to the puzzles that is predicated on the puzzles' own assumption that definite descriptions are singular terms. With that assumption out of the way, he proceeds to show how the Theory of Descriptions—itsself immune from the kinds of problems developed in the 'Gray's *Elegy*' argument—fares under the proposed test. He thus intends to overthrow by his argument *both* Frege and his former self. But not only these two. Far from attacking a straw man, the 'Gray's *Elegy*' argument effectively aims to debunk Mill, Frege, Meinong, and every other philosopher of language to have come down the pike—including the author of *The Principles of Mathematics*. The 'Gray's *Elegy*' argument is both crucial and central to Russell's overall project and strategy in 'On Denoting'. This is reason enough to attempt to unravel its mysteries.

Russell characterizes his target in the 'Gray's *Elegy*' argument as the theory that attributes content, as distinct from designation, to determiner phrases. This characterization is misleading on two counts. First, the argument concerns only definite descriptions (although a similar objection may be made with at least equal force with respect to indefinite descriptions). Second, the argument does not really target the proposition that definite descriptions have a content/designation distinction. To illustrate: it has been suggested that, contrary to Russell's pronouncement, his proposed analysis together with his higher-order logic provide a "meaning in isolation", overlooked by Russell, for definite descriptions.¹¹ For the proposition Russell offers in analysing (1) may be recast as the proposition that *being ingenious* is a property of someone or other who uniquely wrote *Waverley*. The description 'the author of *Waverley*' contributes to this proposition the second-order property of *being a property of a unique author of Waverley*, making the proposition indirectly about Scott. Thus, it is argued, on Russell's analysis, even though the description does not designate Scott, it has a content after all, since it designates the second-order property of *being a property of a unique author of Waverley*, which is predicated of *being ingenious*.

The suggestion is, in effect, that Russell analyses definite descriptions as restricted existential quantifiers. There are differences between this view and the Theory of Descriptions. The propositions attached to the sentence by the two theories, though equivalent, are not the same. Arguably, the recast proposition is directly about the property of *being ingenious*, not the property of *uniquely having written Waverley*, and hence the proposition is not about Scott in exactly the same way that

¹¹ Kaplan (1986) p. 268

(2) is. For these reasons, it is possible that Russell would have none of it. Although the theory that definite descriptions are restricted existential quantifiers is not exactly the theory Russell proffers, it *is* a very close approximation to it. Close enough, in fact, that it is clearly *not* the sort of theory under attack in the ‘Gray’s *Elegy*’ argument. As far as that argument is concerned, determiner phrases might as well be restricted existential quantifiers. Yet the theory that they are is a theory according to which definite descriptions have both a content and a designation. What saves the theory from the fangs of the ‘Gray’s *Elegy*’ argument is the denial that the description ‘the author of *Waverley*’ designates the author of *Waverley*. On the theory, the description may be reinterpreted as what Russell would later call a *logically proper name* (or a *genuine name in the strict, logical sense*) for the second-order property of *being a property of a unique author of Waverley*. That is, its content is simply what it designates. Alternatively, it may be interpreted as (non-rigidly) designating the corresponding class of Scott’s properties—with the added feature that the description then has a full-fledged content/designation distinction. Still it is not breakfast for the ‘Gray’s *Elegy*’ argument.¹²

Why, then, does Russell characterize his target in the ‘Gray’s *Elegy*’ argument as the theory that ascribes a content/designation distinction to definite descriptions? Because he takes it for granted (as against the theory that definite descriptions are restricted existential quantifiers) that if a definite description designates at all, it designates the individual or thing that uniquely answers to it. He also takes it for granted that a definite description, even when proper, is not a logically proper name, that is, it does not merely contribute the thing that uniquely answers to it to the propositions expressed with its help. Even one as Millian about singular terms as Mill recognized that though there may be a single thing uniquely answering to both of a pair of descriptions—for example, ‘the inventor of bifocals’ and ‘the author of *Poor Richard’s Almanac*’—the descriptions themselves need not be synonymous. For though it is true, it is no *analytic* truth that if exactly one person invented bifocals, and exactly one person wrote *Poor Richard’s Almanac*, then the inventor in question and the author in question are one and the same. Given these assumptions, the theory that there is a content/designation distinction for definite descriptions in particular (whether

¹² By contrast, suppose it were judged—perversely—that the description designates Scott, by virtue of expressing the second-order property of *being a property of a unique author of Waverley* and by virtue of Scott’s literary activities. This theory (which is not the theory that definite descriptions are restricted existential quantifiers) *does* fall under the jurisdiction of the ‘Gray’s *Elegy*’ argument.

or not other there is such a distinction also for proper names, pronouns, demonstratives, etc.) is tantamount simply to the theory that definite descriptions are singular terms. Not only Frege, his followers (like Church and Searle), Meinong, and the earlier Russell, but even Mill, and many of us who are numbered among Mill's heirs, embrace this general account of definite descriptions, which Russell now sets out to refute.

There is a more graphic way to get at the particular theory that the 'Gray's *Elegy*' argument aims to disprove. There is an alternative kind of theory that may be seen as denying the equivalence between the theory that definite descriptions are singular terms and the theory that they have a content/designation distinction. Keith Donnellan argues that what he calls the *referential* use demonstrates how a definite description might be a logically proper name, and might even designate something other than the thing that uniquely answers to it.¹³ It is safe to say that Russell would not have accepted this as a plausible contender regarding the semantics of definite descriptions. Indeed, Donnellan's original objection to Russell was precisely that he failed to acknowledge the possibility of a definite description as a singular term with no content/designation distinction. Saul Kripke has defended Russell against Donnellan's arguments by considering a variety of hypothetical languages that are exactly like English except that Russell's theory, and certain variations of it, are stipulated to be true of them.¹⁴ Though Kripke does not explicitly address the issue, ironically two of his hypothetical languages pave the way for a strikingly similar argument *against* the Theory of Descriptions. Kripke writes:

By 'the weak Russell language', I will mean a language similar to English except that the truth conditions of sentences with definite descriptions are *stipulated* to coincide with Russell's: for example, 'The present king of France is bald' is to be true iff exactly one person is king of France, and that person is bald. On the weak Russell language, this effect can be achieved by assigning semantic reference to definite descriptions: the semantic referent of a definite description is the unique object that satisfies the description, if any; otherwise there is no semantic referent. A sentence of the simple subject-predicate form will be true if the predicate is true of the (semantic) referent of the subject; false, if either the subject has no semantic referent or the predicate is not true of the semantic referent of the subject.

Since the weak Russell language takes definite descriptions to be primitive designators, it is not fully Russellian. By 'the intermediate Russell language',

¹³ Donnellan (1966).

¹⁴ Kripke (1979).

I mean a language in which sentences containing definite descriptions are taken to be abbreviations or paraphrases of their Russellian analyses: for example, 'The present king of France is bald' *means* (or has a 'deep structure' like) 'Exactly one person is at present king of France, and he is bald', or the like. Descriptions are not terms, and are not assigned reference or meaning in isolation. (p. 16).

This yields two competing hypotheses concerning English, as it is actually spoken: that it *is* Kripke's weak Russell language—or WRL, as I shall call it—and that it is Kripke's intermediate Russell language, IRL. As Kripke notes, the phrase 'weak Russell language' is technically a misnomer for WRL. In proffering the Theory of Descriptions, Russell maintains that $WRL \neq IRL$, that English is IRL rather than WRL, and that English merely duplicates the truth conditions of WRL without duplicating its entire semantics. Yet WRL itself seems, at least at first blush, to be a perfectly possible language. The mere possibility of WRL forcefully raises a particular difficulty for Russell's IRL hypothesis. How is one to decide between the two hypotheses? More specifically, what evidence can Russell provide to support the hypothesis that English is IRL rather than WRL? Other things being equal, that English = WRL is probably the more intuitively natural hypothesis. Russell needs to produce some data or other evidence favouring the IRL hypothesis. Yet he can find no difference in truth conditions between English sentences and sentences of WRL. The problem he faces does not concern truth conditions; it concerns *propositional structure*. Moreover, it is difficult to imagine any pragmatic phenomenon that Russell might cite about English that would not also arise, and in exactly the same way, in a hypothetical community of WRL speakers. Lacking such support, the hypothesis that English = IRL is no more compelling than the rival hypothesis that English = WRL. On the contrary, the widespread linguistic intuition that definite descriptions are contentful singular terms provides some measure of support for the latter. *Ceteris paribus*, that English = WRL is probably the preferred hypothesis.

As I interpret it, the 'Gray's *Elegy*' argument is meant to provide exactly what Russell needs to solve this problem. Faced with the challenge posed here, I believe Russell would point to the very phenomena that he cites in the 'Gray's *Elegy*' argument to show that English cannot be WRL, perhaps even that WRL is not a possible language that might be spoken and understood by human beings (or relevantly similar creatures).

In short, for Russell it is clear from the outset, and not subject to dispute (at least as far as 'On Denoting' is concerned), that if a definite

description designates anything, it designates the thing that uniquely answers to it. It is equally clear for Russell that a definite description is not a logically proper name. Given this, the theory that definite descriptions are singular terms (as nearly all language theorists have taken them to be) is tantamount to the following:

ST: A definite description designates by virtue of the description's semantic content, which fixes the designatum of the description to be (if anything) the individual or thing that uniquely answers to the description; further, when the definite description occurs in a sentence, the description's content represents the description's designatum in the proposition expressed.

The hypothesis that English = WRL is a version of *ST*. The 'Gray's *Elegy*' argument, as I interpret it, is meant to refute this theory, and with it the WRL hypothesis.

3.

What is the alleged fatal flaw in the theory *ST*? On my interpretation, Russell may be seen as arguing in eight separate stages (at least), as follows: At stage (I) he argues that there is some awkwardness in so much as stating the very theory *ST* in question. At stage (II) he argues that once a way of stating *ST* is found, the theory, so stated, gives rise to a peculiar phenomenon: the attempt to form a singular proposition about the content of a definite description inevitably results instead in a general proposition about the individual designated by the description. This is the Collapse. At stage (III) the Collapse leads to a preferable formulation of *ST*. At stage (IV) Russell shows that the Collapse remains a feature of the reformulated theory. At stage (V) Russell argues that the Collapse commits *ST* to a very sweeping conclusion: that no singular term designating the content of a definite description can be what Russell will later call a *logically proper name*; instead any such term must be itself a definite description, or function as one. As Russell puts it, on our theory *ST*, 'the meaning cannot be got at except by means of denoting phrases'. At stage (VI) he argues furthermore that the content of a definite description cannot be a constituent of the content of any definite description of it. Russell proceeds to complain at stage (VII) that the results of the preceding two stages are philosophically intolerable. At stage (VIII) he provides a complementary argument for the conclusion that *ST* ignores that which, by its own lights, is philosophically most significant about propositions.

The stages of the argument do not parallel the paragraph breaks. Following Blackburn and Code, the eight paragraphs of 'On Denoting' beginning with the words 'The relation of meaning to denotation involves certain rather curious difficulties' will be labelled '(A)' to '(H)', respectively, ending with 'Thus the point of view in question must be abandoned'. Paragraph (A) is entirely preliminary. The eight stages then occur in sequence. Stage (I) by itself takes up all of paragraphs (B)–(D), ending with the words 'Thus we have failed to get what we wanted'. Stage (II) occurs in an initial fragment of paragraph (E), beginning with the words 'The difficulty in speaking of the meaning of a denoting complex may be stated thus'. These infamous words are following by a brief presentation of the Collapse. Stage (III) occupies the rest of (E). The development of the Collapse for stage (IV) occurs in (F), which progresses through stage (VI). Stage (VII) takes up only an initial fragment of (G). The rest of (G) and all of (H) are devoted to stage (VIII). (See the appendix to this essay for an annotated translation of the full eight paragraphs with the eight stages indicated.)

Given the space that Russell devoted to both the initial stage (I) and the final stage (VIII), one must assume that he placed great weight on them. This is unfortunate, since both of these stages are completely unpersuasive. They are also completely unnecessary, given the reasoning in the intervening stages. Although the reasoning through stages (IV)–(VII) takes up only (F) and part of (G), it forms the heart of the 'Gray's *Elegy*' argument. The alleged flaw in *ST* is exposed early on at stage (II), but even by stage (VI) at the end of (F) it is presented only as a feature that the theory cannot avoid, and not yet as a defect. And indeed, the feature in question is one to which some theorists in Russell's cross-hairs—Frege and many of his followers—explicitly subscribe, though others, like Mill, the earlier Russell, myself, and even some Fregeans like Rudolf Carnap and Michael Dummett, do not. Previous commentators have tended to see the reasoning within (E) and (F), by itself, as already presenting an objection. By contrast, on my interpretation, the alleged philosophical problem with the feature derived in (F)—the claim that it is a defect—is not argued until the first part of (G). I believe Russell makes his case in the latter part of (F) and the first part of (G) more persuasively than has been recognized, though less persuasively than he might have.

Unlike previous interpreters of the 'Gray's *Elegy*' argument, I shall rewrite the entire passage, annotating as I go and using an alternative terminology less liable to ambiguity and other difficulties. I do this in the belief that any interpretation that might be proposed, if it is to carry

conviction, must be accompanied by plausible interpretations for each individual sentence, which, taken collectively, support the proposed interpretation of the entire passage. Moreover, if these interpretations, taken individually, do not make sense of the transition between successive sentences, some plausible explanation (e.g., confusion of use and mention) must be provided. Russell introduces a special terminology for the theory that definite descriptions are singular terms as depicted by *ST*. A definite description of a given language is said to *mean*—in a more standard terminology, it expresses—a *denoting complex* *c* as its *meaning*, that is, its sense or semantic content. The denoting complex *c*, in turn, *denotes*—in Church’s terminology, it is a concept of—an object as its *denotation*. Russell does not use any special term for the binary relation between a definite description and the object of which the expression’s content in the language is a concept. Instead Russell speaks of ‘the denotation of the meaning,’ saying that a definite description α ‘has a meaning which denotes’ an object *x*. Sometimes he says that α itself (as opposed to its content) denotes *x*. In deconstructing and reconstructing Russell’s argument, I shall translate ‘meaning’ as ‘content’. I shall also avoid Russell’s term ‘denote’. Instead I shall use ‘determine’ for the relation between a complex *c* and the object *x* of which *c* is a concept, and I shall call *x* the ‘determinatum’ of *c*. I shall use ‘designate’ for the relation between the expression α and *x* (i.e., for Kripke’s semantic reference, or Frege’s *Bedeutung*, the relative product of expressing and determining), and I shall call *x* the ‘designatum’ of α .

Before presenting my analytical translation of the passage, a word about variables and quotation: *Caution*. Russell uses the upper case letter ‘*C*’ as a variable ranging over determining complexes, though he sometimes uses ‘*C*’ instead as a metalinguistic variable ranging over determiner phrases. Though it is seldom recognized, Russell sometimes (frequently, one fears) uses ‘*C*’ instead—more accurately, he uses it *as well*—as a schematic letter (equivalently, as a substitutional variable). Any sentence, or string of sentences, in which ‘*C*’ occurs in this manner is strictly speaking a *schema*, of which Russell means to assert every instance. Worse, the schematic letter sometimes apparently stands in for an arbitrary definite description, sometimes apparently for a term designating an arbitrary determining complex. This multiply ambiguous usage of technical notation makes some use–mention confusion virtually inevitable. Interpretations that do not depict Russell as confused (some do not) fail to acknowledge an essential feature of the situation—or else themselves commit the same confusion. On the other hand, it would be to the serious detriment of philosophy that we dis-

count the argument as therefore utterly hopeless—witness certain points made in Russell’s argument that have had to be rediscovered independently in more recent years. Fortunately, with a little finesse, Russell’s purely philosophical import can be conveyed while minimizing use-mention confusion by replacing some occurrences of ‘*C*’ with a variable (objectual) ranging over definite descriptions, other occurrences with a variable ranging over determining complexes, and still other occurrences with a schematic letter standing in for an arbitrary definite description—though doing so may not preserve the textual *gestalt*, in its full historical context. I shall use ‘ α ’ as a metalinguistic variable, and upper case ‘*D*’ as a schematic letter standing in for an arbitrary definite description. I shall use lower-case ‘*c*’ as a determining-complex variable. I shall use Quine’s quasi-quotation marks, ‘ \ulcorner ’ and ‘ \urcorner ’ in combination with ‘ α ’. In quasi-quotation, all internal expressions are quoted, that is, mentioned, except for metalinguistic variables, whose values are mentioned. Russell suggests using standard quotation marks (“inverted commas”) as indirect-quotation marks, but does not himself consistently use them that way. I shall use single quotation marks for direct (expression) quotation. Following Kaplan, I shall use superscripted occurrences of ‘*m*’ as indirect-quotation marks, and superscripted occurrences of ‘*M*’ as indirect-quasi-quotation marks.¹⁵ In indirect-quasi-quotation, the contents of all internal expressions are mentioned, except for determining-complex variables, whose values are mentioned. Here I avoid double quotation marks, except when quoting Russell’s use of them.

Paragraph (A) is straightforward, announcing that the relation of content to designatum involves “rather curious difficulties”, which we will now examine. Paragraph (B) initiates stage (I) of Russell’s attack. It reads:

- (B) When we wish to speak about the *meaning* of a denoting phrase, as opposed to its *denotation*, the natural mode of doing so is by inverted commas. Thus we say:

The centre of mass of the Solar System is a point, not a denoting complex;

“The centre of mass of the Solar System” is a denoting complex, not a point.

Or again,

¹⁵ Kaplan (1971), at pp. 120–1. (Kaplan there calls indirect-quotation marks *meaning-quotation marks*.) The reader who is unfamiliar with these devices is advised to look them up.

The first line of Gray's *Elegy* states a proposition.

"The first line of Gray's *Elegy*" does not state a proposition.

Thus taking any denoting phrase, say *C*, we wish to consider the relation between *C* and "*C*", where the difference of the two is of the kind exemplified in the above two instances.

The importance of this paragraph is frequently overlooked. In it Russell introduces a use of inverted commas as indirect-quotation marks, a use he thinks is natural on the theory *ST*. Not being a subscriber himself, Russell is not abandoning the alternative use of inverted commas as direct quotation. (Indeed, just three paragraphs after the 'Gray's *Elegy*' argument he affirms his allegiance to the direct-quotation use.) From this point to the end of the argument, standard quotation marks might be used either way—or indeed as quasi-quotation marks, or even indirect-quasi-quotation marks. Worse yet, Russell may omit quotation marks where they are needed, especially where both types of quotation ought to occur together. And in one instance, he seems to include quotation marks where they do not belong. Using my safer notation, we distinguish three things: the centre of mass of the Solar System, which is a point; 'the centre of mass of the Solar System', which is a determiner phrase; and ^m"the centre of mass of the Solar System", which is a determining complex, the content expressed in English by 'the centre of mass of the Solar System'.

The proper interpretation of the last sentence of (B) is unclear. Do we wish to consider the relation between a determining complex and its determinatum, that is, the relation of ^m"the centre of mass of the Solar System" to the centre of mass of the Solar System, of ^m"the first line of Gray's *Elegy*" to the first line of Gray's *Elegy*, and so on? Or do we wish to consider the relation between ^m"the centre of mass of the Solar System" and the definite description 'the centre of mass of the Solar System'? Or perhaps that between the indirect quotation '^mthe centre of mass of the Solar System"' and the definite description 'the centre of mass of the Solar System'? The first is the relation of *determining*, the second that of *being the content*, the third that of *designating the content*.

The fact is that Russell wishes to consider all three relations. In general, taking any definite description α , we wish to consider the relation of *being determined* between the designata of α and of [^m α]^m, the relation of *expressing* between α and the designatum of [^m α]^m, and the relation of *expressing the designatum of* between the expressions α and [^m α]^m themselves. In each case the difference between the two relata is, in some sense, 'exemplified' in Russell's two examples. The displayed

instances directly concern the contrast between a definite description and its indirect quotation. The remaining paragraphs, (C)–(H), support the answer that Russell is primarily concerned with the relation between these expressions, that is, the relation: *the content of x is designated by y*. And this is indeed the most important of the three relations for stages (I)–(VII).

Paragraph (C) begins in such a way as to support an interpretation on which Russell wishes primarily to consider a relation between expressions.¹⁶ I translate the paragraph as follows:

- (C') We say, to begin with, that when α occurs it is the *designatum* [of α] that we are speaking about; but when $^m\alpha^m$ occurs, it is the *content*. Now the relation of content [to] designatum is not merely linguistic through the phrase [i.e., it is not merely the indirect relative product of the semantic relations of *being the content of* a phrase and *designating*]:¹⁷ there must be a [direct, non-semantic, logico-metaphysical]¹⁸ relation involved, which we express by saying that the content *determines* the designatum. But the difficulty which confronts us is that we cannot succeed in *both* preserving the connexion of content [to] designatum *and* preventing them [the content and the designatum]

¹⁶ No previous interpretation to my knowledge interprets the final sentence of (B) this way. Typically, interpreters take the 'Gray's *Elegy*' argument to be primarily concerned with the relation of *determining* between the designata of $^m\alpha^m$ and α . To repeat: I do not claim that this interpretation is incorrect while mine is correct. Rather, the text itself, and the available evidence, is inconclusive. In the present instance, since Russell is concerned with each of the three relations I mentioned, I do not find the orthodox interpretation at all counter-intuitive. I am here exploring the consequences of an unorthodox interpretation on which Russell's announced principal concern is instead the relation between a definite description and a term for its content.

¹⁷ See n. 34 below. An alternative interpretation of Russell's phrase 'not merely linguistic through the phrase' that fits with my overall interpretation of the entire passage was suggested by David Kaplan. One might hold that the relation between a determining complex and its determinatum is a ternary relation that obtains through an expression, in such a way that a complex may determine one object relative to one expression and another object relative to another expression. This theory diverges sharply from *ST*, which sees the designation of an expression as the relative product of the semantic relation between the expression and its content and the non-semantic, logico-metaphysical relation between the content and its (absolute) determinatum. In particular, the former theory is not vulnerable in the same way as *ST* to the 'Gray's *Elegy*' argument. When Russell says that on the theory he is criticizing, "the relation of meaning and denotation is not merely linguistic through the phrase: there must be a logical relation involved", he may mean that the determining relation is not relative to a phrase but absolute. (This alternative interpretation is closely related to one proposed by Demopoulos, op. cit., though if I am correct, Demopoulos misses the central point of the 'Gray's *Elegy*' argument: it is not merely that a singular proposition about a determining complex cannot be the semantic content of a understandable sentence, though it can be a supplementary semantic value of the sentence; rather, it is incoherent to suppose that such a proposition can even exist.)

¹⁸ Russell says simply 'logical'. This has probably also led some interpreters astray.

from being one and the same; also that the content cannot be got at except by means of determiner phrases. This happens as follows.

The penultimate sentence of (C), beginning with 'But the difficulty which confronts us is that ...', is undoubtedly crucial to a proper understanding of the remaining paragraphs. Using his later terminology, it might have been more perspicuous for Russell to formulate his objection this way:

We cannot succeed in both preserving the connection of content to designatum and *allowing* the content and the designatum to be one and the same. Moreover we cannot even succeed in both preserving the connection of content to designatum and *disallowing* the content and the designatum from being one and the same *unless* the content cannot be got at except by means of determiner phrases.

That is, if we preserve the connection whereby the designatum of a definite description is determined by the description's content which is distinct from the designatum itself, then the content cannot be designated by means of a logically proper name, that is, by a genuine name in the strict, logical sense. This reformulation more or less captures, with a minimum of violence to Russell's actual wording, the thrust of the Collapse which will figure in (E) and (F). The 'unless', which is a term for a form of disjunction, strongly suggests a classical dilemma form of argument. Instead of 'unless', Russell uses 'also', a term for a form of conjunction. This may be explained by supposing that Russell initially *assumes* that anything can in principle be designated by means of a logically proper name, including a determining complex. Thus we cannot prevent the named complex and the object it represents from being one and the same, thereby violating the connection between content and designatum. This assumption yields the first disjunct: since we cannot prevent the complex from representing itself, we also cannot do this while preserving the complex's representational role posited by *ST*. This is followed (with Russell's usual stylistic flair) by a semicolon. Anticipating that the believer in *ST* will not accept the conclusion just stated, Russell writes the words 'also that', and then draws the *modus tollendo ponens* inference on the theorist's behalf to the second disjunct: we *can* after all prevent the complex from representing itself, thus preserving the posited representational role, but only by insisting that the complex can be designated only by description.

Paragraph (D) divides into two parts. We attempt here to designate the content of a determiner phrase α . Russell adeptly demonstrates that we cannot use a simple phrase like ‘the content of α ’ without resorting to quotation, or something like quotation. In most cases, this would make no sense; we cannot, for example, use ‘the content of the author of *Waverley*’ to designate a determining complex, since whatever virtues (or vices) Sir Walter Scott may have had, semantically expressing a determining complex was not among them. Russell deliberately uses a different example—one designating a sentence instead of a person—for which the incorrect phrase formed by simply prefixing ‘the content of’ without the assistance of quotation makes perfect sense. The problem in this case is that we then get at the wrong content. Sub-paragraph (D_i) concludes with the words:

Thus in order to get the meaning we want, we must speak not of “the meaning of C”, but of “the meaning of ‘C’”, which is the same as “C” by itself.

Russell is arguing here for the conclusion that enclosing a determiner phrase within inverted commas renders the words ‘the meaning of’ (or ‘the content of’) completely superfluous. But where before we hungered for quotation marks, we now have quotation marks coming out of our ears.¹⁹ Russell observes that in order to designate the content of our determiner phrase α , besides prefixing the functor ‘the content of’ we must also enclose α itself within inverted commas. He is correct; we should do this, provided that the inverted commas are understood as ordinary, direct-quotation marks, in outright defiance of Russell’s explicit explanation of their natural use as indirect-quotation marks on the theory he is attacking. Very well, but how can this be tantamount, as Russell says, to enclosing α itself within inverted commas without the prefix? It can, at least to the extent of forming a co-designating term, but only if the inverted commas are functioning as indirect-quotation marks, *in conformity with* Russell’s explanation for them. Russell is in fact giving them this use in both attempts. The use as ordinary, direct quotation marks has been pre-empted by the indirect-quotation use, which Russell thinks is the ‘natural’ use on the theory in question. This leads to the following translation of sub-paragraph (D_i). (Recall that, unlike Russell, I consistently use single quotes for direct quotation.)

(D’_i) The one phrase α was to have both content and designation.
But if [in an effort to designate the content] we speak of ‘the

¹⁹ More terrifying still, different reprintings interchange single and double quotation marks (and vary the placement of unquoted punctuation marks inside and outside quotation marks).

content of α^1 , that gives us the content (if any) of the designatum [of α]. ‘The content of the first line of Gray’s *Elegy*’ [designates] the same complex as ‘The content of m ‘The curfew tolls the knell of parting day m ’, and ... not the same as ‘The content of m ‘the first line of Gray’s *Elegy* m ’. Thus in order to get the content we want, we must speak not of 1 ‘the content of α^1 ’, but of 1 ‘the content of $^m\alpha^m$ ’, which [designates] the same as $^1m\alpha^m$ by itself.

I am here attributing to Russell a serious equivocation, resulting from his dual use of inverted commas both as direct-quotation marks and as indirect-quotation marks. He appears to believe that he has derived from the theory he is attacking the consequence that in order to designate m ‘the centre of mass of the Solar System m ’, rather than using the phrase ‘the content of the centre of mass of the Solar System’ (which Russell has shown is inappropriate) we must use ‘the content of m ‘the centre of mass of the Solar System m ’—a phrase Russell fails to distinguish sharply from the perfectly appropriate ‘the content of ‘the centre of mass of the Solar System’’. This alleged consequence yields the awkward (to say the least) result that ‘ m ‘The centre of mass of the Solar System m ’ = the content of m ‘the centre of mass of the Solar System m ’ is true. We thus ascribe a content to a determining complex itself, which is identified with its content. This interpretation casts the final clause of (D_i) , as well as some of the more puzzling phrases yet to come in (E) and (F) , in a new and very different light.²⁰

This admittedly remarkable interpretation of (D_i) is corroborated by both (D_{ii}) and (E) . In (D_{ii}) , Russell attempts to support his derivation of the awkward alleged consequence by deriving an analogous consequence in connection with the functor ‘the denotation of’ in place of ‘the content of’, again carefully selecting a phrase (this time ‘the denoting complex occurring in the second of the above instances’) for which

²⁰ There is a strong temptation to interpret (D_i) as using only direct quotation:

‘The content of the first line of Gray’s *Elegy*’ [designates] the same complex as ‘The content of ‘The curfew tolls the knell of parting day’’, and ... not the same as ‘The content of ‘the first line of Gray’s *Elegy*’’. Thus in order to get the content we want, we must speak not of 1 ‘the content of α^1 ’, but of 1 ‘the content of $^m\alpha^m$ ’...

Russell’s remarks then become unequivocally correct. This interpretation completely misses the point, however, of the final clause of (D_i) , ‘which is the same as “C” by itself’: that on *ST* the words ‘the content of’ when followed by a quotation are superfluous. The phrase ‘The content of ‘the first line of Gray’s *Elegy*’ is equivalent not to its truncated form ‘the first line of Gray’s *Elegy*’, which is a direct quotation, but to the indirect quotation ‘ m ‘the first line of Gray’s *Elegy* m ’. More important, the interpretation I suggest provides a key to unlock the otherwise impenetrable wording of (E) – (F) .

the prefix yields something that makes perfect sense but designates the wrong object. (D_{ii}) may be rewritten as follows:

(D'_{ii}) Similarly 'the determinatum of α ' does not [designate] the determinatum we want [the determinatum of α 's content], but means something [i.e., expresses a determining complex] which, if it determines [anything] at all, determines what is determined by the determinatum we want. For example, let α be 'the determining complex occurring in the second of the above instances'. Then ' α = "the first line of Gray's *Elegy*"' and 'The determinatum of α = "The curfew tolls the knell of parting day"' [are both true].²¹ But what we *meant* to have as the determinatum was "the first line of Gray's *Elegy*". Thus we have failed to get what we wanted [from 'the determinatum of α '].

As a criticism of *ST*, and even as a neutral description, the entire paragraph (D) is a crimson red herring. The theory entails that one may designate "the centre of mass of the Solar System" using the functor 'the content of' in combination with 'the centre of mass of the Solar System' and direct quotation, not indirect. *Pace* Russell, his implicit observation that in order to designate the designatum of α we should use 'the determinatum of " α "' rather than 'the determinatum of α ', though correct, provides no support whatever to his apparent conclusion that, analogously, in order to designate the content of α , rather than using 'the content of α ' we must use 'the content of " α "', which is in fact equally inappropriate. Instead we can designate α 's content using 'the content of ' α '' or '" α "'. Analogously, we can equally designate α 's designatum by using 'the designatum of ' α '' or α itself.²²

Perhaps Russell believes that *ST* inevitably interprets all quotation as indirect quotation, and that there is no appropriate place for direct-quotation marks on the theory. If so, he no longer has any legitimate ground for supposing that the theory under attack would attempt to designate contents using the functor 'the content of' in conjunction

²¹ In the original text, Russell here uses 'C' as a schematic letter standing in for a term designating a determining complex. The preceding two sentences should read:

For example, let 'C' [stand in for] 'the determining complex occurring in the second of the above instances'. Then C = "the first line of Gray's *Elegy*", and the determinatum of C = 'The curfew tolls the knell of parting day'.

I have reformulated this in the metalinguistic mode using ' α ', quasi-quotation, and the predicate 'is true'.

²² Following Quine's explanation of quasi-quotation, the quasi-quotation 'the content of ' α '' designates, under the assignment of the expression 'the centre of mass of the Solar System' as value for the syntactic variable ' α ', the phrase 'the content of 'the centre of mass of the Solar System'' (and not the infelicitous 'the content of ' α '', which mentions the variable ' α ' instead of its value).

with quotation marks. Church's dismissive remarks concerning the 'Gray's *Elegy*' argument are in fact nearly completely correct when restricted to stage (I) (raising the suspicion that Church interpreted this stage similarly, and thought it best not to attempt to decipher the rest of the argument). Church's assessment requires slight emendation. For many purposes, the indirect-quotation marks themselves render the 'content of' functor superfluous, but they do not rob *ST* of the resources to designate expressions. And where it is necessary to designate an expression and attribute content to it—when doing genuine semantics, for example, or when giving the 'Gray's *Elegy*' argument—in principle the theory can get by with such locutions as 'the expression displayed below', followed by a suitable display of the expression in question, or if worse comes to worst, with cumbersome constructions like 'the determiner phrase that results by writing the twentieth letter of the alphabet, followed by the eighth letter, followed by the fifth letter, followed by a space, followed by ...', or even by exploiting an empirical property of the expression, as with 'the sentence written on the blackboard in Salmon's office' or 'the first line of Gray's *Elegy*'. More to the point, if there is any difficulty about using direct-quotation marks on the theory, it derives from a tenet entirely of Russell's own devising, which he imposes on a theory that did not ask for it.²³ Contrary to Church, however, Russell has a much stronger criticism to make in stages (II)–(VII), though his presentation in stages (II) and (IV) (at least) is coloured in varying degrees by the red herring.

4.

Many a lance has been broken on paragraph (E). The paragraph should also be broken into parts corresponding to argument stages (II) and (III). In (C) and (D) we have been attempting to designate the determining complex that is the content of a determiner phrase. In (E) Russell speaks about the content not of a phrase but of a complex. He sometimes spoke in the *Principles* (and in intervening writings) of 'the meaning of a concept'. But not in 'On Denoting'—not until now (aside from a single footnote about Frege). Did Russell commit a slip of the

²³ It is possible that Russell construed the theory as identifying an expression with what might be called an *interpreted expression*, that is, an expression-cum-content, in effect, the ordered couple of the expression paired with its content. Inverted commas would then emerge as a natural mode of designating interpreted expressions, leaving us with no similar device for designating the syntactic component by itself. One could designate the content component using the functor 'the content of' together with quotation marks. But this would designate a component of the designatum of the quotation itself; it would not designate the *same* entity as the quotation.

pen, writing ‘denoting complex’ where he means ‘denoting phrase’? Or has the determining complex expressed by a definite description given rise without notice to a new entity: a content of its own? If the latter, there are four entities in all: the phrase; its designatum; the complex expressed by the phrase; and the complex’s content. Commentators have tended to divide themselves between these two theories. I accept neither.

On my interpretation, Russell believes he has just shown in the preceding paragraphs that on the theory under attack the content of the phrase is designated by speaking of the content (‘meaning’) of a complex. The opening sentence of (E) is explained by supposing that Russell is relentlessly flogging a dead horse. Mercifully, his intent in subparagraph (E_{ii}) is to provide a preferable phraseology, a mode of speaking that allows one to designate a determining complex without speaking of it as itself the content of a complex. But first he shows at stage (II) that the former mode of speaking already leads to the Collapse:

(E’_i) The difficulty in speaking of the content of a complex [i.e., in using a phrase of the form ‘the content of ^m α^m ’] may be stated thus: the moment we put the complex in a proposition, the proposition is about the determinatum; and [hence] if we make a proposition in which the subject [component] is ^Mthe content of ^c c^M [for some determining complex c], then the subject [represents] the content (if any) of the determinatum [of c], which was not intended.

(E’_{ii}) This leads us to say that, when we distinguish content and determinatum [of a determining complex, as we did in the preceding paragraph], we must be dealing [in both cases] with the content: the content has a determinatum and is a determining complex, and there is not something other than the content, which can be called [‘the complex ^m α^m ’], and be said to *have* both content and a determinatum. The right phrase[ology], on the view in question, is that some contents have determinata.

There is, in addition to the Collapse set out in (E_i), a more immediate problem with the phrase ‘the content of ^m α^m ’ and its accompanying terminology. We are attempting to express a proposition about a particular determining complex, say ^mthe centre of mass of the Solar System^m, using a sentence of the form ‘The content of “the centre of mass of the Solar System” is ...’. But if the inverted commas are given their natural construal (according to Russell) as indirect quotation marks, this gives

a proposition about the content of the target complex—the putative fourth entity—rather than the complex itself. Sub-paragraph (E_{ii}) sets out stage (III) of the argument, explicitly rejecting the four-entity theory in favour of a three-entity theory, while supplying the preferred phraseology: when we express a proposition using a sentence containing a definite description, the determining complex in the proposition does not have a separate content; rather, it is itself the content of the description. The content of the complex is not a fourth entity but (if anything) simply the complex itself, whereas the determinatum is what the proposition is about. We can designate the content of a definite description α simply by its content quotation $^m\alpha^m$, dropping the useless prefix ‘the content of’. Determining complexes *are* the contents of definite descriptions, and it is these very contents—some of them, at any rate—that represent their determinata in propositions.

By the end of stage (III) Russell has, with a helping of notational errors and use-mention confusions, drawn some trivial consequences of our theory *ST*, highlighting the feature (which theorists like Frege and Church readily accept) that propositions are not about the determining complexes that occur in them, but instead about the determinata of those complexes. This, presumably, is the “connexion of meaning and determinatum” that we are attempting to “preserve” while “preventing the meaning and determinatum from being one and the same”. What is more important is the stage (II) argument laid out in (E_i). This marks the first appearance, as I interpret the entire passage, of the Collapse and also the first appearance of Russell’s variable ‘*C*’ as ranging over determining complexes rather than determiner phrases. Moreover, the quotation marks here are indirect-quasi-quotation marks. The quotation ‘ M the content of c^M ’ designates the determining complex that results from joining the content of the functor ‘the content of’ with the complex c . Russell cites a particular phenomenon that arises, as a consequence of the connection just noted between content and determinatum, when one attempts to form a singular proposition about a determining complex: inevitably the result is a general proposition about the complex’s determinatum rather than a singular proposition about the complex itself. The reason is that, on *ST*, as soon as we put a determining complex in a proposition, by using a sentence involving a singular term whose content is the complex, the proposition is about the complex’s determinatum. This generates the Collapse. Let c be a particular determining complex, say m the first line of Gray’s *Elegy* m . When we attempt to form a proposition about it—say, that it is intriguing—by using a sentence containing the indirect quotation

‘^mthe first line of Gray’s *Elegy*^m’ (Russell supposes, for a *reductio*, that one way to do this on *ST* is by means of the sentence ‘The meaning of “the first line of Gray’s *Elegy*” is intriguing’), if the quotation functions as a logically proper name of the determining complex, in that its own content simply is the designated complex, then the resulting proposition is that (the content of) the first line of Gray’s *Elegy* is intriguing, rather than a proposition about the intended determining complex itself. This is one particular form of the Collapse: in attempting to form a proposition about a determining complex *c* by using a sentence containing a content quotation [^m α^m], where α is a definite description that expresses *c*, we generate a proposition not about *c* but about its determinatum.

Some previous interpreters do not so much as mention what I am calling *the Collapse*. Others have extracted the alleged phenomenon from (E_i), but place little or no importance on it. Some have depicted its occurrence in the ‘Gray’s *Elegy*’ passage as little more than a clever observation, characteristic of Russell but one that he makes only in passing and which is of limited significance in the grand sweep of the overall argument. In sharp contrast, on my interpretation the Collapse is the very linchpin of the ‘Gray’s *Elegy*’ argument, and will play a pivotal role in later stages that constitute the heart of the argument.²⁴

By the end of (E), Russell acknowledges that to express a proposition about *c* itself we may use the simple content quotation [^m α^m], or something like it, in lieu of the more cumbersome (to say the least!) deter-

²⁴ Blackburn and Code mention the Collapse only after presenting their rival interpretation, which does not rely on the Collapse (*op. cit.*, p. 76, crediting Kaplan for showing them that the Collapse refutes the earlier theory of designating in Russell’s *Principles*). In sharp contrast to my interpretation, they express uncertainty whether Russell is even aware of the Collapse by the time he writes ‘On Denoting’. As against the hypothesis that he was, they say that “although this is a problem as to how one refers to senses [contents], the obvious solution is not to attack Frege, but rather to insist that his three-entity view [distinguishing among an expression, its content, and its designatum] applies to *all* referring [designating] expressions”.

There are at least five problems with this. First, Russell was explicitly aware of the Collapse already in the lengthy and rambling ‘On Fundamentals’, begun not two months prior to ‘On Denoting’ and posthumously published in Urquhart (1994), pp. 359–413, at 363, 382, and *passim*. Indeed, some passages of ‘On Fundamentals’ appear virtually *verbatim* in the ‘Gray’s *Elegy*’ argument, which is in certain respects a streamlined version of the convoluted reasonings of the former. Second, whereas one might hope to solve the problem by insisting that any singular term that designates a content always has its own content distinct from its designatum, the same distinction does not have to be extended to all terms (including names for concrete objects) in order for the solution to work. Third, though Russell was aware of the possibility of a theory like the one Blackburn and Code call ‘the obvious solution’ (as is shown by a passage they quote from *Principles*), he did not unequivocally endorse it. Fourth, on the contrary, a central purpose of ‘On Denoting’ is precisely to reject Frege’s “three-entity view” in regard to all singular terms, and replace it with a two-entity view. Finally, and most importantly, the very point of (F) and (G) (to be interpreted more fully below) appears to be precisely that the very proposal in question utterly fails to solve the problem.

miner phrase \lceil the content of ${}^m\alpha^m\rceil$. Alternatively, we may use \lceil the content of $\alpha\rceil$. But having assimilated this to \lceil the content of ${}^m\alpha^m\rceil$, or failing to distinguish the two, Russell believes he has just shown that use of such a phrase inevitably comes to grief, via the Collapse. In any event, the objective in (D) was to form a singular proposition about a determining complex, not a proposition in which the target complex is represented as the content of this or that phrase. Not surprisingly, the move to simple, unadorned direct quotation is of no help whatsoever: the very same phenomenon arises. Stage (IV) presses this point. Paragraph (F) divides into three parts. In (F_i) Russell shows how the Collapse arises even when designating the complex c by using the simple content quotation $\lceil{}^m\alpha^m\rceil$. This uncovers a significant difference between *ST* and the Theory of Descriptions (and thus between the WRL and IRL hypotheses), since the latter does not assign content “in isolation” to determiner phrases, and hence does not generate the Collapse. This is an extremely important point. Regrettably, the presentation is not altogether free of the red herring, though thankfully, its former lustre is now mostly subdued. I rewrite sub-paragraph (F_i) as follows:

(F_i;) But this only makes our difficulty in speaking of contents more evident. For suppose c is our [target] complex [and let ‘ D ’ represent in what follows a determiner phrase that expresses c]; then we are to say that $\lceil{}^mD^m$, i.e., \rceil c is the content of the [phrase ‘ D ’, instead of saying that ${}^mD^m$ itself has a content]. Nevertheless, whenever ‘ D ’ occurs without [indirect-quotation marks], what is said is not [about ${}^mD^m$,] the content [of ‘ D ’], but only [about D ,] the designatum [of ‘ D ’], as when we say: The centre of mass of the Solar System is a point.

Russell argues as follows. Consider a determiner phrase like ‘the centre of mass of the Solar System’, and let us attempt to form a singular proposition about its content, m the centre of mass of the Solar System m , for example, the true proposition that this is a determining complex. Clearly, we do not succeed by writing ‘The centre of mass of the Solar System is a determining complex’, for this expresses a necessarily false, general proposition about a particular point. In order to express the singular proposition we want, we should use a *genuine name* “in the strict, logical sense” for the complex, perhaps the indirect-quotation m the centre of mass of the Solar System m . But supposing the indirect-quotation is a genuine name, to the extent that its sole semantic value—its content—is simply the designated complex, if we write m The centre of mass of the Solar System m is a determining complex’,

our new attempt also fails. Instead we thereby obtain precisely the same proposition as before, since the subject and predicate terms of the new sentence have precisely the same contents, respectively, as those of the old sentence. The attempted true, singular proposition has collapsed into a false, general proposition. In fact, the proposition expressed by the new sentence is necessarily false, its negation necessarily true.

Russell continues at stage (V), converting the Collapse into a *reductio ad absurdum* argument for the conclusion that our theory *ST* (and thus the WRL hypothesis) entails that determining complexes cannot be genuinely *named*. Sub-paragraph (F_{ii}) is rewritten as follows:

- (F' _{ii}) Thus to speak of ${}^m D^m$ itself, i.e., to [express] a proposition about the content [of '*D*'], our subject [component] must not be ${}^m D^m$ [*itself*], but something [else, a new determining complex,] which determines ${}^m D^m$. Thus ${}^m m D^m m$ —which [iterated indirect quotation] is what we use when we want to speak of the content [of ' ${}^m D^m$ ']—must be not the content [of '*D*', that is, not ${}^m D^m$ itself], but something which determines the content.

Russell is arguing here by means of the Collapse that, on *ST*, ${}^m m D^m m \neq {}^m D^m$, where '*D*' stands in for any definite description.²⁵ We may designate a particular complex, say m the centre of mass of the Solar System m , in order to express a proposition about it. However, any proposition in which the complex itself occurs is about the centre of mass of the Solar System, that is, the determinatum of the target complex rather than the complex itself. A singular proposition about a determining complex is an evident impossibility; hence, any proposition that is about a complex must involve a second-level determining complex that determines the target complex. Hence, any term for a complex must function in the manner of a definite description. Even our indirect quotation, ' m the centre of mass of the Solar System m ' (the closest thing there is to a *standard name* of the complex), must be a disguised definite description, expressing a second-level determining complex, ${}^m m$ the centre of mass of the Solar System ${}^m m$, as its content. Furthermore, ${}^m m$ the centre of mass of the Solar System ${}^m m$ is distinct from, and in fact determines, m the centre of mass of the Solar System m . It is in this very concrete sense that on *ST* "the meaning cannot be got at except by means of determiner phrases". The only way to designate a

²⁵ The expression ' ${}^m m D^m m$ ' stands in for the iterated indirect quotation ' ${}^m m$ the centre of mass of the Solar System ${}^m m$ ', which designates the content of the indirect quotation, ' m the centre of mass of the Solar System m '.

determining complex is by expressing a higher-level determining complex.²⁶

Russell has thus far argued that the theory *ST* is committed, by the Collapse, to denying the very possibility of singular propositions about contents. Some commentators have construed this argument as an objection to Frege's theory, which rejects singular propositions.²⁷ Such an argument would be a howler. On the contrary, Fregeans should welcome the conclusion derived at stage (V), which provides a *reductio* argument against *ST in conjunction with singular propositions of unrestricted subject matter*—a theory like Mill's or that of Russell's *Principles*. The incoherence of these non-Fregean versions of *ST* may even be given a kind of proof, using the principle of *Compositionality* (which Russell relied on at least implicitly and Frege explicitly endorsed), according to which the content of a compound expression is an effectively computable function of the contents of the contentful components. Compositionality is subject to certain restrictions. For example, the content of a compound expression containing a standard (direct) quotation is a function of the content of the quotation itself, together with the contents of the surrounding sub-expressions, but not of the content of the quoted expression. Subject to such restrictions as this, Compositionality evidently entails a similarly restricted principle of *Synonymous Interchange*, according to which substitution of a synonym within a larger expression preserves content. (I here call a pair of expressions *synonymous* if there is something that is the content of both.) To give the argument its sharpest focus, we consider Russell's example:

- (3) The centre of mass of the Solar System is a point.

²⁶ This does not rule out that the content can also be "got at" by means of an indefinite description, even if it is deemed not a singular term. Since *ST* is neutral regarding indefinite descriptions, it is equally consistent with the view that definite and indefinite descriptions alike are singular terms. The latter view makes indefinite descriptions subject to the argument from the Collapse. On the Theory of Descriptions, by contrast, a definite description is analysed as a special kind of indefinite description, neither being a singular term.

The interpretation of this stage of Russell's argument is strongly supported by the fact that he also gives this argument in writings just prior to 'On Denoting' (posthumously published). Cf. his 'On Fundamentals' in Urquhart (1994) pp. 359–413; and 'On Meaning and Denotation', also in Urquhart (1994), at p. 322.

²⁷ Searle (op. cit., p. 139–40) depicts Russell as arguing that in order for a term to designate, the designated object must, if we are not to "succumb to mysticism", occur in the propositions expressed with the help of the designating term; but then the Collapse excludes the possibility of designating determining complexes. Searle complains that the whole point of Frege's theory, which Russell is attacking, is to deny Russell's premiss. It is possible that Church construes the argument similarly.

According to *ST*, the grammatical subject of (3), ‘the centre of mass of the Solar System’, expresses the determining complex m the centre of mass of the Solar System m as its English content. According to the non-Fregean version of *ST*, the content of the indirect quotation ‘ m the centre of mass of the Solar System m ’ itself is this same determining complex, and sentences containing the indirect quotation express singular propositions about the complex. Hence, the description and the indirect quotation are synonymous according to the non-Fregean version of *ST*. Therefore, by Synonymous Interchange, so also are (3) and

- (4) m The centre of mass of the Solar System m is a point.

But (3) is true while (4) is necessarily false, indicating that they do not express the same thing. The content of (4) must invoke the second-level complex m the centre of mass of the Solar System m to represent the first-level complex. (The same argument may be given using the free variable ‘*c*’ in place of the indirect quotation. On the supposition that the content of the variable under the established assignment is its value, the variable has the very same content as the definite description ‘the first line of Gray’s *Elegy*’. The Collapse then follows directly by Synonymous Interchange. This refutes the assumption that the variable under its assignment is a logically proper name for the complex in question.) The theory *ST* is thus committed to extending its content/designation distinction for definite descriptions to *all* terms that designate determining complexes.

The argument can be repeated in connection with the content of the indirect quotation itself. The argument is thus converted into an argument by mathematical induction for an infinite hierarchy of contents associated with ‘the first line of Gray’s *Elegy*’. Indeed, the postulated second-level complex m the first line of Gray’s *Elegy* m is, for Frege, the content that the description expresses when occurring in *ungerade* (“oblique”) contexts, like the contexts created by ‘believes that’ and by indirect quotation marks.²⁸ He called this the *indirect sense* of ‘the first line of Gray’s *Elegy*’. The series beginning with ‘The curfew tolls the knell of parting day’, followed by m the first line of Gray’s *Elegy* m , m the first line of Gray’s *Elegy* m , m the first line of Gray’s *Elegy* m , and so on, is precisely Frege’s infinite hierarchy of senses for the definite description (treating designation as the bottom level in the hierarchy). Not all of Frege’s disciples have followed the master down the garden

²⁸ In ‘Über Sinn und Bedeutung’ (translated as ‘On Sense and Reference’, in Harnish at p. 149), Frege identified the indirect sense of a sentence ϕ with the customary sense of ‘the thought that ϕ ’, which phrase may be presumed synonymous with ${}^m\phi^m$.

path to Frege's jungle. Two noteworthy deserters are Carnap and Dummett.²⁹ But Church has followed Frege even here.³⁰ In fact, at least one of the loyal opposition has as well. Russell's argument via the Collapse for *ST*'s commitment to the hierarchy was independently reinvented closer to the end of the previous century by Tyler Burge.³¹

²⁹ Carnap (1947, 1970), at pp. 118–37, especially 129–33. Carnap may be profitably interpreted as rejecting singular propositions about individuals, while accepting that *ungerade* constructions (as occur in belief attributions, modal claims, etc.) express singular propositions about the contents of their complement clauses. Cf. Dummett, *op. cit.*; and Parsons (1981), pp. 37–58.

³⁰ Church disagrees with Frege on some details, and may have been inconsistent regarding the issue of the hierarchy. See n. 37 below.

³¹ Burge (1979). Burge argues (pp. 271–2), as follows, specifically that Frege's theory of *Sinn* and *Bedeutung* is committed to hierarchies of sense, when coupled with Church's methodology of eliminating ambiguity-producing devices (like 'believes that') that shift expressions in their scope into *ungerade* mode in favour of fully extensional operators applied to univocal names of senses: Suppose for a *reductio* that the true proposition that Bela believes that Opus 132 is a masterpiece does not contain a second-level complex that determines the proposition that Opus 132 is a masterpiece, and that instead the latter proposition represents itself in the former proposition. In accordance with Church's methodology, we introduce an artificial extensional two-place operator '**Believes**' for the binary relation of belief (between a believer and the object believed), so that '**Bela Believes**' ("*Opus 132 is a masterpiece*") expresses that Bela believes that Opus 132 is a masterpiece. Then according to Frege's theory, the quasi-artificial expression *E*, '**Bela Believes**' (Opus 132 is a masterpiece)', expresses the bizarre proposition that Bela believes a particular *truth-value*, rather than a proposition—to wit, the truth-value that is truth if Opus 132 is a masterpiece, and is falsity otherwise. But by our *reductio* hypothesis, *E* expresses a content consisting of the very components of the proposition that Bela believes that Opus 132 is a masterpiece, composed the very same way. By Compositionality, *E* therefore expresses our target proposition. (This collapse is obtained, in effect, from the *reductio* hypothesis by Synonymous Interchange.) On Frege's extensional semantics, substitution in *E* of any sentence materially equivalent with '*Opus 132 is a masterpiece*' preserves truth-value. Since *E* expresses that Bela believes that Opus 132 is a masterpiece, it follows on Frege's theory that if Bela believes that Opus 132 is a masterpiece, he believes every materially equivalent proposition, which is absurd.

Striking evidence that the central thrust of the 'Gray's *Elegy*' argument has been lost on Russell's readers is provided by Burge's remark (at p. 280, n.8) that to his knowledge, the argument presented above was nowhere explicitly stated before. Burge's argument employs a sentence in place of a definite description, but this difference from Russell's examples is completely inessential to the general argument. Burge also frames his argument in terms of a Fregean conception whereby an artificial notation should be used to avoid natural-language ambiguities produced by *ungerade* devices (e.g., '**Believes**' in place of 'believes that'). This introduces additional complexity, also inessential to the general point and leading to an unnecessarily restricted conclusion. Burge's argument may be strengthened as follows.

Suppose for a *reductio* that the proposition that "*the centre of mass of the Solar System*" is a sense does not contain a second-level complex that determines "*the centre of mass of the Solar System*", and that instead the complex "*the centre of mass of the Solar System*" represents itself in the proposition. The English sentence *S*, '*The centre of mass of the Solar System is a sense*'—which contains no artificial notation—expresses a proposition consisting of the very components of the proposition that "*the centre of mass of the Solar System*" is a sense, and composed the very same way. By Compositionality, *S* therefore expresses our target proposition. But this conflicts with the fact that *S* is false.

Russell clarifies the nature of the hierarchy at stage (VI), which makes up the final third of (F). Sub-paragraph (F_{iii}) is translated as follows:

(F'_{iii}) And [^mD^m, i.e.,] *c* must not be a constituent of this [higher-level] complex ^mD^m (as it is of ^Mthe content of *c*^M); for if *c* occurs in the complex, it will be its determinatum, not [the] content [of '*D*', i.e., not *c* itself], that will [be represented] and there is no backward road from determinata to contents, because every object can be designated by an infinite number of different determiner phrases.

A feature of (F_{iii}) that is typically overlooked is that it again invokes the Collapse.³² Russell observes that the target complex is not only distinct from the postulated second-level complex we seek; it is not even a constituent of the latter complex (as it is of ^mRussell has memorized the first line of Gray's *Elegy*^m, and of ^mthe content of the first line of Gray's *Elegy*^m). Here Russell pursues the obvious question: Given that the indirect quotation '^mthe first line of Gray's *Elegy*^m' must express a second-level complex that determines our target complex, which second-level complex does it express? The best way to identify the sought after second-level complex would be to provide a definite description of the form 'the determining complex that is such-and-such' which is fully understood (independently of indirect quotation), and which is synonymous with '^mthe first line of Gray's *Elegy*^m'. Given Compositionality, it might be hoped that the suitable definite description will incorporate something expressing the designated target complex itself. We would thus construct the postulated second-level complex using the target complex. However, the desired description cannot be 'the complex that determines the first line of Gray's *Elegy*', for there are infinitely many and varied complexes each of which determines the words 'The curfew tolls ...'. Let us try a different tack. Let '*c*' name the target complex, and consider: *the determining complex that is c*. Russell observes that this will not do either. Indeed, no description of the form 'the determining complex that bears relation *R* to *c*' will succeed. Or to put the same point somewhat differently, our postulated second-level complex cannot be ^Mthe determining complex that bears *R* to *c*^M, for some binary relation *R*. (Note the indirect-quasi-quotation marks.) For the Collapse occurs with determining complexes just as it does with propositions. The content of the description collapses into: ^mthe determining com-

³² A notable exception is Kremer, op. cit., at pp. 287–8. Though my analysis of the argument differs from his, I have benefitted from his meticulous probing and careful analysis of the passage.

plex that bears R to the first line of Gray's *Elegy*^m. The problem here is that there is no "backward road" from the words 'The curfew tolls ...' to their particular representation by ^mthe first line of Gray's *Elegy*^m, and likewise no backward road from the Solar System's centre of mass to its particular representation as such. That is, there is no relevantly identifiable binary relation R whose converse is a "choice" function that selects exactly our target complex, to the exclusion of all others, and assigns it, and only it, to its determinatum. If R is taken to be the relation of *determining*, then the collapsed second-level complex fails to determine a unique complex because there are too many complexes (infinitely many, in fact) that bear this relation to the first line of Gray's *Elegy*. And if R is taken to be the relation of identity, then the resulting second-level complex fails to determine a unique complex because there are too few complexes that bear this relation to the first line of Gray's *Elegy*. More generally, if c is our target complex, the postulated second-level complex cannot be of the form ${}^M f(c) {}^M$, where ' f ' designates a choice function that selects a distinguished or privileged determining complex from the class of all complexes that determine a given object. It is important to notice that the missing choice function f goes not at the level from the target complex to the second-level complex, but at the bottom level from the determinatum to the complex itself. A "low" backward road might enable us to construct the postulated second-level complex from the target complex. But high or low, no backward road is forthcoming.

So ends stage (VI). Because there is no backward road from 'The curfew tolls ...' to ^mthe first line of Gray's *Elegy*^m, it follows via the Collapse that the second-level complex ^m ^mthe first line of Gray's *Elegy*^m ^m is not constructed from the target complex ^mthe first line of Gray's *Elegy*^m. Indirect quotations thus constitute a restriction on a principle of *Strong Compositionality* (also endorsed by both Frege and Russell), according to which the content of a compound expression is not only a function of, but is in fact a complex composed of, the contents of the contentful components.

Russell might have taken the argument a step further. Continuing and embellishing the argument on Russell's behalf, although the indirect quotation '^mthe first line of Gray's *Elegy*^m' expresses, and thereby uniquely fixes, the postulated second-level complex, the target complex designated by the indirect quotation does not itself uniquely single out the second-level complex. It is a serious mistake, for example, to suppose that ^mthe first line of Gray's *Elegy*^m ^m can be described as the content of ^mthe first line of Gray's *Elegy*^m. (Russell believes he has shown that on *ST*, this

description designates the target complex itself, whereas the description actually designates nothing. The alternative phrase, ‘the content of ‘the first line of Gray’s *Elegy*’ does designate the target complex itself. Still, we do not get at the postulated second-level complex.) But neither can “the first line of Gray’s *Elegy*” be described as the complex that determines “the first line of Gray’s *Elegy*”. For any given object there are infinitely many complexes that determine it. Our target complex is also determined by such second-level complexes as “the determining complex occurring in the second of Russell’s instances” and “the determining complex that has given Russell’s readers more headaches than any other”—neither of which is suited to be the content expressed by ‘the first line of Gray’s *Elegy*’. Thus not only is it the case, as Russell explicitly argues, that the target complex is altogether different from the postulated second-level complex. The target complex does not even uniquely fix the second-level complex. Never mind the Collapse. If there is no backward road from determinata to determining complexes, then not only is there no low road from the first line of Gray’s *Elegy* to “the first line of Gray’s *Elegy*”; there is likewise no high road from “the first line of Gray’s *Elegy*” to “the first line of Gray’s *Elegy*”. We have no way to go from the content of a definite description to the content of its indirect quotation. Our indirect quotation marks thus yield a restriction also on the weaker principle of Compositionality: the content of an indirect quotation is not even a computable function of (let alone a complex composed partly of) the content of the expression within the quotes. This result is stronger than the conclusion that Russell explicitly draws. If the target complex were a constituent of the postulated second-level complex, presumably it would single out the latter complex. But the mere fact that the target complex is not a constituent of the second-level complex does not yet rule out the possibility that the target complex uniquely fixes the second-level complex in some other manner. The fact that there is a multiplicity of complexes determining any given object seems to do just that. (By contrast, the indirect quotation ‘“the first line of Gray’s *Elegy*”’ singles out the second-level complex as its English content.)³³

³³ The argument just given on Russell’s behalf purports to prove that, in Frege’s terminology, the sense of an indirect quotation is not an effectively computable function of the customary senses of the expressions within the indirect quotes. Frege concedes that the sense of a compound expression is not always composed of the customary senses of the component expressions. Frege would insist, however, that indirect quotation marks do not violate Compositionality, or even Strong Compositionality as he intends these principles, since an expression does not have its customary sense when occurring within indirect-quotation marks and instead expresses its indirect sense, which does uniquely fix the sense of the indirect quotation. He says something analogous in connection with direct quotation. Direct quotations of customary synonyms are not themselves synonyms.

5.

Although Russell does not explicitly argue for the stronger conclusion, he seems to have it very much in mind. Stage (VII) proceeds as if the stronger conclusion has just been established. Sub-paragraph (G_i) requires little rewriting:

(G'_i) Thus it would seem that ${}^m m D^m m$ and c are [altogether] different entities, such that ${}^m m D^m m$ determines c ; but this cannot be an explanation [of ${}^m m D^m m$], because the relation of ${}^m m D^m m$ to c remains wholly mysterious; and where are we to find the determining complex ${}^m m D^m m$ which is to determine c ?

Here—at last, and with breathtaking brevity—Russell points to a *defect*, the fatal flaw, in the theory that definite descriptions are singular terms. So brief is the presentation that several distinct interpretations, some largely unrelated to each other, have been offered. Some of Russell's defenders, as well as his critics, reconstruct the argument in (F) and (G_i) with the result that it is remarkably weak.³⁴ This is none too surprising. The actual wording seems more rhetorical than profound, more of a complaint than an argument. This is unfortunate. I believe Russell may have had in mind a strikingly forceful argument, which builds upon the considerations expressed in the foregoing paragraphs in a way that proves their importance (especially that of the Collapse) to the debate concerning the logico-semantic status of determiner phrases.

We seek an explanation of how to express a proposition about a determining complex c using an indirect quotation or other name for c —an explanation, for example, of the content of a sentence like (4). What we are able to determine from *ST* is that, because of the Collapse, the indirect quotation is not a logically proper name and instead expresses a second-level complex ${}^m m$ the centre of mass of the Solar System ${}^m m$ which represents m the centre of mass of the Solar System m in the proposition. But we have as yet no idea which determining complex ${}^m m$ the centre of mass of the Solar System ${}^m m$ is of the infinitely many second-level complexes that determine m the centre of mass of the Solar System m . We know what determining complex the indirect quotation ‘ m the centre of mass of the Solar System m ’ designates, but we do not

³⁴ Blackburn and Code (op. cit.) interpret the ‘Gray’s *Elegy*’ passage as arguing primarily that in order to introduce and justify his notion of sense, Frege must find a way to “specify” the sense of an expression recognizably—for example, by constructing a definite description for the sense or explicitly defining an indirect quotation—using, but not mentioning, the very expression whose sense is to be specified, while also guaranteeing a logical connection between the expression and the term for its sense; and this he cannot do, because any such term for the sense will have its own

know *how* the indirect quotation presents it. We know the indirect quotation's designatum but not its content. It turns out that we are at a loss even to *understand* (4). At best, we know that the sentence somehow expresses something *about* that complex—some proposition or other to the effect that it is a point—but we know not which of the infinitely many propositions that do this is actually expressed. What is worse,

sense which must also be designated recognizably while guaranteeing its logical connections, and so on *ad infinitum*, generating an infinite regress. This interpretation bears at most a superficial resemblance to mine. Blackburn and Code interpret Russell's assertion that "the meaning cannot be got at except by means of denoting phrases" as meaning that the theory cannot meet the demand that the required sense specification not mention any expression whose sense is in question (p. 72)—rather than that the sense cannot be designated by a logically proper name. They do not make clear why Russell (or anyone) should insist that it is illegitimate for Frege to introduce his notion of sense by pointing out that, for example, 'the centre of mass of the Solar System' and 'the point of intersection of lines *a* and *b*' share a common designatum yet differ in sense. (I believe Blackburn's and Code's interpretation stems from a serious misreading of Russell's assertion that "the relation of meaning and denotation is not merely linguistic through the phrase". See n. 17 and n. 24 above.) Other commentators (e.g., Pakaluk) have followed Blackburn and Code in interpreting Russell as objecting to the content/designation distinction on the ground of an infinite regress, though there is no clear evidence of such an objection in the passage. Only later, in 'Knowledge by Acquaintance and Knowledge by Description' (Russell 1910–11 in Salmon and Soames (1988) at pp. 28–9), does Russell give a similar objection based on an infinite regress. Like Blackburn and Code, Noonan (*op. cit.*, pp. 92–7) sees Russell as insisting that determining complexes, were there to be any, would have to be specifiable without mentioning expressions that express those complexes. Noonan interprets Russell as arguing that nevertheless, no complex is specifiable except by mentioning an expression whose content it is, since the Collapse precludes naming complexes, and a complex cannot be specified as a function of its determinatum; since there are no other possibilities, it follows that no determining complexes exist. Noonan admits that this argument is strikingly weak. Worse, there is no clear evidence in the passage that Russell believes these are the only possibilities for designating a complex. On the contrary, he clearly believes they are not; witness Russell's example: 'the determining complex occurring in the second of the above instances'. Makin's interpretation (which appeared some years after I wrote the present essay) depicts Russell as objecting to the theory of determining complexes on the grounds that when we wish to form a proposition about a given determining complex, the theory requires us to obtain an appropriate determining second-level complex from the target complex itself, whereas the same theory fails to provide any systematic way of doing this (*op. cit.*, pp. 31–2, and *passim*); hence "by the theory's own strictures", determining complexes cannot be thought or spoken of even in principle, nor can anything be true or false of them (pp. 22–3). Aside from the scant evidence that Russell believes the theory of determining complexes requires us to obtain the needed second-level complex from the target complex, the argument attributed to Russell is clearly invalid. The theory in question in fact provides for a multitude of general propositions about any given determining complex.

Hylton (*op. cit.*, pp. 250–2) interprets (G_i) as an expression of incredulity regarding the Fregean hierarchy, while echoing Searle's reading (albeit more sympathetically than Searle—see n. 27 above), on which Russell insists that if there are determining complexes, then there must also be singular propositions about them. Hylton also says that Russell rejects the Fregean hierarchy as a vicious infinite regress. Kremer (*op. cit.*, pp. 284–7) sharply criticizes Hylton's interpretation, showing that on Russell's view at the time, the infinite "regress" (if one is to call it that) is not vicious. Kremer's interpretation of (F_{iii}) and (G_i) (pp. 287–90) is similar in important respects to my own (as is Makin's). It is not exactly the same, though, and I shall endeavour to strengthen and sharpen Russell's argument significantly.

because of the non-existence of a high backward road, our prior knowledge, arrived at through a commonplace human process of semantic computation, that the definite description ‘the centre of mass of the Solar System’ expresses the particular content ^m‘the centre of mass of the Solar System’, together with our knowledge of exactly which determining complex this is—that is, our “understanding” of the phrase, in this sense—is not sufficient to enable us to compute the content of the sentence. The problem is not so much to *locate* the postulated second-level complex. (Russell: ‘Where are we to find the denoting complex “C” which is to denote C?’) It resides in the class of second-level complexes that each determine ^m‘the first line of Gray’s *Elegy*’, alongside its neighbours ^m‘the determining complex occurring in the second of Russell’s instances’ and ^m‘the determining complex that has given Russell’s readers more headaches than any other’. The problem is one of *identification*: Which of the infinitely many complexes in this equivalence class is it?

This identification problem is no mere pebble in *ST*’s shoe. It is a theoretical crisis. The problem looms larger when examining everyday contexts in which we actually designate contents by means of indirect quotations: contexts attributing modality or propositional attitudes. Ordinary English has the functional equivalent of indirect-quotation marks, at least when they flank an English sentence: the word ‘that’.³⁵ The attribution ‘Albert believes ^m‘the centre of mass of the Solar System is a point’ translates into ordinary English as

- (5) Albert believes that the centre of mass of the Solar System is a point.

Russell may be interpreted as objecting to Frege’s hierarchy of indirect senses on the grounds that the customary sense of an expression does not determine the indirect sense (let alone higher-level indirect senses), so that one’s ability to understand a sentence ϕ does not automatically enable one to understand $\lceil \alpha \text{ believes that } \phi \rceil$, in which ϕ expresses its indirect sense. Suppose we utter (5) in conversation with Smith. When Smith apologizes that he does not understand the phrase ‘centre of mass’, we accommodate him by defining the term. But on the doctrine of indirect senses (and hence on the theory that definite descriptions are singular terms), this is not sufficient for Smith now to understand (5). For though he now knows the customary sense of ‘centre of mass’, he does not know the indirect sense. His knowing the customary sense of (3) without also knowing its indirect sense gives him the information

³⁵ See Salmon (1986, 1991), at pp. 5–6.

that (5) in some way expresses *about* the proposition ^mthe centre of mass of the Solar System is a point^m that Albert believes it. But for want of a backward road, Smith does not thereby know, and has insufficient information to be able to determine, by what sense the proposition said to be believed by Albert is designated. Consequently, without further, independent information specifying the sense of the ‘that’-clause, ^rthat (3)^r, Smith does not, and cannot, actually understand (5) itself. So ends stage (VII), and with it the heart of the ‘Gray’s *Elegy*’ argument.

This is a genuine, and difficult, philosophical problem, rediscovered more recently by Donald Davidson.³⁶ One may be tempted to suppose that the English indirect sense of an expression invokes the expression itself, for example that the English indirect sense of ‘centre of mass’ (the English customary sense of the indirect quotation ‘^mcentre of mass^m’) is the customary sense of the definite description ‘the English customary sense of ‘centre of mass’’. This would yield the result that no two distinct synonyms could be *thoroughly synonymous*, that is, sharing the same entire hierarchy of indirect senses. Customary synonyms—expressions with the same customary sense—will automatically differ in indirect sense (and therefore also in doubly indirect sense and every higher-level indirect sense). It would also provide a shortcut backward road, not from designatum to sense nor from sense to indirect sense, but directly from expression to indirect sense. Reflection reveals, however, that this cannot be correct. If it were, Smith would understand (5)

³⁶ Davidson (1965), pp. 393–4. Even before Davidson, Carnap had complained, in *Meaning and Necessity* (1947, 1970, sect. 30, pp. 129–33), that “Frege nowhere explains in more ordinary terms what this third entity is”. Neither Carnap nor Davidson credit Russell.

Dummett dismisses the ‘Gray’s *Elegy*’ argument as “extremely confused”, in *Frege: Philosophy of Language*, (Dummett 1973), at p. 267. Dummett nevertheless extracts this same extension of the stage (VII) objection to indirect senses—or an objection very close to this one—saying that it constitutes a *reductio ad absurdum* of Frege’s entire theory. Dummett adds, “There is, however, a simple emendation which can be made to the doctrine [of indirect sense], which, with only a small perturbation in the system, dispels the objection”. His proposed emendation consists in two claims: It is not the sense alone, but the sense together with a position within a sentence—what Dummett calls a *context*—that determines designation; and expressions have the same sense (though not the same designatum) when occurring in an *ungerade* linguistic context as they do when occurring in an ordinary (‘transparent’) context. See n. 29 above. Ironically, the second part of this proposed emendation is precisely what was ruled out at stage (V) via the Collapse. Dummett does not address this earlier stage of the argument, though (as I interpret Russell) it is the central argument of the passage. In particular, Dummett’s emendation seems to have the peculiar consequence that the proposition that ^mthe centre of mass of the Solar System^m is a point = the proposition that the centre of mass of the Solar System is a point. (This is the Collapse.) It would also have the consequence that this single proposition has no truth value apart from an English context for the particular words ‘the centre of mass of the Solar System’ (or a German context for the description’s German translation, or etc.).

Dummett’s acknowledgement of the problem noted by Russell at stage (VII) does not extend to the further problem to be noted two paragraphs below in the text. I criticize Dummett on this issue in Salmon (2001).

even *without* being told the English customary sense of ‘centre of mass’. For he already knows the customary sense of ‘the customary English sense of ‘centre of mass’; it is its designatum he does not know. Moreover, as Church famously argued, if (5) mentioned the particular English phrase ‘centre of mass’ (perhaps by mentioning the entire English sentence (3)), then its translation into another language, say German, would be not what it is normally taken to be, but instead a German sentence that quotes the English phrase ‘centre of mass’, and that therefore fails to identify in German exactly what Albert is said to believe (specifying it instead perhaps as *whatever proposition is expressed in English by the particular words ‘The centre of mass of the Solar System is a point’*).³⁷

As serious as this difficulty is, the problems with the theory that definite descriptions are singular terms do not end there. Russell argues, in effect, that *ST* is forced to claim, on pain of incoherence, that the contents of definite descriptions are (to use a notion that figures in ‘On Denoting’ and that Russell will develop in later work) knowable only *by description*, never *by acquaintance*. As noted, this corner is the very place where one prominent sub-group of *ST* theorists—namely, Frege and some of his followers—have willingly chosen to call home. For Frege, *all* knowledge of things is of a sort that Russell will classify as knowledge by description, including our knowledge of senses. By Russell’s lights, this renders the very phenomenon of our understanding language altogether impossible. For understanding an expression entails knowing what the content (for Frege, the *Sinn*) of the expression is. Understanding ‘the first line of Gray’s *Elegy*’ evidently requires (indeed consists largely in) knowing of the determining complex ‘the first line of Gray’s *Elegy*’ (*de re*) that the phrase expresses it. By virtue of

³⁷ In this sense it may be said that the relation of sense to indirect sense is not merely “linguistic through the phrase”, though I believe this departs from Russell’s meaning for those words; see n. 17 above. That the indirect sense of an expression involves designation of the expression itself is suggested by Church’s remarks concerning the paradox of analysis, in his famous review of the Black–White exchange, in Church (1946), pp. 132–3. Church’s remarks there seem inconsistent, however, with his later writings concerning what has come to be called *the Church translation argument*, for example, Church (1950), pp. 97–9. This was noted by C. Anthony Anderson in Anderson (1987), at p. 162, n. 27, and independently in Salmon (1993), pp. 158–66. Dummett has defended the exegetical thesis that Frege identified the indirect sense of α with the customary sense of ‘ α ’, in Dummett (1981) at pp. 89–100. (This represents a turnabout for Dummett, who had earlier dismissed the idea as “rather implausible” in Dummett 1981—see the previous note above.) Both the thesis concerning the indirect sense of α and the exegetical thesis that Frege held the former thesis are defended in Kemp (1995), pp. 153–62. I criticize this interpretation in ‘The Very Possibility of Language’, (Salmon 2001 sect. 2; see also sect. 3, n. 30.) The general idea that the indirect sense of an expression invokes the expression itself is also found (in various forms) in Heidelberger (1975), at p. 37; Owens (1986), at pp. 376–79; and Anderson, op. cit. at pp. 141–3, and recently in ‘Alonzo Church’s Contributions to Philosophy and Intensional Logic’, sect. 2.2, in Anderson and Zeleny (2001).

the Collapse (and the stage (V) argument), the linguistic proposition that the phrase expresses ^mthe first line of Gray's *Elegy*^m cannot be a singular proposition about the complex, and instead incorporates the postulated second-level complex ^mthe first line of Gray's *Elegy*^m. The required *de re* knowledge is of the form: 'The first line of Gray's *Elegy* expresses the determining complex that is such-and-such. (More exactly, it is knowledge of the proposition ^M'the first line of Gray's *Elegy*' expresses c_1^M , where c_1 is the postulated second-level complex.) But on Russell's epistemology, knowing merely that 'the first line of Gray's *Elegy*' expresses the complex that is such-and-such—even if this knowledge is properly arrived at by an appropriate semantic computation—cannot qualify as genuine *understanding* of the definite description. For it is *de dicto* knowledge and not *de re*; it is only knowledge by description. The fact that 'the first line of Gray's *Elegy*' expresses the determining complex that is such-and-such begs the question: Which complex is *that*? Only by *identifying* the complex in question—that is, by providing direct acquaintance with it—do we achieve the special sort of *de re* knowledge that constitutes genuine understanding of the description in question. Thus not only are we in no position to gain an understanding of a belief attribution like 'Albert believes that the first line of Gray's *Elegy* is beautiful'; a slight extension of the 'Gray's *Elegy*' argument appears to show that on *ST*, we cannot understand any definite description. And since the Collapse applies to any expression for which there is a content/designation distinction of the sort *ST* ascribes to definite descriptions, on Russell's epistemology the theory that there are any expressions with contents that determine their designata—whether they be definite descriptions, sentences, or something else—inadvertently renders these expressions in principle unintelligible. This situation is indeed philosophically intolerable, in many respects analogous to the derivation of Russell's Paradox about sets.³⁸

³⁸ Previous interpreters (e.g., Kremer, Noonan) have noted that, if it assumed that we can designate anything with which we are acquainted by a "genuine name in the strict, logical sense" (and that we apprehend propositions expressed with the help of definite descriptions), then the explicit conclusion of this stage of Russell's argument—that "the meaning cannot be got at except by means of denoting phrases"—flatly contradicts a principle, usually called *the Principle of Acquaintance*, which is fundamental to Russell's epistemology and which is in fact explicitly enunciated in the closing paragraph of 'On Denoting' (and hinted at in the second paragraph): 'Thus in every proposition that we can apprehend (i.e. not only in those whose truth or falsehood we can judge of, but in all that we can think about), all the constituents are really entities with which we have immediate acquaintance.' The principle is restated more succinctly in Russell's 'Knowledge by Acquaintance and Knowledge by Description' (*loc. cit.* n. 34 above, at p. 23 of Salmon and Soames):

Curiously, Russell does not take the argument to this further stage, deriving a truly untenable consequence from *ST*. He seems determined, nevertheless, that the argument shall end not with a whine but with a solar flare. Still discussing the connection between the target complex *c* and the postulated second-level complex ${}^m m D^m m$, the remainder of (G) reads as if to compensate for the relative weakness of (G_i):

- (G_{ii}) Moreover, when *C* occurs in a proposition, it is not *only* the denotation that occurs (as we shall see in the next paragraph); yet, on the view in question, *C* is only the denotation, the meaning being wholly relegated to '*C*'. This is an inextricable tangle, and seems to prove that the whole distinction of meaning and designation has been wrongly conceived.

Here an additional complication in translation arises. In previous paragraphs, I have replaced Russell's variable '*C*' either with our metalinguistic variable ' α ' or with our determining-complex variable '*c*'. Where '*C*' functions as a schematic letter standing in for a definite description (as suggested, for example, by the particular phraseology '*C* is only the denotation'), I have replaced it with our schematic letter '*D*'. A new complication concerns Russell's use of the phrase 'occur in a proposition'. Using my notion of *representation* (section 2 above), and using specific instances instead of a schema, Russell evidently means to argue as follows, repeating the very circumstances that lead to the Collapse:

When the determining complex m the centre of mass of the Solar System m occurs in a proposition (as the subject), both the complex itself and its determinatum are involved in the proposition; yet we have seen that on the view in question, whenever m the centre of mass of the Solar System m occurs in a proposition, it represents only the centre of mass of the Solar System, which is its determinatum, the representation of the complex itself being wholly relegated to the occurrence of ${}^m m$ the centre of mass of the Solar System ${}^m m$ in a proposition. And similarly when the complex m the first line of Gray's *Ele-*

'Every proposition which we can understand must be composed wholly of constituents with which we are acquainted.'

Though this point is closely related to the argument just given in the text, that argument does not rely on the assumption that any object of our acquaintance can be genuinely named nor on the Principle of Acquaintance. The very existence of the Collapse casts serious doubt on the former assumption. The argument employs instead a premiss that is significantly more certain: that understanding a definite description requires *knowing which* complex it expresses. And in lieu of Acquaintance the argument employs a premiss that is at least as certain: that in order to know which determining complex is such-and-such (as opposed merely to grasping the complex in question), one must know the singular proposition that it is such-and-such.

gy^m occurs in a proposition, when m the author of *Waverley* m occurs, and so on. Therefore, the view in question has been wrongly conceived.

The remainder of the passage, which constitutes a supplementary final stage of the argument, may thus be recast, without undue violence to Russell's apparent intent, as follows:

(G' *ii*) Moreover, when c occurs in a proposition, it is not *only* the determinatum that occurs (as we shall see in the next paragraph); yet, on the view in question, c [represents] only the determinatum, the content [i.e., the representing of c itself] being wholly relegated to $^m D^m$. This is an inextricable tangle, and seems to prove that the whole distinction of content and designation has been wrongly conceived.

(H') That the content is relevant when a determiner phrase occurs in [a sentence expressing] a proposition is formally proved by the puzzle about the author of *Waverley*. The proposition m Scott is the author of *Waverley* m has a property not possessed by m Scott is Scott m , namely the property that George IV wished to know whether it was true. Thus the two are not identical propositions; hence the content of 'the author of *Waverley*' must be relevant [to the proposition] as well as the designatum, if we adhere to the point of view to which this distinction belongs. Yet, as we have seen, so long as we adhere to this point of view, we are compelled to hold that only the designatum can be relevant. Thus the point of view in question must be abandoned.

The inextricable tangle does indeed seem to prove that the whole distinction of content and designation has been wrongly conceived ... by Russell. Assuming stages (IV)–(VI) have been successful, on the theory that definite descriptions are singular terms, though the proposition is *about* the description's designatum and not about the content, the content itself is still relevant to the proposition's identity, and especially to its distinctness from other propositions involving determining complexes with the same determinata. This is the very point of the theory. To be sure, Russell knows this. He seems to be arguing in stage (VIII) more like a debating politician seeking votes, than the great philosopher that he is (and indeed that he proves himself to be in 'On Denoting').

6.

The heart of the 'Gray's *Elegy*' argument comprises stages (IV)–(VII), in paragraph (F) and sub-paragraph (G_i). This portion is philosophically important. It deserves a thoughtful reply or, if a plausible reply cannot be found, nothing less than our endorsement.

On this reconstruction, the crux of Russell's objection to the theory that definite descriptions are singular terms is the Collapse: the attempt to form a singular proposition about a determining complex results instead in a general proposition about the complex's determinatum. The Collapse precludes "preserving the connection of content and designatum while preventing these from being one and the same, unless the content cannot be got at except by means of determining phrases". And this leads to the unsolvable mystery of second-level determining complexes (and higher-level complexes), Frege's *ungerade Sinne*. The "connection" of content and designatum may be given by the following:

- P*: The content of a singular term represents the term's designatum in propositions expressed by means of sentences containing the term.

If this principle *P* is respected, then the proposition expressed by 'The centre of mass of the Solar System' is a determining complex' will incorporate the content of 'the centre of mass of the Solar System'. If this proposition is a singular proposition about the centre of mass of the Solar System (as was our intent), then the content of 'the centre of mass of the Solar System' just *is* the centre of mass of the Solar System representing itself. Equivalently, if we disallow the content of 'the centre of mass of the Solar System' from being simply the designatum, then 'the centre of mass of the Solar System' will have a separate content, the centre of mass of the Solar System. If there are singular propositions about determining complexes, then this separate content is completely idle, with no role to play in the singular propositions expressed using 'the centre of mass of the Solar System', in violation of *P*. It would appear, then, that if *P* is preserved *and* the content of an indirect quotation is prevented from being the designatum, then: (i) there cannot be singular propositions about determining complexes; (ii) 'the centre of mass of the Solar System' must be a disguised definite description; and (iii) determining complexes cannot be named *in the strict, logical sense*. But then there is, according to Russell, a further difficulty that stems from the fact that "content cannot be got at except by means of determiner phrases": we have insufficient information to

fix which determining complex ${}^m m$ the centre of mass of the Solar System ${}^m m$ is, and hence, we do not even so much as understand the indirect quotation.

There is a viable reply to this argument. Recall our attempt to inform Smith of Albert's view by uttering (5). We noted that on Frege's theory, Smith needs to know the indirect sense of 'centre of mass' in order to understand (5). But contrary to the argument that knowledge of the customary sense alone is insufficient, it would appear to be exactly this knowledge—nothing more and nothing less—that Smith needs in order to understand (5).³⁹ This suggests that there is indeed a backward road, not generally from designatum to sense but from customary sense to indirect sense. A thoroughgoing Fregean does not agree with Russell that we are *directly* acquainted with our concepts. A Fregean might nevertheless hold out the prospect that concepts are epistemologically special in that we grasp or apprehend them. It may be suggested that our very apprehension of a concept provides a distinguished second-level concept that presents the former concept in an epistemologically special, *de re* manner. Consider an analogy: the sentence 'Jane's dress is the same colour as my hair' fails to identify the colour that is in question. It is perfectly sensible to respond with 'But what colour is that?' By contrast, the sentence 'Jane's dress is black' pre-empts any such further query. The phrase 'the colour of my hair' does not specify the colour in the same definitive manner as the adjective 'black'. A Fregean should acknowledge that the adjective expresses a concept that determines the designated colour in a uniquely identifying way, a special manner of presentation with respect to which the question 'But which one is thus presented?' does not arise. Call this special manner of presentation *Sinnful identification*. The particular second-level concept ${}^m m$ the first line of Gray's *Elegy* ${}^m m$ that is postulated by Frege would have to be similarly privileged among second-level concepts that determine ${}^m m$ the first line of Gray's *Elegy* ${}^m m$, enjoying this more intimate relationship to its determinatum than do its equivalence-classmates ${}^m m$ the determining complex occurring in the second of Russell's instances ${}^m m$ and ${}^m m$ the determining complex that has given Russell's readers more headaches than any other ${}^m m$. The target complex is uniquely Sinnfully identified by the postulated second-level concept for one who correctly understands 'the first line of Gray's *Elegy*' and thereby apprehends the content expressed.

³⁹ The best way to see this point is to undergo the process for oneself. I have invented a new word: 'nosdog'. Suppose the following belief attribution is true: 'Vito believes that his nosdog is loyal'. What does Vito believe? Hint: Vito's belief is not about a pet. Still don't know? Very well, let me specify the customary sense of the mystery word: it is ${}^m m$ godson ${}^m m$. Now try again: What does Vito believe?

Knowledge by Sinnfully identifying description is acquaintance Frege-style, the next best thing to Russellian direct acquaintance.⁴⁰ It generates a special choice function on concepts: for each concept c that we can apprehend, there is a distinguished second-level concept that is the Sinnful identifier of c . The Sinnful identifier function would also provide a solution to the problem of how it is that we understand definite descriptions: Understanding ‘the first line of Gray’s *Elegy*’ would consist in knowing (as the result of an appropriate semantic computation) that the description expresses the determining complex that is *such-and-such*, where this knowledge invokes the postulated second-level complex c_1 which not only represents but Sinnfully identifies the complex in question, that is, it would consist in knowing: ^M ‘the first line of Gray’s *Elegy*’ expresses in English c_1^M .⁴¹

This does not defeat Russell’s stage (VI) argument. Even if a Sinnful identifier choice function were found that selects a distinguished second-level complex from the equivalence class of complexes that determine ^m‘the first line of Gray’s *Elegy*’, unless this function also works (or provides another function f that works) at the bottom level, it is of no help in constructing the postulated second-level complex from our target complex, because of the Collapse. The moment we put the target complex into a larger complex, at best the Sinnful identifier function will be applied to the determinatum rather than to the complex itself. If the Sinnful identifier function exists, it yields the high backward road. But to defeat the argument at stage (VII) Frege does not need to *construct* the second-level complex from the target complex; it is enough simply to single out the second-level complex given the target complex, by Sinnfully identifying the latter. The high road leads directly from where we are to where Frege needs to go.

The Fregean hierarchy is generated by the following schema, which we may call *Frege’s Rule* (for English), where α may be any meaningful English expression:

⁴⁰ I argue in ‘The Very Possibility of Language’ (Salmon 2001), sect. 4, that Church, and probably Frege, are committed to an epistemology of just this sort. Frege appeared to believe that certain indexicals, especially ‘I’, are typically used with a special identifying sense. The central point of Church’s ‘On Carnap’s Analysis of Statements of Assertion and Belief’ (Church 1950), is that an ordinary propositional-attitude or assertion attribution like ‘Seneca said that man is a rational animal’ differs from such surrogates as ‘Seneca asserted the proposition expressed in English by ‘Man is a rational animal’ precisely in that the former “conveys the content of what Seneca said” (in Linsky (1971), p. 169). The latter, by contrast, merely specifies what Seneca said by describing it as the content of a certain string of words in a certain language. See n. 37 above.

⁴¹ The discussion in this paragraph has benefited from remarks made by Kripke in a seminar, though he may not entirely agree with the reconstruction proposed here.

The English n -fold indirect sense of α = the English customary sense of $^{\lceil n \rceil} \alpha^{\lceil n \rceil}$,

where the superscript ' n ' represents a string of n occurrences of the indirect-quotation mark ' m '. Thus, the indirect sense of 'the first line of Gray's *Elegy*' is the customary sense of ' m the first line of Gray's *Elegy* m ', the doubly indirect sense is the customary sense of ' m m the first line of Gray's *Elegy* m m ', and so on.⁴² Below these is the customary sense, which may be identified with the zero-fold indirect sense. If one is given only the designatum of a definite description, one cannot determine what the customary sense is, but if one is given that customary sense, using Frege's Rule one can discover the n -fold indirect sense for any n —provided that one can derive the customary sense of an arbitrary indirect quotation $^{\lceil m \rceil} \beta^{\lceil m \rceil}$ given the customary sense of β , that is, provided that, contrary to the stage (VII) argument, indirect-quotation marks do not constitute a restriction on the weaker version of Compositionality. The derivation of the sense of $^{\lceil m \rceil} \beta^{\lceil m \rceil}$ from that of β will be possible if, but only if, one's apprehension of a sense provides one with a special manner in which that sense is presented, that is, iff there is a backward road of the sort envisaged. The procedure for working out the n -fold indirect sense of α from its customary sense proceeds as follows. In understanding α , one thereby knows its customary sense c_0 . The very knowledge that α expresses c_0 is of the form: α expresses the determining complex that is such-and-such, employing the particular second-level concept c_1 that Sinnfully identifies c_0 . By cognitively attending to the special manner in which the customary sense c_0 is presented in one's very understanding of α , one *gleans* the Sinnfully identifying complex c_1 . This enables one to understand the content quotation $^{\lceil m \rceil} \alpha^{\lceil m \rceil}$ as expressing c_1 —which, by Frege's Rule, is the indirect sense of α . (Gleaning c_1 from one's knowledge that α expresses c_0 is tantamount to computing the *identifier* function for the apprehended complex c_0 as argument.) By attending to the special manner in which c_1 is presented in one's newly acquired understanding of $^{\lceil m \rceil} \alpha^{\lceil m \rceil}$, one gleans the third-level complex c_2 that Sinnfully identifies c_1 . This now enables one to understand $^{\lceil m \rceil} m^{\lceil m \rceil} \alpha^{\lceil m \rceil} m^{\lceil m \rceil}$ as expressing c_2 (by Frege's Rule, the doubly indirect sense of α), and so on. In this manner, one works out the sense of a nested indirect quotation not in one fell swoop, but from the innermost indirect quotation out, climbing Frege's hierarchy one rung at a time. Frege's Rule utilizes the high backward road, enabling one to generate

⁴² See n. 28 above. In Salmon (1989), at pp. 440–1, 455, n. 11, I propose Frege's Rule as a solution to Davidson's challenge to Frege (see n. 36 above) to state the rule that gives "the individual expressions that make up a sentence governed by "believes" ... the meanings they have in such a context".

any level indirect sense from the customary sense as the situation demands ('Smith heard that Jones said that he believes that Salmon said that Russell believed that Frege thought that ...'). Notice that on this reconstruction of Frege's theory, any pair of synonyms will be thoroughly synonymous, that is, they will share the same indirect sense, the same doubly indirect sense, the same triply indirect sense, and so on all the way up.⁴³

In short, for largely independent reasons, Frege should have countenanced a high backward road even while denying the existence of a low backward road. If stage (V) of the 'Gray's *Elegy*' argument is correct that *ST* is committed to disavowing singular propositions about determining complexes, then even if the stage (VI) argument is also correct and Strong Compositionality fails for embeddings within *ungerade* contexts, the high backward road provides exactly the escape route that the theory needs to evade stage (VII). The 'Gray's *Elegy*' argument thus does not succeed in refuting Frege's version of *ST*.

7.

The defence of *ST* invoking acquaintance Frege-style, though it may be the ticket for Fregeans, is not adequate for those, like myself, who wish to allow that definite descriptions are singular terms while retaining singular propositions about their contents. The defence does not contest stage (V), allowing the 'Gray's *Elegy*' argument to score an early point by showing that the theory is indeed committed to rejecting singular propositions about determining complexes. Non-Fregean versions of *ST* must insert a wedge before stage (V). Indeed, our ground must be held at stage (II), in which the Collapse first appears. For non-Fregeans, it is the Collapse itself that must be defeated.

One obvious component of any viable non-Fregean defence against the Collapse (other than capitulating to it, as with the Theory of Descriptions) is to distinguish the propositions expressed by (3) and (4) by distinguishing two different ways in which the determining complex *'the centre of mass of the Solar System'* occurs therein. In fact, one finds exactly such a distinction of modes of occurrence in posthu-

⁴³ As I argued in 'A Problem in the Frege-Church Theory of Sense and Denotation' (Salmon 1993), Church seems committed to accepting that expressions that are customarily synonymous are thoroughly synonymous, in his Church (1954), pp. 65–73. I have also speculated, in 'The Very Possibility of Language' Salmon (1998), sect. 4 (see especially n. 39), that Church may have believed in some such semantic computation of the sort described here. See n. 40 above. Indeed, since the procedure amounts to repeated applications of the *identifier* function by attending to the value at one step and gleaning the value at the next, the procedure parallels the sort of effective computation relevant to Church's Thesis.

mously published writings by that most resourceful of all neo-Millians, Russell. Repeatedly in ‘On Fundamentals’, written just prior to ‘On Denoting’ (see n. 24 above), no sooner is one conceptual apparatus proposed than it is modified and replaced. In the course of his discursive explorations, Russell eventually discovers, and opts for, a rudimentary version of Theory of Descriptions. But before he does, he distinguishes six modes of occurrences of propositional constituents, the two most significant of which he calls *primary occurrence* and *secondary occurrence*. He writes:

When a *denoting* complex *A* occurs in a [propositional] complex *B*, it may occur in such a way that the truth-value of *B* is unchanged by the substitution for *A* of anything having the same denotation. (For the sake of brevity, it is convenient to regard anything which is *not* a denoting complex as denoting itself.) This is the case with “the author of *Waverley*” in “Scott was the author of *Waverley*”, but not in “people were surprised that Scott was the author of *Waverley*.” ... We will call *A* a *primary constituent* of *B* when only the denotation of *A* is relevant to the truth-value of *B*, and we will call the occurrence of *A* a *primary occurrence* in this case; otherwise we will speak of *A* as a *secondary constituent*, and of its occurrence as a *secondary occurrence*.⁴⁴

Roughly, then, a determining complex is here said by Russell to have *primary occurrence* in a containing complex (e.g., in a proposition) if it represents its determinatum in that occurrence—as “the centre of mass of the Solar System” occurs in the proposition expressed by (3)—and it is said to have a *secondary occurrence* if it represents itself, as in (4) and (5). The particular terms ‘primary occurrence’ and ‘secondary occurrence’ are conscripted in ‘On Denoting’ for a different distinction altogether, that of scope. I shall continue to speak instead of what is *represented* by an occurrence of the complex in a containing complex. What Russell in ‘On Fundamentals’ calls a *primary occurrence* in a proposition is a determinatum-representing occurrence, and what he calls a *secondary occurrence* is a self-representing occurrence. (A single complex may be self-representing in one occurrence and determinatum-representing in another in the same proposition, as in “The cen-

⁴⁴ Russell in Urquhart (1994), p. 374. In the preceding pages Russell instead calls these *occurrence as entity*, or *as being*, and *occurrence as meaning*. He says, “When a complex occurs as being, any other complex having the same denotation, or the denotation itself, may be substituted without altering the truth or non-truth of the complex in which the said complex occurs” (p. 369), and goes on to say that “the author of *Waverley*” occurs “as entity” in “Scott was the author of *Waverley*”, and occurs “as meaning” in “people were surprised that Scott was the author of *Waverley*” (p. 370). The connotations of these terms are—frustratingly—exactly the reverse of the concepts they express. The likely reason is that Russell here distinguishes among a complex, the complex’s determinatum, and the complex’s content, and he thinks of the complex as somehow going proxy for one or the other of these two attributes in the proposition. The terminology is scrapped just a few pages later, when these same terms are used for a different distinction altogether.

tre of mass of the Solar System^m determines the centre of mass of the Solar System^r.)

The distinction between determinatum-representing and self-representing occurrences, though it is surely part of the solution, does not of itself solve the problem of the Collapse. In fact, it is *after* Russell develops this distinction (and other related distinctions of modes of occurrence) in 'On Fundamentals' that he presents the Collapse as a problem yet to be solved. It is assumed that a proposition is fully determined by its components and their mode of composition. Earlier in the essay, Russell states that when one complex occurs in another, the kind of occurrence is determined by the nature of the containing complex and the position that the contained complex occupies therein (pp. 369–70, and *passim*). The problem is that, as Russell views the situation, ^m"the centre of mass of the Solar System^m" occupies the same position in the propositions expressed by (3) and (4), and therefore is determinatum-presenting in both, hence the Collapse (pp. 381–2). To illustrate: it is now standard practice to represent propositions as sequences of proposition components. This allows one to distinguish the proposition that the author of *Waverley* is ingenious from the singular proposition about the author that he is ingenious. The latter proposition is identified with the ordered pair <Scott, ingenuity>, whereas the former proposition results by replacing Scott with ^m"the author of *Waverley*^m". Now let *c* be ^m"the centre of mass of the Solar System^m" and let *d* be ^m"is a point^m". We then represent the proposition formed from these two concepts, appropriately composed, by the ordered pair <*c*, *d*>. But which proposition is this, a general proposition about a point or a singular proposition about a determining complex? Suppose we stipulate that if *c* occurs as determinatum-representing then this is the true proposition that the centre of mass of the Solar System is a point, whereas if *c* occurs instead as self-representing, then this is the false singular proposition about *c* itself that it is a point. This is no solution. In each case, we have the same proposition composed of the same two concepts in the same way. How these concepts occur in the proposition seems a result of pragmatics—of speaker's intentions or the like. It is irrelevant to the identity of the proposition.

One ingenious line of defence against the Collapse has been proposed by another particularly resourceful neo-Millian, Kaplan. He writes:

The solution to the difficulty is simple. Regard the "object" places of a singular proposition as marked by some operation which cannot mark a complex. (There always will be some such operation.) For example, suppose that no

complex is (represented by) a set containing a single member. Then we need only add {...} to mark the places in a singular proposition which correspond to directly referential terms. We no longer need worry about confusing a complex with a propositional constituent corresponding to a directly referential term because no complex will have the form { x }. In particular, [^mthe centre of mass of the Solar System^m \neq {^mthe centre of mass of the Solar System^m}]. This technique can also be used to resolve another confusion in Russell. He argued that a sentence containing a [nondesignating] directly referential term (he would have called it a nondenoting “logically proper name”) would be meaningless, presumably because the purported singular proposition would be incomplete. But the braces themselves can fill out the singular proposition, and if they contain nothing, no more anomalies need result than what the development of Free Logic has already inured us to. (‘Demonstratives’, Kaplan (1989), p. 496 n. 23.)

The general idea is to distinguish the two modes of occurrence as constituents of propositions by actually *marking* some constituents so as to indicate that they represent themselves in the proposition. The singular proposition about Scott that he is ingenious is now represented by the ordered pair: <{Scott}, ingenuity>. This evidently requires some modification in Synonymous Interchange. If it is conceded that ‘the centre of mass of the Solar System’ has the same content as its indirect quotation (or any other name for its content), then some synonyms do not designate the same thing, and substitution of one expression by a synonym cannot be allowed when the two do not share the same designatum. Even substitution of co-designative expressions may involve more than mere substitution of one proposition component by another—as when ‘^mthe first line of Gray’s *Elegy*^m’ is substituted for the grammatical subject in ‘The determining complex occurring in the second of Russell’s instances has given Russell’s readers more headaches than any other complex’. For Kaplan, this substitution of a determinatum-representing complex by its determinatum is automatically accompanied by a mark transforming the position occupied into a self-representing position. Here the restriction on Synonymous Interchange comes into play, since we cannot go on to substitute ‘the first line of Gray’s *Elegy*’ without altering the content. Kaplan proposes extending his marking procedure to the occurrence of nondesignating names, thereby providing semantic content where Russell finds none.

Russell explicitly considers a similar proposal in ‘On Denoting’, where he dismisses any such solution as being essentially Meinongian. Immediately after criticizing Meinong in ‘On Denoting’, Russell says:

Another way of taking the same course (so far as our present alternative is concerned) is adopted by Frege, who provides by definition some purely

conventional denotations for the cases in which otherwise there would be none. Thus, 'the king of France' is to denote the null-class ... But this procedure, though it may not lead to actual logical error, is plainly artificial, and does not give an exact analysis of the matter. (Russell 1905, p. 484)

Russell would surely say the same about a more restrictive proposal that confines itself to names instead of descriptions. And he would be correct. There is something artificial about Kaplan's representation of the content of 'Nappy is a despot'⁴⁵ as $\langle \{ \}, {}^m \text{is a despot}^m \rangle$, something that is equally plainly artificial about his representation of singular propositions about Scott as containing $\{ \text{Scott} \}$ in subject position instead of Scott.

There is a more liberal interpretation possible for Kaplan's proposal. It might appear as if Kaplan is back-peddalling, modifying the offending version of *ST* so that the content of a logically proper name is held to be not simply its designatum but the unit set of its designatum. But this may be to place undue weight on an artefact of the particular marking system he suggests. One might take the basic idea to be, rather, that the content of an indirect quotation is just the complex, which typically represents its determinatum when occurring in a proposition but which is marked instead for self-representation in the false singular proposition expressed by (4), analogously to the way in which the definite description itself is marked by indirect-quotation marks in (4). Even so, whatever the mark of self-representation is, it must be an actual feature of the proposition, else the Collapse. Indeed, the "proposition" that Kaplan provides in the case of a sentence with a nondesignating name as grammatical subject has no actual representing component in subject position, but instead only the mark. One suspects that Russell would resist this proposal on the same grounds that though it may not lead to actual logical error, it is plainly artificial and does not give an exact analysis of the matter. And it is by no means obvious that his complaint would be entirely misplaced. The proposal does seem a bit airy-fairy. Are we really to suppose that a singular proposition about Mont Blanc contains not only the mountain with all its snowfields but also the mountain with the hypothesized "mark"? What exactly is the mark? What portion or aspect of the sentence (e.g., 'Scott is ingenious') actually contributes the mark?

It remains true that a self-representing occurrence of *m*'the centre of mass of the Solar System'*m* in a proposition is very different from a determinatum-representing occurrence. This much, by itself, is not an ad hoc stipulation; it is a factual observation. The problem is to clarify

⁴⁵ I have invented the name 'Nappy' for the present emperor of France. There is no such person.

this distinction in such a way as to distinguish (3) and (4) in its terms without making the distinction merely a matter of syntax and pragmatics, and without resorting to artificial and ad hoc alteration of the content of a name.

There is a way to do this. Though I came upon the idea independently (and used it extensively in my book, *Frege's Puzzle*⁴⁶), it comes as little surprise to find the same idea in 'On Fundamentals'.

There Russell says that ^mthe author of *Waverley*^m is an *analysable* constituent of ^mScott was the author of *Waverley*^m whereas the latter's occurrence in ^mpeople were surprised that Scott was the author of *Waverley*^m is *unanalysable*, in that the determinatum-representing proper constituents of the former proposition (e.g., ^mthe author of *Waverley*^m) are self-representing rather than determinatum-representing constituents of the latter proposition (pp. 375, 378, 379).⁴⁷ Analysable and unanalysable occurrences are both contrasted with a third mode of occurrence, *occurrence as meaning*. Something occurs in a proposition in this third way if it "can only be replaced [without loss of significance] by an entity of a certain sort, e.g. a proposition" (pp. 374, 378). Russell has in mind occurrences like a conditional proposition's antecedent, which must be a proposition (and not, e.g., a person) for the conditional to be meaningful. According to Russell, when a determining complex *A* occurs in this way in a complex *B*, *A* is not so much analysable as it is *analysed* in *B*, in that it "is not a constituent of the complex *B* in which it is said to occur, but its constituents occur in *B*, and occur in that relation to each other which constitutes the meaning of *A*" (p. 378).

Russell's notion of an *analysed* (as opposed to an *analysable*) occurrence provides for a mode of occurrence in a manner other than as a *constituent*. He stipulated that the proposition ^mScott was the author of *Waverley*^m occurs in just this manner in ^mif Scott was the author of *Waverley*, then he combined the talents of a poet and a novelist^m (p. 375). There is no reason why the determining complex ^mthe author of *Waverley*^m itself should not occur in the proposition ^mScott was the author of *Waverley*^m in this very same manner: not as an analysable

⁴⁶ In Appendix C, pp. 143–51; see especially pp. 145–7, clauses 16, 23–4, 28–9, 32–6. (See also pp. 20–1.)

⁴⁷ Russell appears to believe that the proposition ^mScott was the author of *Waverley*^m determines itself (and is therefore determinatum-representing in ^mpeople were surprised that Scott was the author of *Waverley*^m). This is highly dubious, however, since substitution of 'Scott' for 'the author of *Waverley*' in 'Scott = the author of *Waverley*', though it does not preserve the proposition expressed, should yield a proposition with the same determinatum. Frege relied on considerations like this to argue that a proposition determines its truth-value.

constituent, not as a constituent at all, but analysed (in Russell's senses of these terms). Instead Russell explicitly says that "the author of *Waverley*" is an analysable, determinatum-representing ("primary") constituent of "Scott was the author of *Waverley*" (p. 375).⁴⁸

One should distinguish sharply between a determining complex "occurring in" a proposition as a *concept-component* and its occurring as what I call a *sub-concept*—analogous to the two ways in which one set might occur within another: as an element or as a subset. (At the very least, one should draw an analogous distinction for the occurrence of a determining complex within a proposition if determining complexes are, as Russell's terminology suggests, *complex*, that is, non-simple.) This distinction of modes of occurrence corresponds not to Russell's distinction between *analysable* and *unanalysable*, but to a Russellian distinction for which he introduces terms but of which he otherwise takes no special notice, that between *constituent* and *analysed*. The determining complex "the centre of mass of the Solar System" analyses into two concept-components: "the" and "centre of mass of the Solar System". (The latter concept-component is what Russell, in *The Principles of Mathematics*, called a *class-concept*; it is a concept of a unit class of points in real space. In *Frege's Puzzle*, the former concept-component is identified with the *operation* of assigning to any unit class its sole element.) To treat these two as concept-components also of the singular proposition about the complex that it is intriguing, and of the proposition expressed by (4), is to misunderstand the fundamental nature of a singular proposition. Here these concept-components are like the occurrence of arms and hands in the singular proposition about Scott that he is ingenious. The entire complex "the centre of mass of the Solar System" is a concept-component ("constituent") of the singular proposition about it that it itself is intriguing, and likewise of the singular proposition expressed by (4), whereas the same complex is not a concept-component, in this sense, but a sub-concept of ("occurs analysed in") the proposition that the centre of mass of the Solar System is intriguing and of the general proposition expressed by (3)—just as $\langle a, b \rangle$ is a sequence-element of $\langle \langle a, b \rangle, e \rangle$ and a sub-sequence of $\langle a, b, e \rangle$.⁴⁹ Using the sequence representation for propositions, we may let

⁴⁸ Cf. Russell (1903), pp. 64, 502.

⁴⁹ A sequence s is a *sub-sequence* of a sequence s' if there are positive whole numbers j , m , and n such that s is an m -ary sequence, s' is an n -ary sequence, $m \leq n$, and for each whole number i , $1 \leq i \leq m$, the i th sequence-element of s is the $(j + i)$ th sequence-element of s' . In this sense, s "is not a constituent of s' in which it is said to occur, but its constituents occur in s' , and occur in that rela-

$a = {}^m\text{the}^m$; $b = {}^m\text{centre of mass of the Solar System}^m$; $e = {}^m\text{is intriguing}^m$. Then the complex ${}^m\text{the centre of mass of the Solar System}^m$ is represented by $\langle a, b \rangle$, the proposition that the centre of mass of the Solar System is intriguing by $\langle a, b, e \rangle$, and the singular proposition about ${}^m\text{the centre of mass of the Solar System}^m$ by $\langle \langle a, b \rangle, e \rangle$. No marks, no pragmatic clutter, and no collapse—and any remaining artificiality (e.g., the representation of complexes by sequences) is reduced to a minimal level that ought to be acceptable, at least for the purpose of rescuing a non-Fregean version of *ST* from the ‘Gray’s *Elegy*’ argument.

The distinction between occurrence as concept-component and occurrence as sub-concept violates the principle *P* mentioned above. It is true that the moment we put a determining complex in a proposition as a sub-concept, the proposition is about the determinatum of the complex; but this is not true when we put the complex in as a concept-component. The distinction also shows that Compositionality does not directly yield Synonymous Interchange. Let us assume that sentences like (3) and (4) are mere sequences of words (rather than tree-structures or the like). The proposition represented by $\langle a, b, e \rangle$ is the value of a computable function applied to the contents of the contentful component words and phrases of (3), just as $\langle \langle a, b \rangle, e \rangle$ is the value of a computable function applied to the contents of the contentful component words and phrases of (4). One may suppose that it is the same computable function, defined by cases (e.g., treating indirect quotations differently from definite descriptions). Even a version of Strong Compositionality is upheld, though the content of the description ‘the centre of mass of the Solar System’ occurs as sub-concept rather than concept-component. It is precisely this feature of the definite description that prevents substitution for it by its indirect quotation or by a name of the complex expressed. For though their contents are the same object, that object occurs differently in the content of the sentence, depending on whether its concept-components are contributed *en masse*, by the indirect quotation or name, or individually by the definite description’s components.

tion to each other which constitutes *s*’. The notion of *sub-concept* should be understood analogously in terms of *concept-component*.

To forestall misinterpretation: I am not suggesting that a proposition is best represented as a sequence of concept-components, let alone that it *is* such a sequence. What I am proposing is that, whatever the real structure of propositions may be (e.g., perhaps a tree structure), one should distinguish these two modes in which entities might be said to “occur in” a proposition—as component, or alternatively as sub-concept—and that this distinction provides a promising solution to the central problem posed in Russell’s ‘Gray’s *Elegy*’ argument.

Though forceful and important, the reasoning of the ‘Gray’s *Elegy*’ argument is mistaken at each stage. The alleged Collapse of (4) into (3) is a myth; hence *ST* is not committed to the Fregean hierarchy, though Millian versions of *ST* are committed to a restriction on Synonymous Interchange. Those who voluntarily undertake the commitment to Frege’s hierarchy may concede that the indirect sense is not constructed from the customary sense, so that indirect-quotation marks and ‘that’ constitute further restrictions on Strong Compositionality. But they may also follow the high backward road to derive the indirect sense from the customary in compliance with the weaker version of Compositionality.

Ironically, had Russell seen that a determining complex occurs *analysed* in a proposition rather than as a *constituent*, in his sense, he might not have discovered the Theory of Descriptions—at any rate, not as the stream of consciousness flows in ‘On Fundamentals’. It follows from nothing I have said that the Theory of Descriptions is wrong and that English is WRL rather than IRL. On the contrary, it was extremely fortunate for Philosophy that Russell was prompted by the threat of the Collapse to discover that paradigm of philosophy. Without it, the IRL hypothesis might never have been discovered and those of us who ponder content might forever have dreamed that we know which language we speak.⁵⁰

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⁵⁰ I have had the essentials of the interpretation provided here since 1972, but many others have greatly influenced my thought on the topic, too many others to list here. No one influenced me more than David Kaplan. The Santa Barbarians Discussion Group patiently worked through my edited version of the crucial passage in 1997. I am indebted to them, especially C. Anthony Anderson, for their comments and our efforts. By not venturing to challenge the interpretation, the group shares some responsibility for the final product—how much responsibility depending upon the success or failure of the project. I am also especially grateful to Teresa Robertson and to the participants in my seminars at UCSB and UCLA during 1998–9 for their insightful comments, notably Roberta Ballarin, Stavroula Glezakos, David Kaplan, and D. Anthony Martin. Thanks to Matt Griffin for correcting an error.

Appendix: Analytical translation of the obscure passage

On Russell's terminology, a *denoting phrase* is a noun phrase beginning with what linguists call a *determiner*, like 'every', 'some', or 'the'. Both definite and indefinite descriptions are denoting phrases, in Russell's sense. A definite description of a given language is said to *mean*—in a more standard terminology, it *expresses*—a *denoting complex* c as its *meaning*. The denoting complex c , in turn, *denotes*—in Church's terminology, it is a *concept of*—an object as its *denotation*. I here translate Russell's term 'meaning' as 'content'. Russell does not use any special term for the binary relation between a definite description and the object of which the expression's content in the language is a concept. Instead Russell speaks of "the denotation of the meaning", saying that a definite description α "has a meaning which denotes" an object x . Sometimes he says that α itself (as opposed to its content) denotes x . Here I shall avoid Russell's term 'denote' altogether. Instead I use 'determine' for the relation between a complex c and the object x of which c is a concept, and I shall call x the 'determinatum' of c . I shall use 'designate' for the relation between the expression α and x , and I shall call x the 'designatum' of α .

Russell uses ' C ' as a variable ranging over determining complexes, and sometimes instead as a metalinguistic variable ranging over determiner phrases. Frequently he uses ' C ' as a schematic letter (a substitutional variable), sometimes standing in for an arbitrary definite description, sometimes for a term designating an arbitrary determining complex. Any sentence in which ' C ' occurs as schematic letter is strictly speaking a *schema*, of which Russell means to assert every instance. Fortunately, with a little finesse, Russell's intent can usually be captured by taking ' C ' as a variable either ranging over definite descriptions or ranging over determining complexes. I use ' α ' as a metalinguistic variable, and upper case ' D ' as a schematic letter standing in for an arbitrary definite description. I use lower-case ' c ' as a determining-complex variable. I use Quine's quasi-quotation marks, $\langle \rangle$ and $\langle \rangle^1$ in combination with ' α '. In quasi-quotation, all internal expressions are quoted, that is, mentioned (designated), except for metalinguistic variables, whose values are mentioned. I use single quotation marks for direct (expression) quotation. Following Kaplan, I use superscripted occurrences of ' m ' as indirect-quotation marks, and superscripted occurrences of ' M ' as indirect-quasi-quotation marks.¹ In indirect-quasi-quotation, the contents of all internal expressions are mentioned, except for determining-complex variables, whose values are mentioned. Here I avoid double

quotation marks, except as scare-quotes when using another's words. Departures from the original appear in **boldface**.

- (A') The relation of the **content** to the **designatum** involves certain rather curious difficulties, which seem in themselves sufficient to prove that the theory which leads to such difficulties must be wrong.
- (B') (I) When we wish to speak about, i.e., to **designate**, the **content** of a **determiner** phrase, i.e., of a **definite description**, as opposed to its **designatum**, the **present** mode of doing so is by **indirect-quotation marks**. Thus we say:

The centre of mass of the Solar System is a point, not a **determining** complex;

^mThe centre of mass of the Solar System^m is a **determining** complex, not a point.

Or again,

The first line of Gray's *Elegy* **expresses** a proposition.

^mThe first line of Gray's *Elegy*^m does not **express** a proposition.

Thus taking any **determiner** phrase, e.g., **taking any definite description ...**, α , we wish to consider the relation between α and ^m α ^m, where the difference of the two is of the kind exemplified in the above two instances.

- (C') We say, to begin with, that when α occurs it is the **designatum** of α that we are speaking about; but when ^m α ^m occurs, it is the **content**. Now the relation of **content to designatum** is not merely linguistic through the phrase, i.e., **it is not merely the indirect product of the semantic relations of being the content of a phrase and designating**: there must be a **direct, non-linguistic, logico-metaphysical** relation involved, which we express by saying that the **content determines the designatum**. But the difficulty which confronts us is that we cannot succeed in *both* preserving the connexion of **content to designatum** and preventing them—the **content and the designatum**—from being one and the same; also that the **content** cannot be got at except by means of **determiner** phrases.ⁱⁱ This happens as follows.

- (D' _i) The one phrase α was to have both **content** and **designation**. But if **in an effort to designate the content**, we speak of **the content of α** , that gives us the **content** (if any) of the **determinatum of α** . 'The content of the first line of Gray's *Elegy*' **designates** the same **complex** as 'The **content** of ^mThe curfew tolls the knell of parting day^m', and ... not the same as 'The **content** of ^mthe first line of Gray's *Elegy*^m'. Thus in order to get the **content** we want, we must speak not of **the content of α** , but of **the content of ^m α ^m**, which **designates** the same as **^m α ^m** by itself.ⁱⁱⁱ
- (D' _{ii}) Similarly the **determinatum of α** does not **designate** the **determinatum** we want, **the determinatum of α 's content**, but means something, i.e., **expresses a determining complex**, which, if it **determines anything** at all, **determines** what is **determined** by the **determinatum** we want. For example, let α be 'the **determining complex** occurring in the second of the above instances'. Then **α = ^mthe first line of Gray's *Elegy*^m** and **the determinatum of α = 'The curfew tolls the knell of parting day'** **are both true**.^{iv} But what we *meant* to have as the **determinatum** was ^mthe first line of Gray's *Elegy*^m. Thus we have failed to get what we wanted **from the determinatum of α** .^v
- (E' _i) (II) The difficulty in speaking of the **content** of a **determining complex**, i.e., **in using a phrase of the form 'the content of ^m α ^m'**, may be stated thus: The moment we put the complex in a proposition, the proposition is about the **determinatum**,^{vi} and **hence** if we make a proposition in which the subject component is ^M**the content of c ^M**, for some **determining complex c** , then the subject **represents the content** (if any) of the **determinatum of c** , which was not intended.^{vii}
- (E' _{ii}) (III) This leads us to say that, when we distinguish **content** and **determinatum of a determining complex**, as we did in the preceding paragraph, we must be dealing in **both cases** with the **content**: the **content** has a **determinatum** and is a **determining complex**, and there is not something other than the **content**, which can be called **the complex ^m α ^m**, and be said to *have* both **content** and a **determinatum**. The right phraseology, on the view in question, is that some **contents** have **determinata**.

- (F' _i) (IV) But this only makes our difficulty in speaking of **contents** more evident. For suppose *c* is our **target complex**, and let '*D*' represent in what follows a **determiner phrase** that expresses *c* (for example, let *c* be *"the centre of mass of the Solar System"* and let '*D*' stand in for the phrase 'the centre of mass of the Solar System'); then we are to say that *"D"*, i.e., *c* is the **content** of the phrase '*D*', instead of saying that *"D"* itself has a **content**. Nevertheless, whenever '*D*' occurs without **indirect-quotation marks**, what is said is not **about "D"**, the **content of 'D'**, but only **about D**, the **designatum of 'D'**, as when we say:

The centre of mass of the Solar System is a point.

- (F' _{ii}) (V) Thus to speak of *"D"* itself, i.e., to **express** a proposition about the **content of 'D'**, our subject component must not be *"D" itself*, but something **else, a new determining complex**, which **determines "D"**.^{viii} Thus *"D"*—which **iterated indirect-quotation** is what we use when we want to speak of the content of *"D"*—must be not the **content of 'D'**, i.e., **not "D" itself**, but something which **determines the content**.
- (F' _{iii}) (VI) And *"D"*, i.e., *c*, must not be a constituent of this **higher-level complex "D"** (as it is of *"the content of c"*); for if *"D"* occurs in the complex, it will be its **determinatum**, not the **content of 'D'**, i.e., **not "D" itself**, that will be **represented** and there is no backward road from **determinata** to **contents**, because every object can be **designated** by an infinite number of different **determiner** phrases.
- (G' _i) (VII) Thus it would seem that *"D"* and *"D"* are altogether different entities, such that *"D"* determines *"D"*; but this cannot be an explanation of *"D"*, because the relation of *"D"* to *"D"* remains wholly mysterious; and where are we to find the **determining complex "D"** which is to determine *"D"*?
- (G' _{ii}) (VIII) Moreover, when *"D"* occurs in a proposition, it is not *only* the **determinatum** that occurs (as we shall see in the next paragraph); yet, on the view in question, *"D"* represents only the **determinatum**, the **content (i.e., the representing of "D" itself)** being wholly relegated to *"D"*. This is an inextricable tangle, and seems to prove that the whole distinction of **content** and **designation** has been wrongly conceived.

- (H') That the **content** is relevant when a **determiner** phrase occurs in a **sentence expressing** a proposition is formally proved by the puzzle about the author of *Waverley*. The proposition *"Scott is the author of Waverley"* has a property not possessed by *"Scott is Scott"*, namely the property that George IV wished to know whether it was true. Thus the two are not identical propositions; hence the **content** of 'the author of *Waverley*' must be relevant **to the proposition** as well as the **designatum**, if we adhere to the point of view to which this distinction belongs. Yet, as we have seen, so long as we adhere to this point of view, we are compelled to hold that only the **designatum** can be relevant. Thus the point of view in question must be abandoned.

Appendix Notes

ⁱKaplan (1971), at pp. 120–1. (Kaplan there calls indirect-quotation marks *meaning-quotation marks*.) The reader who is unfamiliar with these devices is advised to look them up.

ⁱⁱIt might have been more perspicuous for Russell to formulate his objection this way: We cannot succeed in both preserving the connection of content to designatum and *allowing* the content and the designatum to be one and the same. Moreover we cannot even succeed in both preserving the connection of content to designatum and *disallowing* the content and the designatum from being one and the same, *unless* the content cannot be got at except by means of determiner phrases. That is, if we preserve the connection whereby the designatum of a definite description is determined by the description's content, which is distinct from the designatum itself, then the content cannot be designated by means of a "genuine name in the strict, logical sense".

ⁱⁱⁱThis yields the awkward result that ${}^m\alpha^m = \text{the content of } {}^m\alpha^m$ is true. I am here attributing to Russell a serious equivocation, resulting from his dual use of inverted commas both as direct-quotation marks and as indirect-quotation marks. He appears to believe that he has derived from the theory that definite descriptions have a content/designation distinction the consequence that in order to designate *"the centre of mass of the Solar System"*, rather than using the inappropriate phrase 'the content of the centre of mass of the Solar System' we must use 'the content of *"the centre of mass of the Solar System"*' (which Russell fails to distinguish from the perfectly appropriate 'the content of 'the centre of mass of the Solar System''), thus ascribing a content to a determining complex itself. As a criticism of the content/designation theory, or even as a neutral description, this is a red herring. Instead the theory entails that one may designate *"the centre of mass of the Solar System"* using the functor 'the content of' in combination with 'the centre of mass of the Solar System' and direct quotation, not indirect. Russell has a stronger criticism to make of the theory, though his presentation is coloured somewhat by this red herring.

^{iv}In the original text, Russell here uses 'C' as a schematic letter standing in for a term designating a determining complex. The preceding two sentences should read:

For example, let 'C' [stand in for] 'the determining complex occurring in the second of the above instances'. Then $C = \text{"the first line of Gray's Elegy"}$, and the determinatum of $C = \text{'The curfew tolls the knell of parting day'}$.

I have reformulated this in the metalinguistic mode using 'α', quasi-quotation, and the predicate 'is true'.

^v*Pace* Russell, his apparent observation that in order to designate the designatum of α we should use 'the determinatum of ${}^m\alpha^m$ ' rather than 'the determinatum of α ', though correct, provides no support whatever to his apparent conclusion that in order to designate the content of α , rather than using 'the content of α ' we must use 'the content of ${}^m\alpha^m$ ', which is in fact equally inappropriate. Instead we can designate α 's content by using 'the content of α ' or ${}^m\alpha^m$. Analogously, we can designate α 's designatum by using 'the designatum of α ' or α itself.

^{vi}That is, as soon as we put a determining complex in a proposition, by using a sentence involving a singular term whose content is the complex, the proposition is about the complex's determinatum. This generates what I call *the Collapse*. As Russell will argue below, this same phenomenon arises even when designating the complex by using the simple indirect quotation ${}^m\alpha^m$.

^{vii}Roughly, a proposition component *represents* an object x in a proposition p if p is about x in virtue of that component. This marks the first use by Russell of his variable ' C ' as ranging over determining complexes rather than definite descriptions. Moreover, the quotation marks here are indirect-quasi-quotation marks. The quotation ' M the content of c^M ' designates the determining complex consisting of the content of the functor 'the content of' joined with the complex c .

^{viii}In this sense, the content cannot be got at except by means of determiner phrases; it cannot be genuinely *named*, in the strict, logical sense.

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Russell's Theory of Definite Descriptions

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The proper statement and assessment of Russell's theory depends on one's semantic presuppositions. A semantic framework is provided, and Russell's theory formulated in terms of it. Referential uses of descriptions raise familiar problems for the theory, to which there are, at the most general level of abstraction, two possible Russellian responses. Both are considered, and both found wanting. The paper ends with a brief consideration of what the correct positive theory of definite descriptions might be, if it is not the Russellian theory.

The theory of definite descriptions Bertrand Russell presented in 'On Denoting' one hundred years ago was instrumental in defining the then newly emerging philosophy of language, but a more remarkable achievement is that this centenarian theory is the *currently* dominant theory of definite descriptions. But what, exactly, is this theory? The question needs to be asked because the theory Russell presented in 1905 is not acceptable in the form in which he then stated it, and while we have little trouble in deciding whether a theory of definite descriptions is sufficiently like the one Russell formulated to be worth calling Russellian, it happens that what question one thinks a semantic theory of definite descriptions needs to answer will depend on how one thinks certain foundational issues in the theory of meaning need to be resolved. There is no consensus as to how those issues should be resolved. I elaborate on this a little in section 1, and in section 2 propose as a working hypothesis a conception of meaning for which I have argued elsewhere, and in terms of whose architecture a Russellian theory of definite descriptions may be formulated.¹ How the theory should be formulated in terms of that architecture is then the topic of section 3. Section 4 confronts my formulation of the Russellian theory with the apparent problem for it implied by certain referential uses of definite descriptions. There are at the most general level of abstraction two possible Russellian responses to this problem, and one of them is the standard Russellian response to the referential-use problem. Section 5 critically discusses that response and argues for its rejection. Section 6

¹ Schiffer (2003a), especially Chs 3 and 4.

critically discusses the other possible Russellian response and argues for its rejection, too. The final section, 7, gives a brief summary and discusses what the correct positive theory of definite descriptions might be, if it is not the Russellian theory.

1. The question at issue

In 'On Denoting' Russell stated his theory of definite and indefinite descriptions as a theory about the sentences to which sentences containing those expressions were equivalent in meaning. He said that

- (1) All humans are mortal

was equivalent in meaning to

- (2) 'If x is human, x is mortal' is always true,

and, more to the present point, he said that

- (3) The father of Charles II was executed

was equivalent in meaning to

- (4) It is not always false of x that x begat Charles II and that x was executed and that 'if y begat Charles II, y is identical with x ' is always true of y .

This was unfortunate, since, for one thing, (1) and (3), unlike (2) and (4), are not about language. Russell, we know, soon appreciated this, and he and Whitehead gave a more perspicuous representation in their monumental *Principia Mathematica*, according to which, when restated in the current formalism, (3) would be said to be equivalent in meaning not to (4), but rather to

- (5) $\exists x(\forall y(Fy \leftrightarrow y = x) \wedge Ex)$,

where the predicate ' F ' is assigned as its extension the set of fathers of Charles II and ' E ' the set of people who were executed. But in what sense of 'meaning' might (3) be said to be equivalent in meaning to (5)? Arguably not in at least one sense of meaning nowadays favoured by Grice-influenced philosophers of language, according to which (3) and (5) are equivalent in meaning only if what one would *say* in uttering (3) is identical to what one would *say* in uttering (5). If for no other reason, it is implausible that saying that the father of Charles II was executed = saying that $\exists x(\forall y(Fy \leftrightarrow y = x) \wedge Ex)$ because the truth-conditional semantics assigned to ' $\exists x(\forall y(Fy \leftrightarrow y = x) \wedge Ex)$ ' in Predicate Logic,

even Modal Predicate Logic, gives no reading to that sentence in intentional contexts like 'John believes/said that $\exists x(\forall y(Fy \leftrightarrow y = x) \wedge Ex)$ '. This problem is avoided if instead of saying that (3) is equivalent in meaning to (5), one were to say that it is equivalent to something like:

- (6) There was at least and at most one person who was a father of Charles II, and that person was executed.

The problem with this suggestion lies in its evasive use of 'something like': (6) is not equivalent in meaning to, say,

There was at least and at most one person who was a father of Charles II, and every person who was a father of Charles II was executed,

and neither of these meaning-unequivalent sentences makes a better claim to being equivalent in meaning to (3).

Perhaps we should understand Russell's claim as being that (3) and (5) are the 'same in meaning' in the sense that, necessarily, they have the same truth-value: necessarily, (3) is true/false iff (5) is true/false. That is a substantial claim about (3) that Russell would have accepted and which, as regards (3), generates the right debates. Its problem is that it is unclear how it can be the basis for a good general formulation of Russell's theory of definite descriptions, since it is unclear what formulation is implied for sentences that do not have context-independent truth-values. If the application of Russell's theory to (3) is the claim that (3) and (5) must have the same truth-value, then what should we take to be its application to, say, (7)?

- (7) The dog growls.

One natural extension of the truth-value-equivalence line on (3) would answer that, for any utterance of (7), there is a predicate H such that, necessarily, that utterance has the same truth-value as

- (8) $\exists x(\forall y((Hy \wedge Dy) \leftrightarrow y = x) \wedge Gx)$,

where ' D ' is assigned as its extension the set of dogs and ' G ' the set of things that growl.²

² A similar problem of 'incompleteness' also arises for Russell's account of indefinite descriptions (see Neale (1990), sect. 3.7). If we take what Russell wrote in 'On Denoting' at its literal word, then a true utterance of 'There are no clean cups' would come out false. A revision requiring incorporation of a contextually-determined supplementary property would be equally justified, and then equally subject to the problem I raise just below in the text. I return to the question of how the two 'incompleteness' problems are related in my discussion of what I call *the standard Russellian response* to the problem raised for the theory of descriptions by referential uses of definite descriptions.

And if that is acceptable to Russell, then he could generalize to all sentences of the form ‘The F is G ’, for he could say that for every utterance of a sentence of that form there is a predicate H such that, necessarily, the utterance has the same truth-value as $\lceil \exists x(\forall y((Hy \wedge Fy) \leftrightarrow y = x) \wedge Gx) \rceil$. When the definite description, like ‘the father of Charles II’, is not ‘incomplete’, H can be read as null (or, what comes to the same, given the same extension as F).

This would not be a good generalization. The problem (well, one problem) is that an utterance of any sentence might be non-literal. For example, in uttering (7) you might mean that your scruffy neighbour Seymour growls. In that case, there would be no candidate instance of (8), but that would be no objection to anything worth calling a Russellian theory. This suggests that the best reading of Russell’s proposal in ‘On Denoting’ for the simple case of sentences of the form ‘The F is G ’—which simple case will serve us well enough throughout this paper—is that for every *literal* utterance of ‘The F is G ’ there is a predicate H such that, necessarily, the truth-value of that utterance is the same as that of $\lceil \exists x(\forall y((Hy \wedge Fy) \leftrightarrow y = x) \wedge Gx) \rceil$.³

Recourse to the notion of a *literal* utterance brings us to contemporary ways of stating Russell’s theory, and to a methodological criticism of it. Writers on the semantics of definite descriptions sometimes pose the question ‘What is the proposition expressed in, or the semantic content of, a literal utterance of “The F is G ”?’ and then proceed to offer an answer to that question based in part on the writer’s direct intuitions about what the ‘proposition expressed’ or ‘semantic content’ is. I believe the strategy behind such talk of semantic content or proposition expressed to be basically sound, although it stands in need of precisification. The strategy is basically sound because, as I shall presently propose, the sentence type ‘The F is G ’ does have something we may call its meaning in a given person’s idiolect, and this meaning determines a relation of fit that may or may not be satisfied by what the person means in uttering the sentence. When the fit obtains, then the utterance counts as ‘literal’ and what the person means in uttering the sentence is the ‘proposition expressed’ or the ‘semantic content’ of that utterance. Then the question to be answered by a theory of definite descriptions is properly taken to be about the proposition expressed, or the semantic content, of an utterance of a sentence containing a definite description. My methodological criticism, which by no means vitiates most of the points made in the litera-

³ Throughout this paper I often help myself to the expediency of writing as though ‘The F is G ’ were a sentence and not a sentence form, relying on the context to make clear the proper expansion of what I mean.

ture on definite descriptions, is that we are not in a position reliably to have 'direct intuitions' about what is or is not the semantic content of an utterance of such sentences as regards the sorts of cases that challenge anything that is properly called a Russellian theory of definite descriptions. Why this is so will become clear in the next section, and I shall briefly discuss some of its implications in the concluding section.

2. An architecture for answering the question

As always, we need to take certain things as working hypotheses just to get started. One of my working hypotheses, for which I have argued elsewhere,⁴ is that propositional attitudes such as believing and propositional speech acts such as asserting are relations to propositions: abstract, mind- and language-independent entities that have truth conditions and have those truth conditions both essentially and absolutely, without relativization to anything else. This of course leaves plenty of room for theorists to disagree about the further nature of the propositions we believe and assert, and I shall touch on this further question as I proceed. A second working hypothesis, itself motivated by the first hypothesis and for which I have also argued elsewhere,⁵ is that there are entities that can serve as the meanings of expression types in the sense that, roughly speaking, an expression type has meaning just in case it is appropriately related to one of those things, and two expression types have the same meaning just in case they are both appropriately related to the same such thing.⁶ This raises two crucial questions. First, what sort of things are the meanings of expression types? Second, what is the nature of the meaning relation, that relation that must obtain between two things in order for one to be a meaning of the other? Once we have an answer to the first question, it will be clear what question a theory of meaning for definite descriptions must be in the business of trying to answer; and we will be in a better position to answer that question once we have an answer to the second question.

So what sort of entities are expression-type meanings, given that there are such entities? David Kaplan's well-known and widely-accepted answer is a good starting point.⁷ According to this account, an

⁴ See Schiffer (2003a), especially Chs 1 and 2.

⁵ Schiffer (2003a), Ch. 3.

⁶ For a sense in which there are *not* such *things* as the meanings of expression types, see Schiffer (2003a), Ch. 3.

⁷ Kaplan (1978).

expression type's meaning is to be identified with what Kaplan calls its *character*, where this is a function that maps 'contexts of utterance' onto 'contents'. Contents for Kaplan are Russellian propositions and their constituents.⁸ To a rough first approximation, the content of an indicative sentence token is a Russellian proposition, and the contents of the words in the sentence token either are or else determine the components of that proposition, so that the proposition that is the content of a sentence token is a function of the contents of its component expression tokens.⁹ Kaplan's 'contexts' are introduced to accommodate indexicals (roughly, pronouns and demonstratives). If our language were non-indexical (and we ignore tense-induced indexicality), Kaplan would be content to say that the meaning of 'Saul Kripke' is Saul Kripke, that the meaning of 'logician' is the property of being a logician, and that the meaning of 'Saul Kripke is a logician' is the 'singular proposition' $\langle \text{Saul Kripke, the property of being a logician} \rangle$. It is to accommodate indexical sentences like 'I am not there yet' that Kaplanian 'contexts' are introduced. The intuitive idea is that the Russellian content of an indexical expression token is determined by factors pertaining to the context in which the token is produced, and that the meaning of an indexical expression type is a rule that tells us how contextual factors determine the contents of indexical expression tokens. Accordingly, Kaplan defines his 'contexts' as *indices*—ordered n -tuples of all the contextual factors needed to determine the contents of expression tokens relative to them. Such indices are taken to include at least a speaker, a hearer, a possible world, a time, and a location, and we can

⁸ Russellian propositions are structured entities whose basic components are the objects and properties our beliefs and assertions are about, and they may be represented as ordered pairs of the form $\langle \langle x_1, \dots, x_n \rangle, R^n \rangle$, where $\langle x_1, \dots, x_n \rangle$ is an ordered n -tuple of things of any ontological category and R^n is an n -ary relation (unary relations are properties). A typical Russellian might to a first approximation represent the propositions that Fido is a dog, that Fido loves Fi Fi and Fi Fi loves Fido, and that there are tigers as, respectively, $\langle \text{Fido, doghood} \rangle$, $\langle \langle \langle \text{Fido, Fi Fi} \rangle, \text{the love relation} \rangle, \langle \langle \text{Fi Fi, Fido} \rangle, \text{the love relation} \rangle \rangle$, the conjunction relation, and $\langle \text{the property of being a tiger, the property of being instantiated} \rangle$. For any possible world w , $\langle \langle x_1, \dots, x_n \rangle, R^n \rangle$ is true in w iff $\langle x_1, \dots, x_n \rangle$ instantiates R^n in w , but there is a debate among proponents of Russellian propositions as to whether the members of $\langle x_1, \dots, x_n \rangle$ must exist in w in order to instantiate R^n in w and a corresponding debate about whether $\langle x_1, \dots, x_n \rangle$ must exist in w in order for the proposition $\langle \langle x_1, \dots, x_n \rangle, R^n \rangle$ to be false in w , as opposed to neither true nor false. Those who think existence is required will claim that the proposition that Saul Kripke is self-identical is neither true nor false in those worlds in which Kripke does not exist, whereas the other Russellians will claim that the proposition is true in every possible world. This debate will not affect the present discussion.

⁹ One reason this is a rough first approximation is that the content of a sentence like 'It's raining' is partly determined by references the speaker make in uttering it, where the things referred to (in this case, the place at which it is raining) are not the referents of any expression in the sentence uttered.

then say, for example, that the meaning of 'I' is that function which maps every index onto the speaker in it. There is then no problem in also accommodating non-indexical expressions, such as 'square' and 'Saul Kripke': for these expressions, contextual factors are inoperative and their meanings can be taken to be constant functions that map all indices onto the same content. If one accepts the character account of expression-type meaning, then to ask what kind of characters sentences containing definite descriptions have is to ask about the nature of those propositions that are the contents of sentence tokens containing definite descriptions.

But not even a proponent of Russellian propositions should accept the character account of expression-type meaning without revision. The main problem goes to the heart of the conception of meaning it hopes to make precise—namely, meaning as a rule that tells us how contextual factors determine the semantic values of expression tokens. Meaning-as-character may initially seem plausible when the focus is on a word such as 'I', but it loses plausibility when the focus is on other pronouns and demonstratives. What 'contextual factors' determine the referent of the pronoun 'she' in a context of utterance (its referent is its content for Kaplan)? Evidently, the meaning of 'she' (very roughly speaking) merely constrains one uttering it to be referring to a female. We do not even have to say that it constrains the speaker to refer to a contextually salient female, since the speaker cannot intend to refer to a particular female unless he expects his hearer to recognize to which female he is referring, and the expectation of such recognition itself entails that the speaker takes the referent to have an appropriate salience. What fixes the referent of a token of 'she' are the speaker's referential intentions in producing that token, and therefore in order for Kaplan to accommodate 'she', he would have to say that a speaker's referential intentions constitute one more component of those *n*-tuples that he construes as 'contexts'.¹⁰ The trouble with this is that there is no work for Kaplanian contexts to do once one recognizes speakers' referential intentions. The referent of a pronoun or demonstrative is *always* determined by the speaker's referential intentions. If the speaker who utters 'I' does not intend to refer to herself by her utterance of 'I'—say, if she uttered 'I picked a peck of pickled peppers' merely to work on her elocution—then she is not speaking literally and thus her utterance of 'I' does not refer to herself or to anything else, since she is not saying anything about herself or anything else. The difference between 'I' and

¹⁰ This seems to be pretty much what Kaplan (1989) does say, since it is evidently what he intends when he says that his contexts will contain 'demonstrations'.

'she' is that the meaning of 'I' constrains the literal speaker to be referring to herself, whereas the meaning of 'she' merely constrains the speaker to be referring to a female. Kaplan's notion of 'context' is superfluous. He would have done better to have said that the character of an expression type is a function that maps possible tokens of the type onto contents. Then he might to a first approximation have said:

The character of 'she' is that function f such that, necessarily, for any token τ of 'she' and any x , $f(\tau) = x$ iff x is the female to whom the speaker refers by his utterance of τ .

The character of 'I' is that function f such that, necessarily, for any token τ of 'I' and any x , $f(\tau) = x$ iff x = the speaker and the speaker refers to himself by his utterance of τ .

(As just noted, the requirement that the speaker be referring to himself by his utterance of 'I' is not superfluous, since if that condition is not satisfied, the utterance of 'I' will not be part of a literal utterance and therefore will not have any reference.)

And if that is a reasonable revision for the Kaplanian to make for the character of 'I', then he should *not* say that the character of 'Saul Kripke is a logician' is that constant function which maps all 'contexts' onto the proposition that Saul Kripke is a logician, but should say instead something like:

The character of 'Saul Kripke is a logician' is that function f such that, necessarily, for any token τ of the sentence and any x , $f(\tau) = x$ iff x = \langle Saul Kripke, the property of being a logician \rangle and the speaker means that proposition in his utterance of τ .

Neither Kaplan's original account of character nor the revision I have proposed for it is essentially tied to the construal of contents as Russellian contents. Anyone who thinks that the propositions expressed by sentence tokens are compositionally determined by semantic values of the sentence's component expression tokens can accept a character account of expression-type meaning, whether or not she thinks propositions are Russellian, or even structured.¹¹ But I have argued elsewhere that the propositions we assert and believe are not compositionally determined in that way,¹² and on my way of individuating propositions

¹¹ Structured propositions are those that are both a function of things that are not propositions and individuated by those things (propositions construed as sets of possible worlds are compositionally determined but unstructured). Structured propositions are commonly represented as ordered n -tuples of the things that compose them. See Schiffer (2003a), sect. 1.3.

¹² Schiffer (2003a), Ch. 3.

we cannot happily identify anything as the 'content' of a sub-sentential expression token. At the same time, we can retain an essential idea of the revised account of character: the meanings of sub-sentential expression types help to determine the meanings of sentence types, and they determine a relation of fit between them and propositions that might be meant in uttering sentences that have those meanings.

I shall call the meanings I have in mind, the account of which I have developed elsewhere,¹³ 'characters*', because while they are descendants of the revised Kaplanian notion of characters, they are also importantly dissimilar to them. The character* of a complete sentence type — 'Snow is white,' as opposed to 'snow is white' — is an ordered pair $\langle A, P \rangle$, where A is a type of speech act and P is a kind of proposition. Thus, the characters* of 'It is raining,' and 'Is it raining?' might to a first approximation be represented, respectively, as:

$\langle \text{meaning-that, a proposition of the form } \textit{it is raining at place } m \text{ at time } m', \text{ where } m \text{ identifies a place implicitly referred to by the speaker and } m' \text{ identifies the time of the utterance} \rangle$

$\langle \text{asking-whether, a proposition of the form } \textit{it is raining at place } m \text{ at time } m', \text{ where } m \text{ identifies a place implicitly referred to by the speaker and } m' \text{ identifies the time of the utterance} \rangle$

The character* of a sub-sentential expression may be construed as a partial determinant of the propositional part of the characters* of the sentences containing the expression, so that we may take the characters* of sub-sentential expressions also to be kinds of propositions. Thus the character* of 'I' determines the propositions expressed by sentence tokens containing it to be self-ascriptive propositions, propositions of the kind referred to by that-clauses containing 'I' ('I said that I was hungry'), and thus induces that constraint on the characters* of sentences containing 'I'. Characters determine characters*, but not vice versa, since the latter are compatible with compositionally-determined propositions but do not require them, so the theorist of compositionally-determined propositions is free to think of expression-type meanings as characters*.

I shall assume the character* account of expression-type meaning as another working hypothesis. Given this assumption, the big question as regards a semantic theory of definite descriptions is about the character* of sentences containing definite descriptions. What, for short, is the character* of sentences of the form 'The F is G '?

¹³ Schiffer (2003a), especially Ch. 3.

When we take expression-type meanings to be characters* (in the sense of ‘meaning’ glossed above), then the question about the nature of the meaning relation becomes a question about the nature of the character* relation: What relation must obtain between two things in order for one to be a character* of the other? In fact, we cannot even explain what it is for something to be a character* independently of an account of the character* relation. This is because being a character* is like being a sibling: just as the property of being a sibling simply is the property of standing in a certain relation to some other thing, so the property of being a character* (or a meaning) simply is the property of standing in a certain relation to some other thing.

So what is the character* relation? Before trying to answer this, we need a more precise statement of the things the relation relates. An expression does not have a character* *tout court*. It has it *in a language* or *for a certain person*. Now, the character* relation that should interest us is one that holds contingently, reflecting the fact that what an expression type means depends on how it, or its parts, are *used* in communicative behaviour. This character* relation is a four-place relation: expression type *e* has character* *c* for person *x* at time *t* (to simplify the exposition, I shall henceforth suppress the time slot in the relation, writing as though the character* relation related an expression type, a character*, and a person). At the same time, *c* is a character* that *e* has for *x* just in case *c* is a character* that *e* has in some public language of *x*’s. So our strategy for explicating the character* relation should be: first, to say what it is for *c* to be a character* of *e* in language *L*; second, to say what it is for *x* to use *L* as a public language, that is, for *L* to be a public language of *x*’s; and then simply to say that *c* is a character* that *e* has for *x* just in case *c* is a character* of *e* in some public language of *x*’s.

Taking my inspiration (but not all of my details) from David Lewis,¹⁴ I shall say, simplifying more than a little,¹⁵ that a *potential public language* $L_{\Gamma C^*}$ is a triple $\langle \Gamma, L, C^* \rangle$ such that:

- (1) Γ , the ‘grammar’ of $L_{\Gamma C^*}$, is a finitely specifiable set of conditions that incorporate a list of marks or sounds or whatever (the ‘lexicon’ of *L*) and certain recursive and other rules, and, on the basis of that lexicon and those rules, recursively define the label ‘sentence of $L_{\Gamma C^*}$ ’ as applicable to each member of a certain infinite subset of those infinitely many finite strings of members of the lexicon.

¹⁴ Lewis (1969) and (1983a).

¹⁵ The definition in Schiffer (2003a), pp. 157–8, is even more of a simplification.

- (2) L is a finitely definable function whose domain of arguments consists of the sentences of $L_{\Gamma C^*}$ and whose range of values consists of ordered pairs $\langle A, P \rangle$, where A is a type of speech act and P is a kind of proposition. If $L(\sigma) = \langle A, P \rangle$, we may say that $\langle A, P \rangle$ is σ 's character* in $L_{\Gamma C^*}$. The fact that σ 's character* in $L_{\Gamma C^*}$ is $\langle A, P \rangle$ is a necessary truth that has nothing to do with how anyone uses σ or the words composing it.¹⁶
- (3) C^* , the compositional character* theory for $L_{\Gamma C^*}$, is a finitely specifiable theory whose base axioms assign word-size characters* to the 'words' of $L_{\Gamma C^*}$ (i.e., the items in $L_{\Gamma C^*}$'s lexicon) and which issues in a theorem of the form $L(\sigma) = \langle A, P \rangle$ for each sentence of $L_{\Gamma C^*}$. If the compositional character* theory assigns a kind of proposition P' to an expression e —either in an axiom, if e is a word, or in a theorem, if e is complex—then we may say that P' is the character* of e in $L_{\Gamma C^*}$.

The question now—the *public-language-relation problem*—is: what relation must obtain between a person x and a potential public language $L_{\Gamma C^*}$ in order for $L_{\Gamma C^*}$ to be x 's *actual* public language (or one of x 's actual public languages)? To ask this question relative to the Lewisian setup is precisely to ask about the nature of the character* relation. For, as I already said, the character* relation that interests us is the one that holds contingently: it is that relation that holds between a person x , an expression e , and a character* c when c is the character* e has for x . And c is a character* e has for x just in case there is a potential public language $L_{\Gamma C^*}$ such that c is a character* of e in $L_{\Gamma C^*}$ and $L_{\Gamma C^*}$ is an actual public language of x 's. How is the public-language-relation problem to be solved? Since meaning supervenes on language use, we need to know how x must *use* a potential language $L_{\Gamma C^*}$ in order for $L_{\Gamma C^*}$ to be x 's idiolect, the language x actually uses in communication.

It is apt to seem initially plausible that we can explain what makes a person's idiolect her idiolect in terms of the communicative conventions or practices to which she conforms, and thus, ultimately, in terms of her beliefs and intentions in using the language. But this reasonable thought turns out to be a dead end. First consider the suggestion that the propositional attitudes that make $L_{\Gamma C^*}$ x 's language are about $L_{\Gamma C^*}$, in that specifications of the propositional contents of those attitudes require that-clauses that contain a singular term that refers to $L_{\Gamma C^*}$. An

¹⁶ One way in which this definition of a potential public language is a simplification is that in its talk of a *function* that correlates sentences with characters* it does not allow for ambiguity. This simplifying liberty should not affect my use of the definition.

example of such a proposal would be a proposal that contained the condition that, for any proposition q , x expects not to mean q unless x does so by uttering a sentence σ of $L_{\Gamma C^*}$ such that, for some kind of proposition P , $L(\sigma) = \langle \text{meaning-that}, P \rangle$ and q is a proposition of kind P . There is much in this condition that ought to strike one as requiring concepts and thoughts ordinary speakers do not have, but consider just the implausibility of an ordinary person's having relevant propositional attitudes about $L_{\Gamma C^*}$ (or even L). $L_{\Gamma C^*}$, by definition, is an extremely complex abstract object, and no ordinary speaker can be expected to think of $L_{\Gamma C^*}$ in terms of its definition, since that definition would include a definition of the grammar Γ , a specification of the compositional character* theory C^* , and a definition of the interpretation function L . But then how is x to think of $L_{\Gamma C^*}$, and to think of it in such a way that enables x to know what any sentence—or even any sentence x is apt to utter—means in $L_{\Gamma C^*}$? I submit that if it is not already clear, then it will be clear on reflection that an ordinary person has no such way of thinking of his idiolect.¹⁷

Next consider the suggestion that the propositional attitudes that define the actual-language relation need not be about that potential public language which is one's actual public language idiolect. This suggestion might take one of two forms. First, it might be proposed that while the ordinary speaker is not in a position to have appropriate beliefs about her idiolect, she is in a position to have them about its primitive words and constructions. This would be to postulate the realization in each speaker of a complex set of interlocking practices, one pertaining to each primitive word and grammatical construction in her language: one for 'red', one for 'of', one for the interrogative mood, and so on. A word has meaning only in the context of a language, and knowing its meaning would require, roughly speaking, knowing how it can be combined with other words in the language in order to produce meaningful sentences of the language (which is why the practices would have to be interlocking). But this level of sophistication is tantamount to that required for possession of appropriate propositional attitudes about the entire language, and therefore this suggestion is no more plausible than the one it hopes to replace.

The second form that might be taken by the suggestion that the propositional attitudes in question need not be about the potential language has its basis in a proposal David Lewis made about the way in which a certain appeal to conventions of language use solves the actual-

¹⁷ David Lewis (1969) concurs. See also Schiffer (1993).

language-relation problem.¹⁸ The crucial idea is that the beliefs and intentions that underlie the conventional practices need pertain neither to the language that is used nor to its individual words and constructions but merely to particular utterances in the language. We need not rehearse Lewis's complicated account to get the gist; it is manifested in the proposal that:

$L_{\Gamma C^*}$ is a public language of x 's if x belongs to a group of communicators G such that:

members of G frequently communicate with one another;

whenever a member of G communicates with another member of G , she does so by uttering a sentence of $L_{\Gamma C^*}$; and

$\forall \sigma \forall y ((\sigma \text{ is a sentence of } L_{\Gamma C^*} \wedge L(\sigma) = \langle A, P \rangle \wedge (Gy \wedge y \text{ utters } \sigma)) \rightarrow \exists q (Pq \wedge y \text{ As } q))$.

So far as I know, the problem with this proposal sinks every proposal which attempts to solve the actual-language-relation problem in terms of actual, or even potential, linguistic behaviour. The problem with the proposal is that it is doomed not to provide the sufficient condition it claims in that if any potential language satisfies the displayed right-hand side, then so will infinitely many other languages which x clearly does not use. For suppose that English is Jones's public language and let English⁺ be the same as English as regards every sentence that anyone is ever likely to utter but departs radically from English thereafter. For example, 'giraffe' means the same as 'grapefruit' in every sentence of English⁺ in which 'giraffe' occurs more than one hundred times. If English satisfies the foregoing condition, then so will English⁺, but English⁺ is not a language that anyone uses. Nor will it help to go counterfactual by saying that if a member of G were to utter σ and $L(\sigma) = \langle A, P \rangle$, then she would $A q$, where q is a proposition of kind P ; for it may be that if Jones were to utter a sentence in which 'giraffe' occurred more than one hundred times, that would trigger a neurological event that would result in her suddenly becoming a speaker of English⁺ rather than of English.¹⁹

To solve the actual-language-relation problem, and thereby to say what the meaning (= character*) relation is, we need something that

¹⁸ Lewis (1969).

¹⁹ Much of the foregoing paragraph is taken almost verbatim from Schiffer (2003a), pp. 158–9. I first raised (in conversation) this sort of objection to Lewis's account of the public-language relation in 1967. Lewis discusses the objection in (1983a), pp. 187–8.

will nail down all of a potential language at once, and for this it must appeal to something more than a language user's actual propositional attitudes or intentional practices. I locate this something more in the information processing that takes one from the perception of the utterance of a sentence to the knowledge of what was meant in that utterance. The specific proposal I have in mind is supported by an account of knowledge of meaning which I have presented elsewhere.²⁰ Knowing what an expression means, I have argued, can be explained neither in terms of propositional knowledge (e.g. knowing that the expression means such-and-such) nor in terms of knowing how (e.g. knowing how to say things by uttering sentences of the language). It can, however, be explained in terms of the information processing that underlies language understanding.

Knowing what a sentence means is an important phenomenon because of the crucial role it plays in understanding utterances of that sentence. For example, Al utters 'It's snowing there' and Betty straightaway knows that Al meant that it was at that time snowing in Turin. Crucial to the processing that led from Betty's perception of Al's utterance to her knowledge of what he meant was her knowing the meaning of the sentence type 'It's snowing there'. My proposal is that to know the meaning of a sentence is either to be in, or to be suitably disposed to be in, a state that plays a certain role—what we may call 'the knowledge-of-meaning' role—in the information processing that takes one from the perception of the utterance of a sentence to the knowledge of what was meant in uttering that sentence. More than one kind of state can play the knowledge-of-meaning role, but my hypothesis is that what unifies all those states, and thereby defines the knowledge-of-meaning role, is that those states either directly or indirectly link the sentences they concern with their characters*. Let me try to spell this out a little in the following way.

Suppose that potential language $L_{\Gamma C^*}$ is the actual public language of Mary and those with whom she communicates on a daily basis. Let σ be an $L_{\Gamma C^*}$ sentence whose character* is $\langle A, P \rangle$ (i.e., let $L(\sigma) = \langle A, P \rangle$), for a certain type of speech act A and a certain kind of proposition P . In the event, a literal, unembedded utterance of σ requires there to be a proposition q such that (i) q is of kind P and (ii) the speaker, in uttering σ , A -ed q . When Mary understands such a literal utterance of σ , she perceives the utterance of σ and knows that the speaker, in uttering σ , A -ed q . My proposal is that the sequence of information-processing states that begins with the perception and ends with the knowledge

²⁰ In Schiffer (2003a) and, in a slightly earlier version, (2003b).

contains a state that directly or indirectly represents σ as linked with its character* $\langle A, P \rangle$. Being in, or being suitably disposed to be in, such a character*-linking information-processing state is, I suggest, what constitutes knowing what a sentence means in one's public-language idiolect.

More than one kind of state can represent the linkage of a sentence with its character*. For example, it might be a subdoxastic state whose representational content is simply the ordered pair $\langle \sigma, \langle A, P \rangle \rangle$; it might be the explicit propositional knowledge that in a literal and unembedded utterance of σ the speaker would be *A-ing* a proposition of kind *P*; it might effect the linkage indirectly, by mapping σ onto a Mentalese sentence with a certain content, perhaps *à la* Harvey of my *Remnants of Meaning* (Ch. 7); and there are other possibilities. It is an empirical question how the linkage of a sentence and its character* is represented in our actual information processing, but an empirical speculation may help both to further illustrate my proposal about knowledge of meaning and to set up its relevance to defining the character* relation.

My speculation about the kind of states that in fact play the knowledge-of-meaning role in our normal understanding of public-language utterances is, very briefly, as follows. If the compositional character* theory C^* built into the definition of $L_{\Gamma C^*}$ is internally represented, understanding the utterance of a novel sentence of $L_{\Gamma C^*}$ might work in the following way. Betty hears Al's utterance of σ , a sentence she has never before encountered but which is composed of familiar words in familiar ways. Betty's perception of the utterance of σ combines with other stuff to form a representation of the uttered sentence, which representation serves as input to Betty's internally represented compositional character* theory, which theory in turn yields as output a representation of σ as paired with its character*, $\langle A, P \rangle$. This representation is fed into certain higher, more consciously accessible, information processing to enable Betty defeasibly to believe that Al is *A-ing* a proposition of kind *P*. Still further consciously accessible, but not necessarily conscious, information processing results in the knowledge that Al, in uttering σ , was *A-ing* that such-and-such. It is the state that pairs σ with its character* $\langle A, P \rangle$ which plays the knowledge-of-meaning processing role.

Finally, the bearing of all this on the actual-language-relation problem, and therewith on the explication of the character* relation. I suggest, first, that a sufficient condition for $L_{\Gamma C^*}$'s being used by x as a public language is that x belongs to a group of communicators who reg-

ularly communicate by uttering sentences of $L_{\Gamma C^*}$, and, when they do, the knowledge-of-meaning role is played by states that pair expressions with characters* via an internal representation of the compositional character* theory in terms of which $L_{\Gamma C^*}$ is defined, and, second, that it is the satisfaction in us of this sufficient condition which explains how it is that our public language sentences have the characters* they happen to have.²¹

There is an implicit corollary of this account of the character* relation that we should notice for its later relevance. Let us stipulate that x 's unembedded utterance of a sentence σ constitutes a *literal* use of σ just in case $\exists L_{\Gamma C^*}, \exists A \exists P \exists q (L_{\Gamma C^*}$ is an actual public language of x 's $\wedge \langle A, P \rangle$ is σ 's character* in $L_{\Gamma C^*} \wedge P(q) \wedge$ in uttering σ x A-ed q). Then I have speculated that the processing that results in an $L_{\Gamma C^*}$ speaker's knowledge that in uttering σ x A-ed q will contain a state that directly or indirectly represents σ as linked with its character*, $\langle A, P \rangle$. The implicit corollary to which I wish to draw attention concerns *non*-literal utterances of a sentence. It is that even when σ is uttered non-literally, a processing state that links σ with its character* will play a role in a hearer's understanding of the utterance. Suppose that Henrietta utters 'He has to walk around in the shower to get wet' to mean that Lester is very thin. My point is that a state that represents the sentence uttered as linked with its character*—roughly, \langle meaning-that, a proposition of the form m has to walk around in the shower to get wet, where m identifies a referred-to male \rangle —will play an essential role in the processing that underlies a hearer's understanding of Henrietta's metaphorical utterance. This is consistent with Paul Grice's speculation that the implicature generated in a case like this depends on the speaker's implicit expectation that the hearer will first realize what the speaker would mean if she meant a proposition that conformed to the uttered sentence's meaning, next realize that that cannot be what the speaker means, and then use information available to her and the speaker to infer what was meant.²² But even if the Gricean mechanism does not get the processing exactly right, it is still plausible to think that some sort of representation of the meaning of the sentence uttered plays an essential information-processing role even when the utterance is non-literal.

²¹ Compare Loar's (1976) requirement that a 'grammar' for the language be *grounded* in those who use the language.

²² Grice (1989b).

3. The Russellian theory relative to the architecture

Given the character* account of expression-type meaning, what is the best formulation of a Russellian theory of definite descriptions? For our purposes we may begin and pretty much end with the question, 'What should a Russellian take to be the common nature of the characters* of sentences of the form "The F is G "?' I assume that the speech act component is the generic notion of indicative speaker-meaning—roughly, a person's *meaning that such-and-such*²³—and thus take the operative question to be about the character*'s propositional component.

Given the character* theory of meaning and the need to accommodate incomplete definite descriptions such as 'the dog', a theory of definite descriptions counts as Russellian if, but only if, a proposition p conforms to the character* of 'The F is G ' just in case there is a property H such that for any possible world w , p is true in w iff in w : $\exists x(\forall y((Hy \wedge Fy) \leftrightarrow y = x) \wedge Gx)$, and false in w iff in w : $\neg \exists x(\forall y((Hy \wedge Fy) \leftrightarrow y = x) \wedge Gx)$.

More than one kind of proposition—including object-dependent propositions (e.g. H might be the property of being identical to Fido)—can have these Russellian truth conditions, and I should say something about one distinction that occurs in the literature. This is the distinction between 'explicit' and 'implicit' theories of the proposition expressed by utterances of 'The F is G '.²⁴ If, as seems reasonable, we take quantified noun phrases ('some girls', 'every fast swimmer') to be restricted quantifiers, then we can take the Russellian to construe definite descriptions as restricted quantifier phrases and to represent 'The F is G ' (at least at a certain level of abstraction) as

$$(9) \ [the_x: Fx] \ x \text{ is } G.^{25}$$

This constrains but does not determine how the proposition expressed by an utterance of 'The F is G ' should be represented, let alone the contribution the restricted quantifier 'the F ', represented as '[$the_x: Fx$]', makes to it, for that is partly what is at issue between explicit and implicit theories of that proposition.

²³ Why not asserting, saying, or stating that? Two things. First, meaning—that is the most general assertoric speech act, one that is entailed by all the others, and second, there is a prevalent philosophical use of 'assert', 'say', and 'state' according to which one can assert, say, or state that such-and-such in uttering σ only if the proposition that such-and-such conforms to the meaning σ .

²⁴ See Neale (1990), sect. 3.7, and Neale (2004), where the explicit/implicit distinction is treated in more detail.

²⁵ I borrow this style of representation from Neale (2004).

Let us say that the proposition *e*-expressed by (9) is the proposition that would be expressed by an utterance of 'The *F* is *G*' when 'the *F*' occurs as a 'complete' description, such as 'the first dog born at sea'. Then the explicit theory holds that for any utterance of 'The *F* is *G*' there is some (possibly very complex) predicate *H* such that the proposition expressed by an utterance of 'The *F* is *G*' is the proposition *e*-expressed by

$$(10) \ [the_x: Hx \wedge Fx] \ x \text{ is } G$$

(in the limiting case, when 'the *F*' is uttered as a complete description, *H* is the null predicate). Thus, the explicit theory holds that the proposition expressed in a literal utterance of, say, (7) ('The dog growls') is, for some predicate *H*, the proposition *e*-expressed by

$$(11) \ [the_x: Hx \wedge dog\ x] \ x \text{ growls.}$$

To believe this proposition is to believe *that the unique *H* dog growls*.

Now let us say that the proposition *i*-expressed by (9) relative to set *S* is the proposition expressed by (9) when *S* is taken to be the domain of the restricted quantifier and the proposition contains no descriptive material not explicitly expressed in (9). The implicit theory holds that the proposition expressed in a literal utterance of 'The *F* is *G*' is for some domain *S* the proposition *i*-expressed by (9) relative to *S*. For example, this theorist might hold that a particular utterance of (7) expresses the proposition *i*-expressed by

$$(12) \ [the_x: dog\ x] \ x \text{ growls}$$

when the domain of the restricted quantifier is the set of dogs in the speaker and hearer's field of vision. Russellians who take the implicit approach may disagree about how the involvement of this proposition with the contextually-determined domain, and thus the proposition itself, should be represented, and there is even room for them to disagree about the proposition's possible worlds truth conditions. But as regards the critical issues I shall soon force, the only question of concern is whether believing the implicit theorist's proposition is to all intents and purposes the same as believing the explicit theorist's proposition.

I think that to all intents and purposes they are the same. If the explicit version of Russellianism is correct, then in a literal utterance of (7) there is some property *H* such that to believe what the speaker said in uttering (7) is to believe what is *e*-expressed by (11), namely, *that the unique *H* dog growls*. Here, as already intimated, it is not required that

H be a purely general, or object-independent, property. There is no reason for the Russellian not to allow that H might be the object-dependent property of being held on a leash by Louise—a property that is individuated at least partly in terms of Louise and would not exist if she did not exist—and it might be a further tenet of this Russellian's theory that while one cannot believe *that the unique dog held on a leash by Louise growls* without thinking of Louise in some way or other, there is no particular way of thinking of her that is required in order to believe the proposition. Now let us turn to the implicit theory, for which there remains the question of how those taking this line are to represent what is believed by one who believes the proposition i -expressed by (12) relative to a given domain of quantification. If the implicit version is correct, then one who understands what is said in an utterance of a sentence containing a definite description must know that quantifier's domain of quantification, for that must be required just in order to know the proposition's truth and falsity conditions. Thus, one thing the implicit-theory Russellian might hold is that, for some property Φ such that $S =$ the set of things that have Φ , the proposition represents the domain S via the property Φ , so that one cannot believe the proposition expressed by (7) without believing *that the unique Φ dog growls*. Moreover, this Russellian would evidently also have to hold that believing *that the unique Φ dog growls* entailed that one also believed the proposition i -expressed by (12) when its quantifier's domain of quantification was defined as the set of things having Φ . The theorist would evidently have to hold this because it seems very implausible to hold that the proposition i -expressed by (12), which represents the domain in the stipulated way, contains further *conceptual* elements pertaining to technical notions of quantification, since if that were so it is difficult to see how these propositions could be available to ordinary speakers. There is a further question whether the implicit-theory Russellian who takes this route should represent the possible worlds truth conditions of the proposition to be such that its truth-value in an arbitrary world w turns on the set of things *in w* that have Φ or on the set of things *in the actual world* that have Φ (which is why I said two paragraphs back that there is room for these Russellians to disagree about possible worlds truth conditions). I take it, then, that believing the proposition expressed by (7) on this account is for all intents and purposes the same as believing the proposition e -expressed either by

$[the_x: \Phi x \wedge dog\ x] x\ growls$

or by

$[the_x: \text{Actually-}\Phi x \wedge \text{dog } x] x \text{ growls.}$

Does the Russellian who takes the implicit approach have any other option for representing what is believed by one who believes the *i*-proposition expressed by (12) relative to a domain *S*? It may seem that she does, that she might hold, first, that the proposition simply contains the set *S* itself; second, that grasp of this proposition does not require any particular way of thinking of *S*; and, third, that one way of thinking of it is by description. And it might appear that on this way of going implicit, one who believes what is said in the utterance of (7) may perforce end up believing, for some Φ , *that the unique Φ dog growls* but that would not be the proposition the speaker asserted in uttering (7). A hearer can know what proposition was asserted without thinking of the domain *S* contained in the proposition in the same way the speaker thinks of it. The appearance of an alternative option is illusory. If *S* itself is ‘contained’ in the proposition expressed by an utterance of (7), then that is simply tantamount to an explicit theorist’s holding that the proposition expressed by an utterance of (7) contains the set-dependent property of belonging to *S*, just as, in an earlier example, the property might be the object-dependent property involving the person Louise. For this implicit theorist, believing the proposition *i*-expressed by (12) relative to *S* would be tantamount to believing the proposition *e*-expressed by

$[the_x: x \in S \wedge \text{dog } x] x \text{ growls.}$

Since believing the implicit theorist’s proposition is for all intents and purposes the same as believing the explicit theorist’s proposition, I shall henceforth, for simplicity of exposition, assume that the Russellian takes the explicit line on the nature of the propositions asserted in literal utterances of ‘The *F* is *G*’. That is to say, I shall assume that to be a Russellian is to hold that the propositional component of the character* of ‘The *F* is *G*’ is the kind of proposition *e*-expressed by

$[the_x: Hx \wedge Fx] x \text{ is } G$

for any predicate *H*, however complex. To believe such a proposition is to believe *that the thing that is uniquely *H* and *F* is *G**, and for any possible world *w*, the proposition is true in *w* iff in *w* something is uniquely *H* and *F* and also *G*, false otherwise.

4. A problem for the Russellian theory

I have so far said nothing about Russell's or anyone else's reasons for accepting the Russellian theory. I assume that readers of this article are familiar with the reasons Russell himself gave in 'On Denoting' and elsewhere,²⁶ and in the next two sections at least some of the motivations of contemporary advocates of the theory will emerge as I consider how they might respond to the well-known problem for the theory now to be rehearsed. This is the problem that so-called 'referential uses' of definite descriptions raise for the Russellian theory of definite descriptions, now understood in the way specified above.

In order to put the problem in its best light, it will be useful to have a foil, so let us first consider an utterance involving a demonstrative use of a pronoun.

'He' Scenario. You and I are walking through Washington Square Park when a bizarrely behaving man begins approaching us. I say to you, 'Be careful. He's deranged.'

The following three things are plausibly true of 'He' Scenario. First, the proposition I meant in uttering 'He's deranged' was an *object-dependent* proposition, a proposition that is partly individuated in terms of the man to whom my utterance of 'he' referred—Abe, to give him a name—and which would not exist if Abe did not exist, a proposition that is true in an arbitrary possible world only if Abe exists and is deranged in that world. (We need not, and I think should not, assume that the Abe-dependent proposition is the mere singular proposition <Abe, the property of being deranged>: you may believe what is asserted by an utterance of 'He's deranged' but not by an utterance of 'Abe's deranged', even though both utterances assert Abe-dependent propositions—albeit *distinct* Abe-dependent propositions, which may even have the same possible-worlds truth conditions. But even though distinct object-dependent propositions may have the same possible-worlds truth conditions, we should probably not *require* that the Abe-dependent proposition I meant in 'He' Scenario is true in an arbitrary world *if*—as opposed to merely *only if*—Abe is deranged in that world. I am, however, inclined to think that Abe's being deranged in the world is a sufficient, as well as necessary, condition for the proposition's being true at that world.²⁷) Second, I was speaking *literally*: the proposition I

²⁶ See also Gary Ostertag's illuminating discussion of Russell's motivations in (1998a). Some of the quotations or citations I later use were suggested to me by Ostertag's use of them.

²⁷ See Schiffer (2003a), sect. 2.4.

meant was of the kind contained in the character* of 'He's deranged'. Third, in uttering 'He's deranged' I did not also mean or assert any descriptive proposition about Abe. That is, there is no property Φ such that in uttering 'He's deranged' I either determinately or even indeterminately meant *that the Φ was deranged*, where Abe was uniquely Φ . True, I believed of the man to whom I referred that he was deranged under numerous uniqueness properties which you and I mutually knew him to instantiate—the *only man rapidly approaching us*; the *only man before us who is screaming that the end of the world is nigh*; the *only bearded person in sight wearing a pink fuzzy bathrobe and a Princeton cap*; the *only man in sight frothing at the mouth and wildly flinging his arms about*; the *only bearded man rapidly approaching us in a pink fuzzy bathrobe and a Princeton cap while frothing at the mouth, wildly flinging his arms about, and screaming that the end of the world is nigh*; and so on for numerous other such uniqueness properties—but I did not have communicative intentions with respect to any descriptive proposition containing one of those properties that could make it true that I determinately or even indeterminately *meant* such a proposition. There are very many propositions in play in one way or another in any given act of communication, but very few of them are the contents of acts of speaker-meaning.

Now consider a variant on 'He' Scenario:

'The Guy' Scenario. Everything is as it was in 'He' Scenario except that instead of uttering 'Be careful. He's deranged,' I now utter 'Be careful. The guy's deranged.'

It should be clear how this raises an apparent problem for the Russellian theory: (a) the three things true of 'He' Scenario seem also to be true, *mutatis mutandis*, of 'The Guy' Scenario; and (b) if they are true, then the Russellian theory is false: it cannot accommodate all referential uses of definite descriptions.

Re (a). In the first place, it seems undeniable that, whatever else was going on, in uttering 'The guy's deranged,' I referred to Abe and meant an Abe-dependent proposition to the effect that he was deranged, a proposition that is true in an arbitrary possible world only if Abe exists and is deranged in that world. In the second place, I was evidently speaking literally, in the sense that I meant a proposition that conformed to the character* of 'The guy's deranged', so that if all that I meant in uttering that sentence was the Abe-dependent proposition, then that proposition conforms to the sentence's character*. And in the third place, psychological parity argues that if no descriptive proposition was meant in 'He' Sce-

nario, then none was meant in 'The Guy' Scenario, either, for by hypothesis I had the same communicative intentions in both scenarios, and what a speaker means in uttering a sentence arguably supervenes on the communicative intentions with which she uttered the sentence. In both scenarios, my communicative intention was to make you aware of the truth of the Abe-dependent proposition common to the two scenarios; I had to utter something, and it was, we may suppose, a matter of indifference to me whether I said 'He's deranged' or 'The guy's deranged'. Understanding a referential utterance of 'The *F* is *G*' seems to be just a matter of knowing the object-dependent proposition the speaker meant.²⁸

Re (b). If the three points mentioned in (a) are true, then it follows immediately that my statement of the Russellian theory is false. For my statement of the theory entails that only descriptive propositions can conform to the character* of 'The guy's deranged', but it follows from the three points that the Abe-dependent proposition both conforms to the character* and is not a descriptive proposition.

5. The standard Russellian response

How might the Russellian respond to the problem posed by referential uses of definite descriptions and, in particular, to the problem as just formulated? Contemporary Russellians do not deny that in referential uses of definite descriptions speakers mean object-dependent propositions; they would not deny that in 'The Guy' Scenario I meant the Abe-dependent proposition. This means that they must either (i) agree that the Abe-dependent proposition is not a descriptive proposition but hold that it does not conform to the character* of 'The guy's deranged', or else (ii) hold that it is a descriptive proposition, and therefore does conform to the sentence's character*. Option (i), this section's topic, is implied by the standard response of contemporary defenders of the Russellian theory to the referential-use problem. It is the view expressed by Stephen Neale when he wrote that 'a sentence of the form "[he] is *G*" is semantically very different from a sentence of the form "the [guy] is *G*". An utterance of the former expresses an object-dependent proposition; an utterance of the latter expresses an object-independent proposition.'²⁹

²⁸ As Gareth Evans (1982) observed, 'when [a referential] use of a description is made, the task of the audience is surely to fasten upon the right *object*, rather than upon the right complete description; there will be several equally good candidates ("the man over there", "the man under the tree", "the man beside the woman"), between which it will be quite pointless to choose' (p. 325).

²⁹ Neale (1990), p. 317. Neale's example involved the sentence forms 'that *F* is *G*' and 'the *F* is *G*', but the surrounding text makes explicit his commitment to saying the same about 'he is *G*' and 'the man is *G*'.

The standard response to the general problem posed by referential uses of definite descriptions may be put in the following way.

It is not to be disputed that there are referential uses of definite descriptions and that in a referential utterance of 'The *F* is *G*' the speaker means an *x*-dependent proposition, where *x* is the thing to which the speaker was referring in her utterance of 'the *F*', and where the *x*-dependent proposition is true in any possible world *w* just in case *x* is *G* in *w*. Nor is it to be disputed that this *x*-dependent proposition is not a descriptive proposition. Moreover, it is also not to be disputed that the Russellian theory is true of the non-referential, attributive cases, cases where, roughly speaking, in uttering 'The *F* is *G*' the speaker is not using 'the *F*' to refer to some particular thing but merely means that whatever is uniquely *F* is also *G*. Now, referential cases constitute a counterexample to the Russellian theory only if they show that 'The *F* is *G*' is *ambiguous*, as it would have to be if the content of a referential utterance is a non-descriptive, object-dependent proposition, whereas the content of an attributive utterance is a Russellian descriptive proposition. It should go without saying that, all other things being equal, a theory that does not find 'The *F* is *G*' ambiguous is preferable to one that does. This maxim is enshrined in Grice's 'Modified Occam's Razor: Don't multiply meanings beyond necessity!'³⁰ and it was what Kripke was alluding to when he warned that 'it is very much the lazy man's approach in philosophy to posit ambiguities when in trouble.'³¹

The Russellian theory is able to provide the univocal semantics. In fact, not only do the referential cases not refute the theory, they are actually *predicted* by it. The general point is familiar from old issues in the theory of meaning. At one time it was thought that the classical account of 'and', according to which '*P* and *Q*' is equivalent to '*Q* and *P*', could not be right because in uttering, say, 'Alice got pregnant and married Bob', a speaker would mean that Alice *first* got pregnant and *then* married Bob, whereas just the reverse would be meant in an utterance of 'Alice married Bob and got pregnant'. But as Grice showed in his theory of conversational implicature, quite general mechanisms pertaining to rationality, conversation, and speaker-meaning are always in place, and they imply that rational speakers will generally try to narrate events in the order in which they occurred, so that the speaker-meaning facts cited will obtain even on

³⁰ Grice (1989b).

³¹ Kripke (1979), p. 19.

the assumption that 'Alice got pregnant and married Bob' and 'Alice married Bob and got pregnant' are truth-conditionally equivalent.³² In the same sort of way, these always-in-place pragmatic mechanisms would generate referential utterances of 'The *F* is *G*' even on the assumption that the semantic content—the proposition the literal speaker is *saying*—is, for some contextually determined property *H*, the descriptive proposition *that the thing that is uniquely H and F is G*. Suppose, for example, that I want to tell you that John Rhododendron is coming to lunch but am not sure if you know his name, although I do know that you know that he is dean of the college. Then I might say, 'The dean of the college is coming to lunch' and in so doing both state the descriptive proposition *that the dean of our college is coming to lunch*, and thereby also mean, of the dean, that he is coming to lunch. To be sure, it is sometimes, perhaps often, the case that when sentences containing incomplete definite descriptions ('The cat is on the mat') are uttered, there is no one descriptive content that was *determinately* meant, but in such cases there will have been two or more that were *indeterminately* meant, that is, two or more such that it is indeterminate whether the speaker meant them. This sort of indeterminacy in semantic content does not threaten the theory, since it is also found in attributive utterances of incomplete descriptions and in the best way of accommodating 'incompleteness' for indefinite descriptions. For example, when the detective in Donnellan's attributive example says, 'The murderer must be insane', it may well be indeterminate whether he means *that Smith's murderer must be insane*, *that the murderer of the dead man before us must be insane*, *that the murderer of that guy must be insane*, and so on.³³ And when I say 'Everyone passed', it may be indeterminate whether I mean *everyone who took the midterm exam in the philosophy of language course I am teaching this semester passed*, or *that everyone passed the exam I gave last Thursday*, and so on, for several other equally good precisifications of what I mean.

In this way we see that the referential cases are no threat to the Russellian theory of definite descriptions. In those cases, the semantic content of the speaker's utterance—the proposition that the speaker is *saying*, the one (in Schiffer's terms) that conforms to the character* of the sentence uttered—is a descriptive proposition, but in (determinately or indeterminately) saying that proposition, the

³² Grice (1989b).

³³ Donnellan (1966).

speaker also means an x -dependent proposition, where x is the thing to which she was referring in the act of speaker-reference she performed in her utterance.

How good is this defence of Russell's theory, especially in light of its bearing on examples like that described in the preceding section and given the character* theory of meaning sketched in section 2? (For expository convenience, I shall continue to use 'say' in the following stipulative way: one *says* p in uttering σ iff one means p in uttering σ and p conforms to the, or a, character* of σ .)

1. If referential cases constitute counterexamples to the Russellian theory, then what is said in the referential utterance of 'The murderer is insane' is the Jones-dependent proposition which is true in any possible world w only if, and arguably if, Jones, the actual murderer, is insane in w , whether or not she murdered anyone in w , while what is said in the attributive utterance is the descriptive proposition *that the murderer of Smith is insane*, which is true in any possible world w iff in w someone both uniquely murdered Smith and is insane. Nevertheless, it does not follow from the fact (if it is a fact) that referential cases are counterexamples that sentences of the form 'The F is G ' are ambiguous. Nothing about the ability of utterances of 'The F is G ' to have two such disparate kinds of semantic contents precludes the propositional component of the sentence's character* from being a kind of proposition that is instantiated both by the object-dependent non-descriptive proposition asserted in the referential utterance and by the object-independent descriptive proposition asserted in the attributive case. For suppose the kind of proposition that constitutes the propositional component of the character* of 'The F is G ' is simply the property of being a proposition whose actual truth is secured just in case one particular F thing is G . That would yield a univocal character* for 'The murderer is insane' which accommodates both the Jones-dependent proposition the speaker meant in the referential case and the descriptive proposition he meant in the attributive case. Since the Jones-dependent proposition would not be the semantic content of the referential utterance if Jones were not a murderer, and since the Jones-independent proposition asserted in the attributive utterance requires whoever murdered Smith to be a murderer, both the Jones-dependent proposition and the Jones-independent proposition are propositions whose actual truth is secured just in case one particular murderer—Jones in the referential case, whoever murdered Smith in the attributive—is insane, and therefore

both would fit the propositional component of the sentence type 'The murderer is insane', if that component was that kind of proposition to which a proposition belongs provided its actual truth is secured just in case one particular murderer is insane.

Of course, the fact that it is easy to see how a single character* can be instantiated by both object-dependent and descriptive propositions does not imply that there would be such a character* if the Russellian theory cannot accommodate referential cases. I am supposing that the contemporary Russellian will represent 'the F ' as the restricted quantifier ' $[the_x: Fx]$ ', so that if the theory is true of attributive uses of 'The F is G ', then *in those cases* the logical form underlying the sentence's surface form necessitates a character* whose propositional component is the kind of proposition to which would belong the propositions expressed by every complete substitution instance of ' $[the_x: Hx \wedge Fx] x$ is G '. But if 'the' occurs as a quantifier in the attributive cases but not in the referential cases, then that suggests that 'The F is G ' is the surface form of two quite different logical forms, and it may be hard to see how to represent the contribution 'the' makes to the character* of a sentence in which it occurs when it occurs there as a quantifier other than as necessitating a character* of the kind just specified. I find this response plausible, although the issues here are complex, and so am inclined to think that 'The F is G ' is ambiguous, that is, does have two characters* if the Russellian theory is true of the attributive cases but not of the referential cases.

2. But so? Ambiguity is rife in natural language, and an account that attributes two characters* to 'The F is G ' might just be the correct account. The pronoun 'she' apparently sometimes occurs as a referential singular term and sometimes as a bound variable ('Every mathematician thinks she is smarter than every physicist'), and that evidently necessitates ascribing two different characters* to 'she is smarter than every physicist'. There is no point complaining about ambiguity unless a univocal theory is a realistic contender, and we are not yet in a position to decide on the plausibility of the Russellian's claim that the object-dependent proposition the speaker means in a referential case is not also one she says.

3. It is often assumed that the Russellian theory is the correct theory of at least attributive uses of definite descriptions. This assumption slights Frege, for whom definite descriptions functioned as singular terms even when used attributively, in that sense of 'singular term' according

to which t occurs in $\lceil t \text{ is } G \rceil$ as a singular term just in case $\lceil t \text{ is } G \rceil$ is true iff $\exists x(x \text{ is the referent of } t \wedge x \text{ is } G)$, and false iff $\exists x(x \text{ is the referent of } t \wedge x \text{ is not } G)$. For Frege, you assert a proposition that is neither true nor false when you say ‘The present king of France is bald’. His theory makes it easy to avoid ambiguity and have a single character* for ‘The F is G ’, even allowing that utterances of it may assert either object-dependent or non-object-dependent propositions; and, unlike its Russellian rival, it offers a straightforward explanation of why ascribing falsity to what is said by an utterance of ‘The F is G ’ implies that the F happens not to be G . True, Frege’s theory challenges classical semantics (bivalence) and logic (excluded middle), but it is not obvious to me that it, or any theory like it, is determinately false on that account.³⁴ In fact, there is evidently some reason to think definite descriptions are not quantifier phrases. As Marga Reimer has pointed out, in undisputed cases of restricted quantifiers of the form $\text{Determiner} \wedge F$, the sentence $\lceil \text{Determiner} \wedge F \text{ is/are } G \rceil$ can be used to answer the question ‘How many F s are G ?’; but ‘The F is G ’ cannot be used to answer that question.³⁵ At the same time, Robert May has suggested that the hypothesis that definite descriptions are (at least in certain uses) quantifier phrases

is corroborated by their having interacting scope relations, seen in sentences such as *every man admires the woman he loves* and by the differential distribution of *any*, seen in the contrast of *The students who had ever read anything about phrenology attended Gall’s lecture* with **The students who attended Gall’s lecture had ever read anything about phrenology*. Thus, insofar as the explanation of these phenomena turn on the assumption that there is LF-movement, and insofar as LF-movement is sensitive to whether phrases are quantificational, then it follows that *the*, at least on the uses exemplified in the above examples, is a quantifier, as otherwise we would expect to find quite a different complex of properties.³⁶

But is it true that Frege cannot account for these properties of ‘the’? Can, for example, Frege account for quantification into definite descriptions, as in May’s example (13)?

(13) Every man admires the woman he loves.

I do not see why not. Frege could say that (13) is true just in case the open sentence

x admires the woman x loves

³⁴ See Schiffer (2003a), Ch. 5.

³⁵ Reimer (1992).

³⁶ May (1987), p. 128.

is both true of every man *and*, for every y , true *or false* of y only if there is one and only one woman y loves. This second conjunct would, by the Fregean criterion for being a singular term, make substitution instances of 'the woman x loves' singular terms.³⁷ Still, these issues are deep and complicated, and I cannot hope even to attempt to resolve them here. I shall touch on this again in the conclusion.

4. The crux of the standard Russellian response to the problem posed by referential cases is its claim that the truth of the Russellian theory helps to explain why speakers can and do use 'The F is G ' to mean non-descriptive, object-dependent propositions. This claim is not plausible. Consider a typical case in which in uttering a sentence σ the speaker says one proposition p and also means, but does not say, another proposition q (that is, while the speaker means both p and q , only p conforms to the character* of σ). It is mutual knowledge between professors X and Y that they have a very important department meeting at two o'clock and that Y tends to lose track of time. X goes to Y 's office and says to him, 'It's two o'clock', and in uttering that sentence both says that it is two o'clock and also means that the meeting is starting. In this typical sort of case, X means that the meeting is starting *by saying* that it is two o'clock. Y knows that X meant that the meeting was starting *on the basis of* knowing that X said that it was two o'clock. Given the account of the character* relation proposed in section 2, we should expect the information-processing sequence that begins with Y 's perception of X 's utterance and ends with Y 's believing that X meant that the meeting was starting to satisfy the following partial characterization:

Perception of X 's utterance of 'It's two o'clock' \triangleright syntactic representation of sentence \triangleright interaction of that representation with representation of compositional character* theory \triangleright representation of sentence's character* \triangleright interaction of that representation with background mutual knowledge \triangleright belief that X said that it was two o'clock \triangleright interaction of that belief with background mutual knowledge \triangleright belief that X meant that the meeting was starting.

Let us call this way of saying one thing and meaning another the say- p - \triangleright -mean- q model; it is arguably also exemplified in the above example in which in uttering 'Alice got pregnant and married Bob', the speaker says that Alice got pregnant and married Bob and also means that Alice first got pregnant and then married Bob. The standard Russellian

³⁷ See also Salmon (2002), pp. 534–5, n. 47.

response to the problem of referential uses of definite descriptions is best understood as the claim that referential utterances of 'The *F* is *G*' exemplify the say-*p*-➤-mean-*q* model.³⁸ For example, in uttering 'Smith's murderer is insane' the speaker says *that Smith's murderer is insane* and, at least partly on the basis of that, also means, of Jones, the erratically behaving defendant, that she is insane.

One problem with this intended application of the say-*p*-➤-mean-*q* model is that often when a speaker's utterance of 'The *F* is *G*' is referential, she seems not to be determinately or even indeterminately saying any descriptive proposition. As I said in my gloss of 'He' Scenario, I, the speaker in that scenario, did not seem either determinately or indeterminately to mean any descriptive proposition in uttering 'He's deranged', and my utterance of 'The guy's deranged' in 'The Guy' Scenario did not seem to differ relevantly on this score. My communicative intentions were the same in both utterances. The proponent of the standard response to the referential-use problem must therefore argue (given the character* theory of meaning) either (a) that some descriptive proposition was determinately or indeterminately meant even in 'He' Scenario, or (b) that notwithstanding the psychological parity between the two cases, there is a relevant difference by virtue of which a descriptive proposition was indeterminately (or determinately) meant in 'The Guy' Scenario even though none was meant in 'He' Scenario, or (c) that my stipulation that there was psychological parity (as regards my communicative intentions) does not cohere with the assumption that my utterance of 'The guy's deranged' constituted a normal referential use of 'the guy', or (d) that the utterance in 'The Guy' Scenario was not literal, in that no proposition conforming to the character* of 'The guy's deranged' was meant.

There is no intuitive basis for (a), given that the object-dependent proposition I said was not also a descriptive proposition. It seems plain to me that no such descriptive proposition was determinately meant, and if some were indeterminately meant, *which* of the *numerous* descriptive propositions potentially in play were indeterminately meant? Or is it that none was even determinately indeterminately meant? Most Russellians who advocate the standard response hold that singular pronouns used referentially, as 'he' is used in 'He' Scenario, function as what Gareth Evans called *Russellian singular terms*³⁹—singular terms that make the semantic contents of the utterances in which

³⁸ See Stephen Neale's (1990) gloss of the implicature reasoning demanded by what he calls Grice's *Justification Requirement*, pp. 78 and 89.

³⁹ Evans (1982).

they occur dependent for their existence on the referents of those singular terms, and these theorists have a special motive for not accepting (a). If they were to hold that descriptive propositions were also meant in these utterances, then they would evidently be committed to saying, roughly speaking, that the same things would be meant whether one uttered 'He is *G*' or 'The male is *G*', and in that case there would seem not to be any reasonable basis for attributing different characters* to the two sentences. They would be constrained to say that 'he' meant the same as 'the male'. In this regard one should keep in mind that pronouns like 'he' have attributive uses, as when one points to a huge footprint in the sand and says 'He must be a giant', meaning thereby that the man who made the print, whoever he may be, must be a giant.⁴⁰ It seems clear that (a) is not a viable option.

The anti-Gricean thought behind (b) is that what a speaker means in uttering a sentence may supervene partly on the meaning of the sentence she utters. On a Gricean account of speaker-meaning, what a speaker means in uttering a sentence σ depends only on communicative intentions whose contents are specifiable without reference to the meaning of σ . So someone who took the tack implied by (b) would argue that even though the communicative intentions I, the speaker, had in 'He' Scenario do not entail that I indeterminately meant any descriptive proposition in uttering 'He's deranged', those same intentions, manifested again in 'The Guy' Scenario, *together with the fact that 'The guy's deranged' has its description-theoretic character**, do entail that I indeterminately meant certain descriptive propositions. It is because those descriptive propositions conform to the character* of 'The guy's deranged' that my utterance was literal, whereas my utterance of 'He's deranged' in 'He' Scenario counts as literal because I meant the Abe-dependent proposition, and it conformed to the character* of the uttered sentence.

If (b) or (c) were correct, one should expect the claim that I meant a descriptive proposition in the second scenario to be more intuitively plausible than the claim that I meant such a proposition in the first scenario, and, moreover, the plausibility of such an attribution of speaker-meaning should carry with it some intuitive basis for saying which of the numerous descriptive propositions in play were indeterminately meant. I can find no such intuitive difference, and nor can the non-philosophers I have consulted (for whatever that is worth). Related to this lack of intuitive difference is another problem. The claim that in a referential utterance of 'The *F* is *G*' the speaker is inde-

⁴⁰ See Schiffer (1995) and Evans (1982); I believe I got the footprint example from Evans.

terminately saying two or more descriptive propositions is incompatible with a very strong intuition we have about the truth conditions of such utterances—namely, that a speaker's referential utterance of 'The *F* is *G*' is determinately true if the *F* to which she refers is *G*. In 'The Guy' Scenario, for example, my utterance is determinately true if Abe, the man to whom I referred, is deranged. But suppose that in uttering 'The guy's deranged' it is indeterminate whether I said *that the only guy rapidly approaching us is deranged* or *that the only guy before us who is screaming that the end of the world is nigh is deranged* or *that the only bearded person in sight wearing a pink fuzzy bathrobe and a Princeton cap is deranged* or Then my utterance will not be determinately true if just one of those propositions is false. Suppose, for example, that the man is not bearded but is merely wearing a fake beard. Then I will have failed to make a determinately true statement in uttering 'The guy's deranged', even though the man to whom I referred was deranged. That, I submit, is very counterintuitive. Note that the problems here being rehearsed are not problems for claims about indeterminacy of semantic content either in attributive utterances involving incomplete definite descriptions or in utterances involving incomplete indefinite descriptions. When in these cases no one proposition is determinately the proposition I said, then it *will* seem intuitively correct that it is to some degree indeterminate what I said, and if in such intentions some of the propositions I indeterminately said are true while others are false, then it will seem intuitively correct to say that my utterance lacks a determinate truth-value. Suppose, for example, I say 'No one failed', thinking that everyone who passed the final also passed the course, and it is neither determinately true that I said that no one failed the final nor determinately true that I said that no one failed the course, where these are the only two salient propositions in play as candidates for what I said. Then, assuming no surprises in the complete description of the example, I will have indeterminately said both of those propositions, which is to say that it will be indeterminate whether I said either one of them. Now suppose that my belief *that everyone who passed the course also passed the final* is false: my TA did the grading, and I forgot that while everyone did pass the course, one person failed the final. Then there will be little temptation to say that my utterance was either determinately true or determinately false. Nor is it difficult to account for the relevant difference between these cases and referential utterances of definite descriptions, such as my utterance of 'The guy's deranged' in 'The Guy' scenario. In both kinds of cases, the speaker clearly has communicative cases, but in the refer-

ential intentions those intentions are all focused on the non-descriptive object-dependent proposition the speaker means; the descriptive propositions in the offing are in the offing merely as by-products of the speaker's intention to communicate about the thing to which she is referring, and the descriptive propositions in the offing are in the offing merely by virtue of involving uniquely identifying descriptions that the speaker and her audience mutually know the referent to satisfy. By contrast, in the former cases there is no other kind of proposition in play other than ones involving definite or indefinite descriptions; they are seen clearly to be the objects of the speaker's communicative intentions, because there is in these cases no other kind of proposition to be the focus of those intentions. The fact that indeterminacy of content distributed among the kinds of propositions postulated by Russell's theory of descriptions is plausible in the case of utterances involving indefinite descriptions or attributively used definite descriptions gives no support to the claim that the same kind of indeterminacy is plausible as regards utterances involving referentially used definite descriptions.

There are a few problems with (d). 'The Guy' Scenario is entirely typical of referential uses of definite descriptions, so if no descriptive proposition was determinately or indeterminately meant there, then it will be in only atypical referential uses that descriptive propositions are in any way meant. If the Russellian theory were true of the typical cases and yet no proposition was meant in them which conformed to the characters* of the sentences uttered, then all these referential uses would in that sense be non-literal. But they do not strike us in that way. They seem like perfectly straightforward uses of 'The *F* is *G*', and there is no sense that in these cases we are not using the words we utter with meanings they have. It seems preposterous to deny that your saying to your spouse 'The car needs to be serviced' is an entirely literal and straightforward use of those words. A second problem is that given the way meaning supervenes on use, we should expect that even if 'The *F* is *G*' originally had only a Russellian, description-theoretic character*, it would by now have acquired a secondary meaning, another character*, in line with the referential uses. Think of the use of 'foot' as a unit of measurement or of 'mouse' as a computer device. Several philosophers have emphasized this point,⁴¹ and Stephen Neale nicely summarizes its expression in writings by Michael Devitt and by

⁴¹ For example, Kripke (1979): 'I find it plausible that a diachronic account of the evolution of language is likely to suggest that what was originally a mere speaker's reference may, if it becomes habitual in a community, evolve into a semantic reference' (p. 22).

Marga Reimer:⁴² ‘referential uses of descriptions are common, standard, regular, systematic, and cross-linguistic; indeed so much so that it would be a bit rich to deny that such uses are ... a direct function of linguistic meaning in a way that referential uses of other quantified DPs are not.’⁴³ A third problem is a corollary of the first two. If (d) were correct, we should expect that the Russellian character* of ‘The guy’s deranged’ played an essential role in my ability to mean the Abe-dependent proposition I meant in ‘The Guy’ Scenario. In clear cases in which the only proposition meant in uttering a sentence does not conform to the sentence’s character*, the sentence’s character* nevertheless plays an essential explanatory role in the account of how one’s hearer was able to know what one meant. Think of an utterance of ‘I would rather have needles stuck in my eyes’ in response to the question whether the speaker would like to go out with Harold. The account of the character* relation I proposed earlier suggests that a representation linking the sentence uttered with its character* in a language is always operative when speakers of the language communicate with one another using that sentence, whether or not they mean something that conforms to the character*. Quite frankly, I cannot think of a remotely plausible account of how a Russellian character* would enter into the processing that resulted in a hearer’s knowing what was meant in all those referential cases if no descriptive proposition was also meant.

5. Another problem with the claim that the say-*p* → mean-*q* model explains referential uses of definite descriptions is that for the model to apply, the hearer must know the speaker meant the non-descriptive object-dependent proposition on *the basis of knowing* that she determinately or indeterminately said a descriptive proposition. But if in ‘The Guy’ Scenario I did indeterminately mean some descriptive propositions, then it seems more plausible that you were able to infer which ones I indeterminately meant on the basis of knowing that I meant the non-descriptive Abe-dependent proposition. For how could you even know which of Abe’s myriad uniqueness properties were potentially in play as components of a said descriptive proposition unless you first knew that I was referring to him in my utterance, and so meant some proposition about him? When a definite description is used referentially, a hearer cannot even identify *candidate* descriptive propositions except on the basis of knowing that to which the speaker was referring

⁴² Devitt (2004) and Reimer (1998).

⁴³ Neale (2004), p. 173.

in uttering the definite description, and this is incompatible with the claim that the Russellian theory *explains* the referential uses. True, *if* the sole character* of 'The *F* is *G*' were as the theory requires it to be, *then* referential uses of the sentence *would* be explained by the say-*p*- \rightarrow -mean-*q* model. The fact that they are not explained by the model implies that the character* of 'The *F* is *G*' which is operative in referential cases is not as the Russellian theory requires it to be.

If the account I suggested in section 2 of the character* relation is correct, then it is naive to suppose the issue being joined can be resolved by any sort of direct intuition about the semantic contents of utterances of sentences containing definite descriptions, for claims about semantic content entail claims about meaning and those claims, on my account of the character* relation, entail claims about the representations employed in the information processing that constitutes language understanding, and the final resolution of those claims can be achieved only by scientific theory and empirical investigation. At the same time, that account does not preclude our having indirect evidence favouring one or another hypothesis about the information-processing that underlies our understanding utterances of those sentences, and I submit that the sort of evidence just cited makes implausible the sort of information-processing story that would have to be true if the standard Russellian response to the referential-use problem were correct.

6. Another Russellian response to the problem

At the beginning of the preceding section, I pointed out that the Russellian's response to the problem posed by referential uses of definite descriptions must be to claim that the object-dependent proposition the speaker means in a referential utterance of 'The *F* is *G*' either (i) is not a descriptive proposition and therefore does not conform to the sentence's character* or (ii) is a descriptive proposition and therefore does conform to the sentence's character*. Almost all contemporary Russellians accept (i). The standard Russellian response to the referential-use problem presupposes (i), and it is difficult to see how a Russellian who accepts (i) can have any other response. I gave my reasons for rejecting that solution in the preceding section. Now there is an obvious way to accept (ii); it is to hold that the proposition expressed in a referential utterance of 'The *F* is *G*' is the proposition expressed by

$[the_x: Fx \wedge x = a] x \text{ is } G,$

where *a* refers to the *F* to which the speaker was referring in her utterance of 'the *F*'.

Logical space contains the (ii) way of being a Russellian, but I know of only one Russellian who actually occupies it. For a long time Stephen Neale accepted (i) and was a leading advocate of the standard response, but he has recently changed his mind, and in his latest publication on these issues he argues for (ii).⁴⁴ According to what Neale would now say, *the* proposition I both mean and say in 'The Guy' Scenario is the proposition expressed by

[*the*_{*x*}: *guy* *x* ∧ *x* = *Abe*] *x* is deranged.

Neale mentions four advantages of this approach over the standard Russellian response, which presupposes (i).

First, it enables the Russellian to avoid having to say that in cases like 'The Guy' Scenario the speaker did not determinately mean any descriptive proposition but either said no descriptive proposition at all or else indeterminately said each of myriad descriptive propositions. Now, Neale implies, there is just a single descriptive proposition the speaker determinately meant and determinately said: the object-dependent proposition involving the thing to which the speaker referred in her referential use of the definite description she uttered. If this response avoids indeterminacy, then it also avoids the truth-condition problem mentioned in the preceding section which turns on indeterminacy.

Second, it promises to avoid a problem I raised in Schiffer (1995) and which I briefly sketched in the preceding section. The problem was presented in this article as a dilemma for the Russellian who wants to combine her Russellian account of definite descriptions with a direct-reference account of single word pronouns and demonstratives. Neale puts the dilemma I raised and his possible solution to it as follows (I have substituted the running examples of this paper, the utterances in 'He' and 'The Guy' Scenarios, for the example I used in Schiffer (1995), which Neale discusses, only now we should take Neale to be the speaker in both scenarios):

[Schiffer] says the Russellian has no good basis for preferring a direct reference theory of my use of 'he' to a theory that treats it as an incomplete description with more or less the same content as my use of 'the guy'. This is because in the two cases under consideration [Neale's utterance of 'He's deranged' in 'He' Scenario and his utterance of 'The guy's deranged' in 'The Guy' Scenario] there would be no discernible difference in my communica-

⁴⁴ Neale (2004).

tive intentions, and these intentions are the only psychological states relevant to determining what I would have meant by my utterance—what I would *say* is part of what I would mean, so it would be backed by a communicative intention. The Russellian must, it would seem, either (a) deny that my demonstrative use of 'he' is directly referential (and offer an alternative treatment, presumably description-based), or (b) deny the claim of indiscernible communicative intentions, or (c) deny that psychological facts alone determine the issue of what I meant. (a) might have some plausibility. My use of the demonstrative pronoun 'he' might be interpreted as equivalent to a description we interpret as ... [*the_x: male x ∧ x = a*], where *a* refers directly to Abe. Thus, a formal representation of the truth conditions of my utterance of 'he's deranged' might be given by:

[*the_x: male x ∧ x = a*] *x* is deranged.

I am inclined to think this would be a more plausible line of defence than (b) or (c), but more would need to be said about the relationship between formal representations of truth conditions, the LFs [logical forms] of English sentences, and the thoughts we seek to convey.⁴⁵

Third, it enables the Russellian to avoid the very implausible claim that referential uses of definite descriptions, unlike their attributive uses, are not a direct function of linguistic meaning. On Neale's new proposal, the object-dependent proposition one means in a referential use conforms to the character* of the sentence uttered. The Russellian can account for the referential cases without appeal to Gricean pragmatics.

Fourth, it gives the Russellian a reply to an objection I have not yet considered: 'a number of philosophers and linguists have argued that some occurrences of definite descriptions function as bound variables and hence as referential expressions, which if true would create a problem for a unitary Russellian analysis'.⁴⁶ Consider the following example that Neale cites from Wilson (1991):

- (14) Every scientist who was fired from the observatory at Sofia was consoled by someone who knew *him* as a youth.

According to a widely-held view, the italicized pronoun in (14) is a variable bound by the quantifier phrase 'every scientist who was fired from the observatory at Sofia'. If that is correct, then parity of reasoning suggests that the italicized description in

- (15) Every scientist who was fired from the observatory at Sofia was consoled by someone who knew *the fired scientist* as a youth

⁴⁵ Neale (2004), pp. 171–2.

⁴⁶ Neale (2004), p. 177. Neale cites Kempson (1986), Wilson (1991), and Larson and Segal (1995).

is also functioning as a bound variable. Neale's new account allows him to deny that the description is no more a bound variable in (15) than it is in

Every man likes the woman who kissed *him*,

where the 'the woman who kissed him' is not a bound variable but rather contains a pronoun that is a bound variable. For according to Neale, (16) gives a correct representation of (15)'s truth conditions, thus revealing 'the fired scientist' in (15) as going proxy for the bound-into description 'the fired scientist who is identical to *x*'.

- (16) [every_x : *scientist x* \wedge *x was fired from the observatory at Sofia*]
 [the_z : *fired scientist z* \wedge *z = x*]
 [some_y : *y knew z as a youth*]
 (*x was consoled by y*)

'In short', Neale concludes, 'the Russellian says that the incomplete description in ([15]) is not, *pace* Wilson, a bound variable, but just another incomplete or elliptical description in need of pragmatic enrichment—one for which the speaker could provide a fuller description that is bound-into, that is, a description *containing* a bound pronoun. It is an incomplete, relativized description whose natural completion contains an expression understood as a variable bound by the subject expression'.⁴⁷ But if, as Neale also suggests, pronouns are, as it were, really disguised incomplete definite descriptions ('he' means the same as 'the male'), then it should follow that pronouns themselves never function as bound variables but only as bound-into descriptions, and that therefore the correct representation of (14)'s truth conditions should be the same as (15)'s—namely, (16)—only with '[the_z : *male z* \wedge *z = x*]' replacing '[the_z : *fired scientist z* \wedge *z = x*]'. Neale does not shrink from this commitment and even finds merit in what he calls 'this seeming madness':

First, it would allow for the possibility of incomplete bound pronouns, which may have some explanatory value. Second, it would make it much easier to explain the raising of pronouns assuming [a certain DP analysis he gives earlier in his article]. Third, it would yield (trivially) a 'uniform theory' of anaphoric pronouns, something many semanticists crave, via a uniform blueprint Of course whether an occurrence of 'he' always makes this richer contribution to what is said is debatable. There is more than one way to skin a cat.⁴⁸

⁴⁷ Neale (2004), p. 179.

⁴⁸ Neale (2004), p. 182.

There are problems with this alternative Russellian response to the referential-use problem.

a. It is not clear that it yields a determinate statement with determinate truth conditions, and therefore not clear that it avoids the indeterminacy problems that beset the standard Russellian response. It certainly does not avoid this just by building the referent into the proposition that is said. I say to you 'The guy's deranged'. According to Neale's new proposal, the descriptive proposition I meant and said is the one represented by

[the_x: guy $x \wedge x = Abe$] x is deranged.

But what secures that that is the proposition I meant, as opposed, say, to the proposition represented by the following representation?

[the_x: bearded guy in the pink bathrobe approaching us $x \wedge x = Abe$] x is deranged.

Neale implies that the meaning-determining convention governing referential uses of 'The F is G ' requires the literal speaker to mean *that the F that is identical to α is G* , where α is the thing to which the speaker refers by her utterance of 'the F '. At the same time, Neale is Gricean enough to accept that what a speaker means in uttering a sentence is determined by her communicative intentions, and I can see no principled basis on which to secure that the descriptive proposition meant, assuming there is one, will contain no more descriptive material than is directly expressed by the incomplete description that is uttered. Imagining myself as the speaker, I cannot find a principled basis on which to make just one of the numerous *de re* uniqueness properties potentially in play as *the one* that enters into the proposition I meant. But if there is no such principled basis, then Neale cannot reasonably claim that the meaning of 'The guy's deranged' precludes a referential utterance of it from having the same semantic content as a referential utterance of, say, 'The guy over there is deranged'. It would be plausible that the meaning of 'The guy is deranged' constrains the literal speaker to mean *that the guy who is identical to α is deranged* only if that proposition were not on a par as regards the speaker's communicative intentions with numerous other propositions like it but for their containing a bit more descriptive matter. Now, the most serious indeterminacy problem is not avoided if utterances of 'The guy's deranged' and 'The guy over there is deranged' can have the same semantic content. For if they can have the same semantic content, then in any referential utterance of 'The F is G ', there

will always be many propositions of the form *the thing that is H and F and identical to α is G* which are equally good candidates for what is said. What makes this sort of indeterminacy so insidious is the way it affects truth conditions: as we saw above, if each of several descriptive propositions is indeterminately meant, then I will not have meant something determinately true if just one of those propositions is false. That possibility does not seem to cohere with our intuitions about the truth conditions of the object-dependent propositions the speaker *meant* in such cases, whether or not what she meant is also what she said. I should think that in a referential utterance of 'The guy's deranged' the proposition I meant is determinately true if the guy to whom I referred in uttering the sentence is deranged.

b. There is a truth-conditions problem quite apart from anything about indeterminacy. The problem most clearly emerges, in the first instance, as a problem for Neale's proposal that 'he' means the same as 'the male', understood *à la* Russell. For consider again my utterance of 'He's deranged' in 'He' Scenario, Abe, as before, the person to whom I referred by my utterance of 'he', and suppose that sex change is literally possible. Is the Abe-dependent proposition I meant in uttering 'He's deranged' true in a possible world in which Abe is deranged but no longer male? Neale must answer no, because the proposition I meant is the proposition *that the male who is identical to Abe is deranged*, and that proposition is true in any possible world *w* only if Abe is male in *w*. But Neale's commitment is clearly not motivated by what seems *intuitively* correct (it will not strike the uncommitted as intuitively correct), and in fact the following observation suggests that it is incorrect. Consider a referential utterance of

It might have been the case that he was female,

where the speaker refers to Abe. Here, I submit, it does seem reasonably clear that there is no reading of this utterance on which it is false, given that sex change is possible. Yet it would seem that Neale has to say that there is a scope ambiguity and that on one reading it is false. The two readings, with their truth-values, would be:

[T] The male who is identical to Abe is such that he might have been female.

[F] The proposition *that the male who is identical to Abe is female* is such that it might have been true.

Although the problem just rehearsed most clearly arises for 'he', it does seem to me that the same problem arises for a referential utterance of

It might have been the case that the man was female,

but the intuitive correctness of this claim might be obscured by the fact that *attributive* utterances of 'It might have been the case that the *F* is *G*' do display a scope ambiguity.

There are at least two replies to the foregoing objection which Neale might try. First, he might claim that definite descriptions and pronouns like 'he' must always take wide scope in modal contexts when used referentially in those contexts. But such a claim would have to be motivated, and it is simply not clear what motivation could be given for it which was not ad hoc. Second, Neale might claim that the meaning-determining convention governing referential uses of 'the *F*' requires the speaker to mean *that the ACTUAL-F that is identical to α is G*, where α is the thing to which the speaker referred by her utterance of 'the *F*' and 'ACTUAL' is used as a term of art which expresses an operator whose effect is to make the proposition *that the ACTUAL-F that is identical to α is G* true in an arbitrary possible world *w* just in case α is *F* in the actual world and *G* in *w*. One problem with this response is that the concept of the ACTUALITY operator is pretty sophisticated, and one might reasonably doubt that it belongs to the conceptual repertoire of young children and other non-philosophers. A second problem is due to Scott Soames,⁴⁹ and may be restated as follows. Suppose that, referring to Britney Spears, you say 'She is no longer married', and I reply 'I'd believe what you said if I didn't think it was based on wishful thinking'. It seems obvious that my statement might be literally true, yet it is difficult to see how it could be if, as the reply in question would have it, the semantic content of your utterance is the proposition *that the ACTUAL-female who is identical to Britney is no longer married*. For given the modal status of my statement, it can be true only if I could believe it even were my actual world other than it actually is, and it is very difficult to see how anyone whose actual world was that other world could have beliefs about the world that is in fact actual for us. It would seem that in believing the proposition you asserted in uttering 'She is no longer married', I would not be required to have beliefs about a particular possible world that was not the world in which I believed what you said.

⁴⁹ Soames (1998).

c. There is a problem of psychological plausibility: it is not psychologically plausible that an ordinary speaker—perhaps a five-year-old child or a poorly educated adult—means of the Atlantic Ocean that the ocean that is identical to it is cold when she says at the beach, referring to the Atlantic Ocean, ‘The ocean is cold’. The thought, of the Atlantic Ocean, that the ocean that is identical to it is cold is a pretty sophisticated and complex thought, given the way in which the concept of identity enters into it, and there is no intuitive basis for thinking that it is the thought an ordinary speaker intends to convey to her audience when she says, ‘The ocean is cold’. If asked to be fully explicit about what she meant, no ordinary speaker would use a *that*-clause which explicitly invokes the notion of identity. Here I must hasten to add that I am fully aware of the paradox of analysis. That does nothing to vitiate my point. Even if Grice’s account of speaker-meaning were correct,⁵⁰ it would be psychologically implausible to suppose that the thought expressed by an utterance of ‘Paul meant that it was raining’ was *identical* to the thought that *Paul uttered something with the intention of producing in his hearer the belief that it was raining by means of her, the hearer’s, recognition of his intention to produce in her the belief that it was raining*, but there is nothing psychologically implausible about the claim that the two propositions are *truth-conditionally equivalent*. It is evidently crucial to the non-standard Russellian response to the referential-use problem that the proposition the speaker means in a referential utterance of ‘The *F* is *G*’ is the proposition that the *F* that is identical to α is *G*, where α is the thing to which the speaker referred in his referential utterance of ‘the *F*’.

d. This problem is one to which Neale should be especially sensitive. In his discussion, quoted above, about the semantic similarities between ‘he’ and ‘the male’, Neale recognizes the implausibility of giving a direct-reference account of the semantic content of his utterance of ‘He’s deranged’ (‘he’ being used to refer to Abe) and a Russellian description-theoretic account of the semantic content of his utterance of ‘The guy’s deranged’ (‘the guy’ being used to refer to Abe), given that his communicative intentions were the same in both utterances. Neale’s solution is to extend his Russellian account of referential uses of incomplete definite descriptions to single-word pronouns. What is expressed in a referential use of ‘the guy’ is what would be more explicitly expressed by

⁵⁰ Grice (1989a).

$[the_x: \text{guy } x \wedge x = a],$

where a directly refers to the thing to which the speaker was referring in her referential use of 'the guy', and what is expressed in a referential use of 'he' is what would be more explicitly expressed by

$[the_x: \text{male } x \wedge x = a],$

where a directly refers to the thing to which the speaker was referring in her referential use of 'he'. What about 'it'? Neale might say that on a referential use it goes proxy for

$[the_x: \text{thing } x \wedge x = a],$

where a directly refers to the thing to which the speaker was referring in her referential use of 'it', or he might say that each time 'it' is used referentially, there is some contextually determined property expressed by a predicate Φ such that the referential use goes proxy for

$[the_x: \Phi x \wedge x = a],$

where a is again the referent of 'it' (it is more difficult to conjecture what he would say about pronouns like 'I' and 'you'). The problem is that by this line of reasoning there are no singular terms: every ostensible singular term turns out to be an incomplete definite description, and thus a restricted quantifier phrase, in disguise. In the example from my (1995) paper which Neale discusses, you and I are in the audience waiting to hear a talk by the distinguished philosopher Ferdinand Pergola. The great man finally stumbles into the room and begins talking to his audience in a slurred voice. I turn to you and say, 'The guy's drunk'. But I might have said without any change in communicative intentions either 'He's drunk' or 'Pergola's drunk'. If, as regards pronouns, that possibility shows that the semantic content of the hypothetical utterance of 'He's drunk' is the same as the semantic content of the utterance of 'The guy's drunk', then, as regards names, it should show that the semantic content of the hypothetical utterance of 'Pergola's drunk' is also the same as that of the utterance of 'The guy's drunk'. Whatever reason there is to think that pronouns are restricted quantifiers in their referential uses is also a reason to reach the same conclusion about proper names, and, we can add, the same goes for single-word demonstratives.

Well, what is wrong with saying that all ostensible singular terms are disguised definite descriptions? Russell himself said something very close to that. Why is a commitment to it a *problem*? One reason it is a problem—aside from the reasons just listed—is that without singular

terms we shall have no way explicitly to express the thoughts we communicate in the referential uses of ostensible singular terms. This is especially problematic if we think in a neural system of mental representation, a language of thought. If Mentalese is to have formulae that directly express the contents we think, it will need genuine singular terms. And what a mystery it would be if Mentalese singular terms could not have public language counterparts. I also suspect that if we deny that natural languages have singular terms, our grammatical theory of the relation between surface form and logical form will be considerably more complicated than if the terms we suppose to be singular terms really are.

7. Summary and concluding remarks

The issue addressed by Russell's theory of definite descriptions is about the meanings of sentences containing definite descriptions, and meanings are best construed as characters*. But being a character* is a relational property of the things that have it—to be a character* is to stand in a certain relation to some other thing—and therefore we were motivated to inquire into the nature of the character* relation, that relation that must obtain between two things in order for one to be a character* of the other. It is supposed to be a platitude that the meaning relation—now the character* relation—needs to be explicated in terms of conventional regularities in linguistic behaviour, but in fact it cannot be so explicated. An account in terms of conventional behaviour is ultimately an account in terms of propositional attitudes, and the character* relation cannot be explicated wholly in terms of propositional attitudes. This is because an account of the character* relation presupposes an account of the actual-language relation, and we cannot say what it is for a person to use a language just in terms of that person's propositional attitudes. I suggested that we can account for the character* relation in terms of the information processing that underlies language understanding. More specifically, the character* of a complete sentence type ('The *F* is *G*;' as opposed to 'the *F* is *G*') is an ordered pair $\langle A, P \rangle$, where *A* is a type of speech act and *P* a kind of proposition, and the processing that takes one from the perception of the utterance of a sentence to the knowledge of what the speaker said in producing that utterance will involve a processing state that represents the sentence as directly or indirectly linked with its character*. To speculate about the character* of a sentence is therefore to speculate about the sub-doxastic information-processing states. It is naive to think that is something

about which anyone can have 'direct intuitions', but there is plenty of indirect evidence to be marshalled.

In its best guise, a Russellian theory of definite descriptions holds that definite descriptions are restricted quantifier phrases, and that the propositional component of the character* of 'The *F* is *G*' is the kind of proposition to which all and only propositions of the form *the thing that is uniquely H and F is G* belong, a proposition of this form being true in a possible world *w* just in case in *w* something is both uniquely *H* and *F* and also *G*. The theory is challenged by referential uses of definite descriptions, for it would seem that what one says in a referential use of a definite description is an object-dependent non-descriptive proposition.

It is obvious that speakers mean object-dependent propositions in their referential uses of definite descriptions. The Russellian has two options by way of response. The first is to concede that the object-dependent propositions are not descriptive propositions and then to argue that while those propositions are *meant*, they are not also *said*, that is, do not conform to the characters* of the sentences uttered. It is incumbent upon the Russellian who takes this line to say what, if anything, is said in those referential utterances and to explain why the practice of using definite descriptions referentially is so ubiquitous. The second option is to argue that the object-dependent propositions are descriptive propositions. It would seem that the only way to take this option is to argue that in a referential utterance of 'The *F* is *G*' the descriptive proposition the speaker both means and says is, roughly speaking, *that the F that is identical to a is G*, where *a* is the thing to which the speaker refers in uttering 'the *F*'.

The first option is the standard response of contemporary Russellians, and I have given a few reasons for thinking that it is not a good response. The second option, a clear position in logical space, is occupied, so far as I know, only by Stephen Neale, who in his previous publications on this topic argued for the standard response. I gave reasons for thinking that this option is also not a good response.

So I conclude that the Russellian theory is not the correct account for all uses of definite descriptions: it cannot accommodate referential uses of definite descriptions.

Does the Russellian theory at least give a correct account of the character* of 'The *F* is *G*' which is operative in attributive utterances? If not, what sort of character* governs attributive utterances? Is it the same as the one governing referential utterances? If the Russellian theory does give a correct account of the character* governing attributive uses, then

does 'The *F* is *G*' have two characters*, or is there one character* that governs both referential and attributive uses?

As I said in section 2, I am inclined to think that 'The *F* is *G*' is ambiguous, does have two characters*, *if* the Russellian theory gives the correct account of the operative character* in attributive utterances. For in that case, 'the *F*' can occur either as a quantifier phrase or as a singular term, and while there may well be a single kind of proposition whose members are all and only those assertable in literal utterances of 'The *F* is *G*', the fact that the sentence's surface form would be underlain by two such disparate logical forms would I think strongly suggest that two distinct characters* attach to the one surface form, 'The *F* is *G*'. But, as I also said in section 2, I for one am not confident that the Russellian theory is correct even for the attributive cases. Frege's theory, according to which definite descriptions in subject position are always singular terms, is unthreatened by attributive uses, and, while I shall not now pursue the issue, I also think a single univocal character* will accommodate both referential and attributive utterances of 'The *F* is *G*', if 'the *F*' functions as a singular term in both cases—that is to say, if in both cases no true or false proposition is expressed if 'the *F*' fails to refer. But I do not think we are in a position to say that any theory that is like Frege's in that respect is determinately false. Nor do I think that we are in a position to say that any such theory is determinately true. The issue, for all we so far know, may be indeterminate. Consider the proposition that Prince Harry's first child will be a girl, and suppose that Prince Harry never has a child. Would the proposition then be false or neither true nor false? I do not see that this question enjoys a determinate answer, and if that is so, then it is indeterminate whether 'Prince Harry's first child' functions as a singular term or a restricted quantifier phrase in the sentence 'Prince Harry's first child will be a girl'.

But does my information-processing account of the character* relation not commit me to the possibility of an empirical resolution? No, unfortunately. It is possible that a fully complete and correct information-processing theory of language understanding would resolve the issue, but there is no guarantee of that. It may be indeterminate what propositions are represented by crucial information-processing states; it may be determinate what propositions are represented but indeterminate what the truth and falsity conditions of those propositions are; or it may be indeterminate what the formal representational features of those states are. Philosophers, linguists, and psychologists need to continue wrestling with the questions Bertrand Russell raised one hundred years ago.⁵¹

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⁵¹ Most of the material in this paper, some of it in earlier versions, was presented in a seminar on reference that Stephen Neale and I gave at NYU in spring 2004. I'm grateful to Neale for his enormously helpful critical reactions in the seminar to my presentations, and also to the extremely thorough going-over he gave an earlier version of this paper in his capacity as editor of this issue. My writing of this paper also benefited considerably from the discussions in the seminar, and in this regard I should single out not only Neale, but also Ray Buchanan, Paul Elbourne, Paul Horwich, Gary Ostertag, and Anna Szabolcsi. An earlier draft of this paper benefited from the generous remarks of Emma Borg, Zoltán Gendler Szabó, and Arthur Sullivan.

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The Loss of Uniqueness

ZOLTÁN GENDLER SZABÓ

Philosophers and linguists alike tend to call a semantic theory ‘Russellian’ just in case it assigns to sentences in which definite descriptions occur the truth-conditions Russell did in ‘On Denoting’. This is unfortunate; not all aspects of those particular truth-conditions do explanatory work in Russell’s writings. As far as the semantics of descriptions is concerned, the key insights of ‘On Denoting’ are that definite descriptions are not uniformly referring expressions, and that they are scope-bearing elements. Anyone who accepts these two claims can account for Russell’s puzzle cases the way he did. Russell had no substantive argument for the claim that ‘The *F* is *G*’ entails ‘There is at most one *F*’; in fact, he had important misgivings about it. I outline an argument against this claim, and I argue that by holding on to uniqueness contemporary semanticists make a momentous mistake: they keep the illusion alive that there is a way to account for linguistic meaning without addressing what linguistic expressions are for.

Towards the middle of Strawson’s ‘On Referring’ there is a curious remark about uniqueness.¹ It is typically read as a simple objection: since the sentence ‘The table is covered with books’ can be used to make a true assertion despite the existence of many tables, the Russellian truth-conditions for this sentence cannot be correct. The simple objection has a simple answer: the interpretation of definite descriptions is restricted in some fashion, just like the interpretation of other quantifying phrases. As a result the truth of an assertion made by uttering this sentence requires nothing more than the existence of a unique table within some restricted class of objects. This answer has by now gained the standing of orthodoxy.² But there remain some who think it is a superficial one: it deals with the particular example, but fails to resolve the underlying problem with Russell’s theory.³

I begin by briefly reviewing the case against uniqueness. My main concern here, however, is not so much whether the case stands, but why

¹ Strawson (1950), pp. 347–8.

² For a canonical discussion of the Russellian response, see Neale (1990), sect. 3.7. Neale (1990, 2004) distinguishes among different ways the interpretation of definite descriptions can be restricted. I will briefly discuss the options below in section 1.

³ Advocates of such dissenting views include Kempson (1975), Lewis (1979), Heim (1982), Zvonensky (1997), Breheny (1999), Szabó (2000), Roberts (2003), and Ludlow and Segal (2004).

it matters whether it does. Do we lose anything of substance from Russell's own insights or the subsequent use to which they were put if we drop the uniqueness clause from his analysis of definite descriptions? At first sight, the answer seems obvious. Russell thinks the definite article, when it combines into a singular noun phrase,⁴ behaves like the iota-operator of *Principia Mathematica*, which in turn is fully characterized by the following two contextual definitions:⁵

$$*14.01 \quad [(\iota x)(\phi x)] \psi(\iota x)(\phi x) =_{df} (\exists x)((\forall y)(\phi y \leftrightarrow y = x) \wedge \psi x)$$

$$*14.02 \quad E!(\iota x)(\phi x) =_{df} (\exists x)((\forall y)(\phi y \leftrightarrow y = x))$$

If English sentences containing singular definite descriptions don't entail uniqueness then—assuming nothing uniquely satisfies ϕ —the translation of *any* instance of either schema to English is false. So, in a clear sense, if uniqueness goes so does all the theory of descriptions. But this is not a good way to think about the *significance* of uniqueness within Russell's theory: the semantic insights of 'On Denoting' are more or less independent of the specifics of the truth-conditions given there. Or so I will argue in this paper.

The real bite of the problem of uniqueness is that if we accept that indefinite and definite articles are truth-conditionally equivalent we must look for the source of their glaring difference in meaning elsewhere. Admitting this does not merely add to our list of minimal pairs illustrating that meaning goes beyond truth-conditions. Someone who thinks 'steed' and 'horse' are synonyms may be a competent speaker of English with a small gap in his education; someone who thinks 'but' and 'and' are synonyms will miss the point of many remarks but may still get by fairly well in speech and writing. But someone who does not appreciate the difference in meaning between 'the' and 'an' will be linguistically much impaired. This is not only because these words are very common—'the' typically comes out first and 'a(n)' fourth or fifth on the list of most frequently used words compiled on the basis of written corpora—but because the contrast between their meanings is one

⁴I follow the common practice of calling phrases like 'the present king of France' and 'the author of *Waverley*' noun phrases despite the fact that it is a matter of controversy whether the head of such phrases is the definite article or the noun that follows it. Nothing here hangs on this syntactic question, so I decided to go with the usual label.

⁵The square brackets in *14.01 indicate *which* formula the contextual definition must be applied to. In contemporary terms, the device functions as a scope indicator: in the definiendum of *14.01 the *iota*-term takes scope over any scope-bearing element within ψ . The symbol 'E!' in *14.02 is proxy for an existence predicate. Russell and Whitehead introduce this symbolism so as to have a way of expressing negative existentials containing *iota*-terms without allowing negative existentials containing genuine singular terms.

of the key devices that help English speakers to keep track of who or what is being discussed in a conversation.

Compare the following stories, which differ only in the italicized articles:

- (1) A man in a rented tuxedo is sitting in a bar drinking one martini after the other. Suddenly *the* man jumps on the table and starts singing the *Marseillaise*.
- (2) A man in a rented tuxedo is sitting in a bar drinking one martini after the other. Suddenly *a* man jumps on the table and starts singing the *Marseillaise*.

Anyone reading (1) will assume that the man in the tuxedo was the one who started to sing; anyone reading (2) will take it that it was someone else. It is by no means easy for a Russellian to account for these facts, but perhaps it can be done. About (1) one might say that charity requires that the interpretation of the relevant definite description must be restricted in a manner that guarantees that the second sentence is not quantifying over any man other than the one mentioned in the first. The speaker of (2) used an indefinite description instead of a definite one; perhaps it is manifest that the reason for this choice is that she wished to avoid the implication that the two sentences concern the same man, in which case she implicated that they concern different men. There is plenty to quibble with these explanations. My point is purely illustrative: they show that there may well be a sensible account of the contrast between (1) and (2) based on Russellian truth-conditions.

These explanations crucially rely on the assumption that there is *some* truth-conditional difference between indefinite and definite descriptions. If this assumption fails, there is no hope for a truth-condition based account of the above contrast, and by extension, no hope for a truth-condition based account of our ability to comprehend expressions larger than sentences. We don't just have to abandon a purely truth-conditional conception of semantics—we must revise the idea that truth-conditions comprise the unique component of linguistic meaning that is explanatorily basic. This is what I think is at stake in the debate about uniqueness.

The outline of the paper is as follows. First, I summarize what I take to be the cleanest argument against Russellian truth-conditions.⁶ In the

⁶ It is cleanest in the sense that it addresses uniqueness head on and does not rely on controversial claims about methodology or substantive assumptions from linguistics. More indirect arguments against uniqueness in singular definite descriptions include cross-linguistic comparisons (cf. Ludlow and Segal (2004)), putative universals about quantificational determiners (cf. Szabó (2000)) and considerations involving the licensing of negative polarity items (cf. Rothschild (2004)).

next section, I raise the question how much Russell himself would be bothered by this argument. My tentative answer is that the issue is marginal to his concerns—he did not believe that an empirically adequate semantics is possible for natural languages and he was not interested in devising theories that are merely close to being adequate. If despite Russell's contrary intentions, we are determined to view his theory of descriptions as part of the semantics of English, we need to settle what components of the original view we should hold on to. In section 3, I argue that the current focus on the particular truth-conditions he gave is misguided—the semantic explanations in 'On Denoting' fail to put a tight constraint on what the truth-conditional content of the definite article might be. We can drop uniqueness and remain true Russellians about descriptions, if we wish. But we should not. In the final section, I argue that the Russell-inspired view that descriptions could *in principle* be eliminated from a language that is equipped with standard quantifiers and the identity predicate is mistaken. Whatever descriptions are, they are not mere devices of quantification.

1.

The passage where Strawson raises the uniqueness problem for Russell's theory is rarely quoted, perhaps because it is significantly less straightforward than the use many want to put it to. Here is the text in full:⁷

Consider the sentence, 'The table is covered with books.' It is quite certain that in any normal use of this sentence, the expression 'the table' would be used to make a unique reference, i.e. to refer to some one table. It is a quite strict use of the definite article, in the sense in which Russell talks on p. 30 of *Principia Mathematica*, of using the article 'strictly, so as to imply uniqueness'. On the same page Russell says that a phrase of the form 'the so-and-so', used strictly, will only have an application in the event of there being one so-and-so and no more. Now it is obviously false that the phrase 'the table' in the sentence 'the table is covered with books', used normally, will 'only have an application in the event of there being one table and no more'. It is indeed tautologically true that, in such a use, the phrase will have an application only in the event of there being one table and no more *which is being referred to*, and that it will be understood to have an application only in the event of there being one table and no more *which it is understood as being used to refer to*. To use the sentence is not to assert, but it is (in the special sense discussed) to imply, that there is only one thing which is *both* of the kind specified (i.e. a table) *and is being referred to* by the speaker.

⁷ Strawson (1950), p. 348.

One thing is clear: Strawson does not claim that Russell's theory is incorrect because

(3) The table is covered with books

can be true even though there are many tables. And it is good that he does not, for Russell's theory—in its most careful formulation—does not say that this sentence entails that there is a unique table. Russell is rather cautious about uniqueness. In 'On Denoting' he points out that we *frequently* speak of 'the son of So-and-so' even though So-and-so has several sons, and claims only that the uniqueness entailment is present when the definite description is used *strictly*.⁸ It is true that he also says that instead of using 'the son of So-and-so' non-strictly, 'it would be more correct to say "a son of So-and-so"', but this comment in no way diminishes the significance of the earlier one. Correct or not, we do *in fact* use sentences containing definite descriptions non-strictly, and when we do those sentences carry no uniqueness entailments.⁹ On p. 30 of *Principia* he does not repeat the example, but says again that 'the so-and-so' has application only if there is just one so-and-so—as long as the description is used strictly. This again suggests that if the description is not used strictly, 'the so-and-so' may well have application even though there are many so-and-so's. What Strawson rejects as obviously false is the idea that the uniqueness entailment is present when the definite description in (3) is used *normally*. This does not conflict with Russell's views, as long as it can be maintained that the normal use of this sentence is not strict, and hence falls outside the purview of Russell's theory. Call the thesis that this is so the *simple response* to the uniqueness problem.

In his brief and somewhat impatient rejoinder to 'On Referring', Russell does not address the question of uniqueness, so it remains unknown what exactly he thought about this matter.¹⁰ But, given his earlier commitments, *could* he have given the simple response? Strawson does not think so. He says that the normal use of (3) is strict 'in the sense in which Russell talks on p. 30 of *Principia Mathematica*, of using the article "*strictly*, so as to imply uniqueness". This is a rather misleading claim: although the phrase is Russell's, the sense is not. For Russell,

⁸ Russell (1905), p. 213.

⁹ It is also good to remember that Russell's aside about correct use is false. Even if so-and-so has many sons, we could not replace the definite article with an indefinite one in the following sentence without being misunderstood: 'One of So-and-so's sons was discussing *Waverley* in an illustrious company and the son of So-and-so showed himself to be completely ignorant.'

¹⁰ Russell (1957).

if the description in (3) is used strictly, *the sentence* entails that there is just one table; for Strawson, if the description in (3) is used strictly, *the speaker* implies that there is just one table he is referring to.¹¹ Strawson is right that the normal use of this description within this sentence is strict in the latter sense. But nothing in Russell's theory is incompatible with this claim—Russell could easily concede that in normal cases when a speaker utters (3) she implies that there is a unique table she is talking about *and* that her sentence (not being used strictly in Russell's own sense) does not entail that there is only one table.

The simplicity of this response is due to its incompleteness. Suppose someone were to suggest that 'large' when used strictly applies to all and only things that have the same size as the universe, add that we hardly ever use the word strictly, and leave the discussion at that. As eccentric as this view sounds, its main problem is not that it goes against our gut instincts about 'large'—it is rather that we cannot properly evaluate it. We are not told *what it is* to use sentences containing 'large' strictly. The simple response to Strawson's objection has the same problem. If in sentences used normally certain definite descriptions have logical properties that are distinct from the ones Russell's theory ascribes to them, he owes us further discussion of these uses. He does not provide such a discussion, which is why so many commentators have passed over Russell's cautious remarks about uniqueness in silence.

Russellians need a less reticent response to the uniqueness problem. There are two options. The first is to stick with the letter of the theory and neglect Russell's suggestion that sentences containing definite descriptions have different truth-conditions depending on the kind of use those sentences are put to. (3) entails the unique existence of a table, which makes it unsuited to express a truth, but still suitable to make a true assertion. What is asserted can diverge from what is expressed—think of irony or sarcasm, for example—and perhaps the gap is bigger than theorists have traditionally thought. Perhaps sentences containing definite descriptions are routinely used to make assertions whose content differs from the content of the sentence that is used to make the assertion; if so, observations about the former are beside the point when the latter is under discussion. Call this the *dismissive response* to the problem of uniqueness. The second option is to give up the letter of

¹¹ In the passage of 'On Denoting' quoted above Russell says that '*the*, when it is strictly used, involves uniqueness', not 'when *the* is strictly used, the use involves uniqueness', and 'for our purposes we take *the* as involving uniqueness', not 'for our purposes we take uses of *the* as involving uniqueness'. Strawson is usually rather sensitive to the fact that Russell does not cash out his proposal in terms of uses, so this lapse is odd.

the theory in order to save its spirit. Sentences containing definite descriptions indeed fail to have the sort of uniqueness entailments one would ascribe to them blindly following Russell's theory. Nonetheless, there is a straightforward way to make adjustments to get more realistic uniqueness entailments. The idea is that (3) does not entail the unique existence of a table, only the unique existence of a table within some contextually determined domain. This is the *concessive response* to the problem of uniqueness.¹²

The dismissive response recommends a straightforward semantics for descriptions that does not meddle with the contexts in which they are used. Context matters for the interpretation of the utterance, even for determining exactly what was asserted, but it plays no role in assigning content to a sentence like (3).¹³ The response comes with a price tag: the larger the difference between the contents of declarative sentences and the contents of assertions we normally make in using those declarative sentences, the more tenuous the relationship between semantic theory and our evidence supporting it. Normally we want to know what speech act the speaker made and our interest in the words and sentences employed is instrumental—the task of eliciting intuitions that are purely about linguistic expressions is a delicate matter. Postulating unperceived differences between sentential and assertive content opens the gates for ad hoc proposals about the former. To return to the earlier example, someone attracted to the dismissive response might equally well suggest that while the assertion made by a speaker who utters 'London is large' has the content that London is large compared to members of a contextually salient comparison class (e.g. the class of European capitals) the sentence itself has the content that London has the same size as the universe. The suggestion is simple and clear; it is also suspiciously well shielded from refutation. The dismissive response to the uniqueness problem is a *sceptical* proposal: pointing out the possibility of a gap between appearance (assertoric content) and reality (sentential content), it paves the way for theories about the latter that would otherwise be dismissed for their poor match with our intuitions.

¹² What should we say of those who think that sentences like (3) lack truth-conditional content *because* the domain of the definite description is only settled contextually? (3) might be said to have a 'sub-propositional logical form' (cf. Sperber and Wilson 1986, p. 188), it may express a 'propositional radical' (cf. Bach 1994, p. 269). Either way, only a use of (3) could be true or false. Such theorists will not like the way the concessive response is presented here, but they could rephrase it so the issue is not about the uniqueness entailment of (3) relative to a context of utterance, but the uniqueness entailment of certain assertions made by uttering (3).

¹³ For a defence of the dismissive response see Bach (1987), pp. 103–8.

It is hard to argue with sceptical proposals, especially if one does not feel like begging the question. We must take at least *some* intuitions about sentences seriously. Logic is a natural place to make a stand. I am willing to accept for the sake of argument that quantification is always unrestricted and that my intuition that the sentence ‘Every table is covered with books’ is true in certain contexts is mistaken—I grant that since there is at least one table in the universe that is not covered with books, this sentence is false. I take it that it is an important advantage of this sort of view that it entails without further caveat that ‘Every table is covered with books and some table is not covered with books’ is a contradiction. This is an advantage exactly because logical intuitions are privileged, because they are not subject to the same kind of scepticism ordinary truth-conditional intuitions are. My belief that ‘Every table is covered with books and some table is not covered with books’ is a contradiction is not derived from the intuition that this sentence must be false; rather, I am inclined to believe that this sentence must be false *because* I have the intuition that it is a contradiction. This latter intuition is grounded in my understanding of logical vocabulary and in my ability to discern a certain logically relevant structure in the sentence. Both of these abilities are hopefully in good order even if I tend to confuse sentence content and assertoric content and consequently am unreliable in assessing truth-conditions.

I don’t claim that logical intuitions are infallible—this would be foolish in the face of the logical paradoxes. The claim is only that they are relatively immune to a certain sceptical worry, one that is fuelled by the possibility of unnoticed but otherwise perfectly ordinary context-sensitivity. If the special standing of logical intuitions is granted, the inadequacy of the dismissive response follows quickly—(4) does not strike me (and I hope the reader) as a contradiction, while (5) clearly does:¹⁴

(4) The table was made in the same year as another table.

(5) There is just one table and that table was made in the same year as another table.

If the definite article is interpreted along Russellian lines and quantification is unrestricted, these sentences are equivalent. This is why the

¹⁴ Examples of this sort are many in the literature. Here are some examples: ‘The pig is grunting, but the pig with floppy ears is not grunting’ (Lewis 1973, p. 115), ‘The dog got in a fight with another dog’ (McCawley (1979), p. 378), ‘The Russian voted for the Russian’ (Neale 2004, p. 123), ‘If a bishop meets another bishop, the bishop blesses the other bishop’ (originally due to Hans Kamp).

dismissive response has seemed to so many of us unconvincing and why most defenders of Russellian truth-conditions opt for the concessive response.

The idea behind the concessive response is already present in the very passage where Strawson raises the problem of uniqueness. He claims that the phrase 'the table' in its normal, referring use 'will have an application only in the event of there being one table and no more *which is being referred to*'. Strawson himself would not build these adjusted application-conditions into the truth-conditions of (3): a large part of 'On Referring' is taken up by an argument that they are instead part of what speakers tend to *presuppose* when uttering that sentence. But many have resisted this idea and applied Russell's own theory to the adjusted description Strawson mentions. Here is Grice's classic statement about how to turn Strawson's insight into a full-scale defence of Russell:¹⁵

Consider an utterance of such a sentence as *The book on the table is not open*. As there are, obviously, many books on tables in the world, if we are to treat such a sentence as being of the form *The F is not G* and as being, on that account, ripe for Russellian expansion, we might do well to treat it as exemplifying the more specific form *The F' which is ϕ is not G*, where ' ϕ ' represents an epithet to be identified in a particular context of utterance (' ϕ ' being a sort of quasi-demonstrative). Standardly, to identify the reference of ' ϕ ' for a particular utterance of *The book on the table is (not) open*, a hearer would proceed via the identification of a particular book as being a good *candidate* for being the book meant, and would identify the reference of ' ϕ ' by finding in the candidate a feature, for example, that of *being in this room*, which could be used to yield a composite epithet ('book on the table in this room'), which would in turn fill the bill of being an epithet which the speaker had in mind as being uniquely satisfied by the book selected as a candidate.

Reverting to Strawson's original example, Grice suggests that in the right context (3) is—in some sense—a proxy for (3'). When interpreted along Russellian lines, the truth-conditions of this latter sentence match reasonably well with our intuitions about the (contextually relativized) truth-conditions of the former:

(3) The table is covered with books.

(3') The table in this room is covered with books.

If this is correct, we have a way to account for the intuition that (4) is not a contradiction. In a context like the one we considered for (3), (4) is proxy for (4'), which is manifestly consistent:

¹⁵ Grice (1981), pp. 276–7.

- (4) The table was made in the same year as another table.
- (4') The table in this room was made in the same year as another table.

So the concessive response does not founder where the dismissive response does.

Note that Grice departs from Strawson's suggestion in liberalizing the contextual restriction on the application of the description. What restricts the application of the description need not be the feature *being referred to*, it might be something more mundane and closer to what one might naturally think of, say, *being in this room*. As a result, Grice's proposal can *in principle* be extended beyond the referring uses of definite descriptions. Non-referring uses are in no way exceptional—although Strawson is certainly right that 'the table' in (3) would almost always be used by someone who intends to refer to a particular table, there are countless sentences containing definite descriptions for which this is not true. The most straightforward examples are those where the description is interpreted within the scope of a quantifier; the problem of uniqueness arises with such sentences as well. Consider (6):

- (6) Every book is on the table where Max put it.

Russellian truth-conditions for the dominant reading of this sentence require that for every book there be a unique table where Max put it. But surely (6) can be used to make a true assertion even if Max put some book at different tables at different times. The concessive response brings this observation in line with Russell's theory by expanding the sentence with an appropriate epithet:

- (6') Every book is on the table where Max put it last.

This certainly seems to capture what (6) would normally be used to assert. The uniqueness requirement now looks much more innocent: for every book there must be a unique table where Max put it last.¹⁶

There are many ways of integrating epithets into a semantic theory, but all seem to fit in one of two broad categories. The first is to say that within a particular context of utterance (3) is *elliptical* for (3'). 'Ellipsis' needn't be taken in a strict syntactic sense here, but we do need something beyond the mere label. A minimal requirement might be that anyone who understands (3) in the relevant context of utterance recov-

¹⁶ In fact, I don't think this requirement is innocent. Suppose Max put a book on *two* adjacent tables last—I don't think this should suffice for making (6) false. In my view (6) is true as long as every book is still on some table where Max put it last. More on this below.

ers the ‘missing’ words ‘in this room’ and uses her understanding of those words in interpreting (3).¹⁷ Alternatively, one might suggest that the interpretation of (3) is relative to a *parameter* whose value is set by the context of utterance, and (3’) expresses in an absolute way what (3) does relative to that value of the parameter. Again, proponents of this view need not commit themselves to a fully specific notion of a parameter. The common ground among them might be that anyone who understands (3) in the relevant context recovers the ‘missing’ semantic value of ‘in this room’ and uses it in interpreting (3).¹⁸ Although it clearly makes an enormous difference to the form of one’s theory of meaning which approach one follows, we can bracket the issue when thinking about the possibility of a successful concessive response to the problem of uniqueness.¹⁹

The usual worry about the concessive response—whether it is ultimately cashed out as an ellipsis or a parameter view—is the overabundance of eligible epithets. You utter the words ‘The table is covered with books’ standing in a large sunlit room with freshly painted walls talking to me, and perhaps you express the proposition that the table *in that room* is covered with books. But why not the proposition that the table *in that large sunlit room with freshly painted walls* is covered with books? Or why not the proposition that the table *over there* is covered with

¹⁷ This does not mean that anyone who understands an *utterance* of (3) must do so in part by recovering missing words from the context. For an utterance of a sentence may be understood without the sentence itself being understood. It is an everyday experience of people interacting in a foreign-language environment that they may be perfectly clear about what an utterance meant even though they are ignorant about the meaning of some expression used in making the utterance.

¹⁸ This leaves open the question whether the parameter is something we should locate in the Logical Form of (3), or leave it in the meta-language stating the interpretative clause for that sentence. Those who prefer the latter option often say that the value of the parameter is then an ‘unarticulated constituent’ of the content expressed by (3).

¹⁹ Appeals to epithets are rarely clear about the exact way they are supposed to feature in semantics. Consider, for example, the above quote from Grice. On the one hand, Grice thinks that the speaker has in mind a particular epithet whose reference is the feature of being in this room, which suggests the ellipsis approach. On the other hand, he says that the feature (together with the sentence uttered) can be used to yield the epithet, and I find it hard not to take this as a gesture towards the parameter approach. I don’t think Grice would have disputed that the feature of being in this room is expressed by more than one English phrase. (To stay on the safe side of the debates about the metaphysics of properties, consider just ‘in this room’ and ‘inside this room’.) It seems more likely that his guarded phrase in the last sentence of the quote—the epithet identified by the hearer ‘would fill the bill of being the epithet the speaker had in mind’—should be taken as expressing that from a semantic point of view the distinction between different phrases expressing the same feature is immaterial. The missing epithet is a ‘sort of quasi-demonstrative’—exactly which quasi-demonstrative is beside the point as long as it picks out the right feature. For a similar point see Evans (1982), p. 324 and Neale (1990), p. 100.

books? It seems hard to believe that there is anything that could settle such questions.

I see why this is a worry about semantics in general, but I don't think it is relevant to the concessive response in particular. It may be discomfiting to acknowledge that there is no basis for such a choice, but as far as the Russellian theory of descriptions is concerned, one may simply take indeterminacy on board. As long as *all* the acceptable epithets yield sensible truth-conditions the fact that we see no grounds for choosing among them is not a weighty objection.

The real problem with the concessive response is not that there are usually too many epithets to save the Russellian theory; it is rather that sometimes there are none. The crucial cases arise when definite descriptions apply to very similar objects. Consider the following example:²⁰

- (7) A wine glass broke last night. The glass had been very expensive.

Suppose two glasses broke last night and the only significant difference between them is that when the first one broke Michelle was very upset, but by the time the second broke she no longer cared. Suppose Michelle is uttering (7) addressing Lloyd who was not at the party and who at the time of the utterance knows nothing about what happened there. The intuitions that the utterance is true under such circumstances, and that (7) itself is not a contradiction are rather robust. According to the concessive reply, in order to bring this observation in line with Russell's theory we need an epithet which applies to one but not the other of the glasses. The candidates fall in one of two categories: those that distinguish the two glasses no matter what Michelle thinks but are unavailable to Lloyd, and those that are available to Lloyd but distinguish the glasses only if Michelle has the right sorts of thoughts. Paradigm examples of epithets in the former category are: 'which broke before another glass did' and 'the breaking of which made Michelle upset'; paradigm examples of the latter are: 'which Michelle has in mind' and 'which is being referred to'. One might immediately suggest that appeal to such epithets is ad hoc, but to make that claim stick one would need certain assumptions, which in turn would leave room for manoeuvre for the Russellian.

We can do better than that. Let's drop the idea that one glass broke before the other and that the breaking of one but not the other made Michelle upset—that gets rid of epithet candidates in the first category.

²⁰ Heim (1982), pp. 28 and 32.

To eliminate the ones in the second replace Michelle as the speaker—let's say she was killed last night. (7) is uttered by Dr Watson who is investigating the crime scene and who is addressing Sherlock Holmes in the other room. As Watson speaks, he is looking at pieces of broken glass on the floor. Watson is no Holmes: he does not realize that he is looking at pieces that came from two different wine glasses. He may think he has a specific glass in mind or that he is referring to a specific glass—the one whose pieces he is looking at—but he is mistaken. He has no thoughts that are about one glass rather than the other. Still, I think the truth of (7) in Watson's mouth is no more in doubt than in Michelle's.

Some find this intuition dubious, and I concede that the matter is not straightforward. There is, however, one way to push the disagreement from intuitions about truth-conditions to intuitions about logic. Imagine that Holmes enters the room and immediately sees that there are pieces from two glasses on the floor. He finds this all very curious and as he lights his pipe he says to Watson:

- (8) The fact that a glass broke last night is already significant. But the fact that the pieces of *the glass* are all mixed up with the pieces of another one completely indiscernible from the first is truly remarkable.

Those who are partial to the concessive response to the problem of uniqueness have no way to save Holmes from serious embarrassment. If the domain of the italicized definite description contains both glasses then the Russellian truth-conditions guarantee that (8) is a contradiction. If the domain contains but one of them then Holmes contradicts himself in saying that the glasses are completely indiscernible. Of course, one can bite the bullet and say that (8) is really a harmless contradiction.²¹ But it does not sound contradictory at all. As before, I am inclined to dig in my heels when it comes to intuitions about logic. Since we do not need to get the truth-conditions of (8) right in order to assess whether it is a contradiction, context cannot fool us here.²²

²¹ One may also suggest that Holmes knowingly exaggerates when he says the glasses are completely indiscernible. To pre-empt this sort of response, in Szabó (2003) I gave an example involving two elementary particles that are genuinely indiscernible.

²² I should point out that there are theories that have the resources to save *some sort of* uniqueness and still interpret (8) as non-contradictory; e.g. Ludlow (1994) and Elbourne (2005). The idea is to assume that the second sentence of (8) quantifies over extremely fine-grained events or situations, that these are guaranteed to contain just one of the broken glasses, and to require uniqueness only with respect to such events or situations. Note, however, that according to this sort of view 'The *F* is *G*' does not entail 'There is just one *F*' for any predicate *F*'. I am not sure I would call such a view a defence of Russellian uniqueness.

It is an old charge that Russell's theory cannot fully accommodate anaphoric uses of definite descriptions. The truth is that it can go a long way if the semantics appeals to epithets; problem cases arise only if the description applies to items that are for all practical purposes indiscernible. The moral of the example is that definite descriptions don't *in general* carry uniqueness entailments, which means that we must explain away intuitions that suggest *in particular cases* otherwise. I believe the source of those faulty intuitions is—as Strawson correctly pointed out more than half a century ago—the fact that *speakers* who utter sentences with definite descriptions do quite often implicate uniqueness of some sort, and that it is easy to mistake such implications for genuine entailments. This still leaves us with the task of accounting why, when, and how hearers take speakers to have implied uniqueness upon uttering definite descriptions. A lot hangs on the details of these explanations—if they are implausible or theoretically heavy-handed, sticking to the Russellian truth-conditions may still be the best idea despite the difficulties mentioned above. My aim in this paper is not to convince the reader that the uniqueness problem is an insurmountable difficulty for the Russellian theory.²³ Given the difficulties brought out by (7) and (8), I will assume that it is at the very least a serious difficulty, and I will ask what the significance of this fact might be.

2.

Russell leaves no doubt where he thinks the importance of his theory of descriptions lies: in logic and in epistemology.²⁴ But these are definitely not the fields where the impact of the theory was most strongly felt.

As a contribution to logic, the theory has two parts: a proposal concerning the interpretation of the usual quantifiers and an explicit assimilation of the indefinite and definite articles to these expressions. Neither part changed the logical landscape significantly. The foundations of modern quantification theory were already laid by 1879 in Frege's *Begriffsschrift*; the final conceptual and technical touches had to wait until Tarski's *Wahrheitsbegriff* of 1935. The features setting Russell's views on quantification clearly apart from those of Frege or Tarski concern the philosophical foundations of the theory and made no significant headway into logic proper. The idea that, as far as logic is concerned, the indefinite article should be treated in whatever way one

²³ I argued against Russellian truth-conditions for definite descriptions in Szabó (2000) and Szabó (2003).

²⁴ Russell (1905), p. 212.

treats the existential quantifier has never seemed revolutionary. And although the insight that the definite article may also be regarded as a quantifier (definable in terms of the usual ones plus identity) was interesting and probably novel, after the *Principia Mathematica* few logicians felt the need to introduce such a symbol into their formalism. Indeed, the iota-notation is rarely used after its early appearances in the *Principia* itself, its function being primarily to facilitate the introduction of another abbreviation.²⁵

In the theory of knowledge, the impact was more significant but ambiguous at best. Thanks to Russell, the terms ‘knowledge by acquaintance’ and ‘knowledge by description’ are now part of the common vocabulary of analytic philosophy, and many have readily accepted the need for a distinction between direct and indirect epistemic access to things. Still, few were satisfied with drawing the line between kinds of epistemic access exactly as Russell did, and even fewer put their faith in a foundationalism that grounds all knowledge (not only of things but of truths as well) in acquaintance. Russell construed acquaintance as infallible and came to believe that we bear this relation to sense-data, to universals, and possibly to ourselves, but definitely not to physical objects or other minds.²⁶ Not only did this strike almost everyone as misguided, it also raises serious difficulties for the application of the theory of descriptions to propositional attitude reports. If George IV cannot be acquainted with the author of *Waverley* (Scott not being reducible to sense-data, universals, and George IV himself) it is hard to see how George IV could ever have wished to know, concerning the man who in fact wrote *Waverley* (and whom, let’s say, he had seen from a distance), whether *he* was Scott.²⁷

Posterity abandoned Russell’s focus on logic and epistemology and gradually came to see ‘On Denoting’ as a milestone in ontology. Today when pressed about the significance of Russell’s theory of descriptions most philosophers would tell the familiar story about how it helps eliminating commitment to dubious entities. But Russell’s way of banishing the present king of France has lost much of its initial appeal. True, thanks to him we are no longer puzzled by sentences like ‘The present king of France does not exist’. We assume that the negation may take scope over the definite description and, given that there is no existing entity denoted by ‘the present king of France’, this reading of the

²⁵ Russell and Whitehead (1910), p. 67.

²⁶ Russell (1910), p. 23.

²⁷ Cf. Soames (2003), p. 122–6.

sentence comes out true, as it should. But the ontological difficulty—if there really is one—must remain whether we decide to talk about the present king of France using this empty description, or using an empty name, like ‘Henri VII’.²⁸ Russell would be the first to agree, which is why he claimed that empty names are truncated definite descriptions. For Russell, sentences containing the symbol ‘4/0’ are meaningful and their meaning remains the same if the empty name is replaced by ‘the number which multiplied by 0 gives 4’. He is also willing to say that ‘a proposition about Apollo means what we get by substituting what the classical dictionary tells us is meant by Apollo, say “the sun-god”’.²⁹ Such claims are widely believed to have been refuted by Kripke’s arguments in *Naming and Necessity*,³⁰ which leaves most of us still puzzled about ‘Henri VII does not exist’. If empty names are not disguised descriptions Russell offers no solution to the problem of non-existence, and the theory of descriptions is a milestone in ontology that we must leave behind.

Where Russell’s theory made a real and lasting difference is in the semantics of natural language. The theory—as a view about the truth-conditions sentences containing indefinite and definite articles—is alive and well. This, I think, is even more surprising than the fact that Russell’s theory failed to have a real effect where its author intended (in logic and epistemology), or that it failed to have a lasting effect where most of its admirers thought (in ontology). For although Russell presents his views as a theory about how descriptions *ought* to be interpreted to avoid formal refutation and to solve certain puzzles, he makes no attempt to justify that it captures how we *actually* interpret these phrases.

Like almost all philosophers who come to language from logic, Russell was highly suspicious of the possibility of providing a coherent and precise semantics for ordinary language. Ambiguity, vagueness, and most importantly the paradoxes, suggested to him that the vernacular is unsuited to the purposes of philosophy, and is at the very least in need of thoroughgoing reform. He regularly describes language as dismally imperfect, and bypasses the perceived imperfections by sheer postula-

²⁸ ‘Henri VII’ is used by some French royalists to refer to Henri Philippe Pierre Marie, the Count of Paris. He is the Orleanist pretender to the French throne. Legally, and within the larger public, ‘Henri VII’ is a name without a bearer.

²⁹ Russell (1905), p. 218.

³⁰ Unlike ‘the sun-god’, ‘Apollo’ is a rigid designator. Unlike ‘the number which multiplied by 0 gives 4’, ‘4/0’ is a *de jure* rigid designator.

tion. The attitude is well illustrated by his comments about tense in 'The Philosophy of Logical Atomism':³¹

The occurrence of tense in verbs is an exceedingly annoying vulgarity due to our preoccupation with practical affairs. It would be much more agreeable if they had no tense, as I believe is the case in Chinese, but I do not know Chinese. You ought to be able to say 'Socrates exists in the past', 'Socrates exists in the present' or 'Socrates exists in the future', or simply 'Socrates exists', without any implication of tense, but language does not allow that, unfortunately. Nevertheless, I am going to use language in this tenseless way: when I say 'The so-and-so exists', I am not going to mean that it exists in the present or in the past or in the future, but simply that it exists, without implying anything involving tense.

Tense-marking on verbs is an inescapable feature of English grammar. Russell thinks the feature unfortunate, for although there *are* tenseless propositions, they remain inexpressible in English: whenever we say something—even something like 'The solution to the equation $x^2 - 4x + 4$ exists'—our sentence carries a temporal entailment. Fortunately, language will bend to our will: we can just say that we will use English sentences without implying anything about time, and saying so makes it so.

Most contemporary semanticists would give more of a run for the view that tense is present but covertly marked in Chinese, and would be sceptical of the idea that grammar is significantly shaped by the practical concerns of our ancestors. But what is most glaring about the quote is Russell's complete lack of interest in language itself. He wants to discuss reality quite independently of any linguistic garb; once he thinks he has succeeded in focusing his reader's mind on the proposition, he has no further concern for the sentence. He does not plead for a special, tenseless use of apparently present-tense verbs, like 'exist'—he simply postulates such a use and wastes no time to persuade us that the postulation tracks some interesting feature of English.

This, I think, is Russell's persistent attitude to matters of language. However, it is widely assumed that he took a different stance when it came to descriptions. The theory of descriptions is supposed to tell us something important about what descriptions actually mean, not what they should mean by Russell's stipulation. According to the theory in 'On Denoting', (9) 'becomes' (9'):

(9) The present king of France is bald.

³¹ Russell (1918), p. 248.

- (9') It is sometimes true of x that x is now king of France, and that x is bald, and that it is always true of y that if y is now king of France, y is identical with x .³²

What exactly is the relation between (9) and (9'), according to Russell? The usual gloss is that former is analysed by the latter, in the sense that their shared *logical form* is significantly better approximated by the *grammatical form* of the latter. By grammatical form Russell means what everyone else does: the syntactic structure of the sentence which comprises whatever non-lexical information goes into sentence individuation. Grammatical form encodes the order of lexical items; 'Cromwell defeated Charles II' and 'Charles II defeated Cromwell' are distinct sentences despite containing the same words. But grammatical form encodes much more: although we often say that 'Charles II greeted the woman with a smile' is an ambiguous sentence, it is more plausible to think that we are faced here with ambiguous reference to two sentences distinguished by their grammatical forms. Although occasionally non-trivial to discern, grammatical form is much less hidden than logical form. On Russell's view, sentences bear logical relations not intrinsically but in virtue of their meanings. And sentences are meaningful because they express propositions; indeed, their meanings *are* the propositions they express. But not everything about a proposition is relevant to logic. 'Charles I was executed' and 'Charles II was defeated' certainly express different propositions and have different inferential powers. Nonetheless, they participate in analogous patterns of valid inference, and so from the perspective of pure logic they are indistinguishable.³³ According to Russell, the feature that comprises

³² Russell (1905), pp. 213–4. Here Russell says the following:

(*) Thus 'the father of Charles II was executed' becomes: 'It is not always false of x that x begat Charles II and that x was executed and that "if y begat Charles II, y is identical with x " is always true of y .'

I have adopted Russell's terminology with trivial changes, except for the elimination of double quotes. I take it that according to Russell's intentions, the double quotes are used to refer to the propositional function expressed by the words between them. I assume for the sake of presentation that the complementizer 'that' followed by the same words refers to the same thing. If this assumption is rejected, Russell's own formulation must be deemed incorrect—note the three occurrences of 'that' within (*). The line could be rephrased without the complementizer, relying on a nested occurrence of double quotes:

(**) Thus 'the father of Charles II was executed' becomes: ' " x begat Charles II and x was executed and "if y begat Charles II, y is identical with x " is always true of y " is not always false of x .'

³³ In what sense do they participate in analogous inferences? In the sense that any valid inference remains valid if we substitute 'Charles II' for all occurrences of 'Charles I' and *vice versa*, and 'defeat' for all occurrences of 'execute' and *vice versa*. (Note that such a replacement may involve certain adjustments. For example, in 'Charles I was executed and Charles I was a king; therefore

everything pure logic cares about is the structure of the proposition, which he also identifies with the logical form of any sentence that expresses that proposition.³⁴ The claim that (9) and (9') share a single logical form means that they participate in analogous patterns of inference; this together with the fact that both propositions are built from the universals of being the present king of France and being bald guarantee their logical equivalence.

If Russell is committed to the logical equivalence of (9) and (9'), he certainly commits himself to a substantive claim about the actual meaning of (9). But he is not so committed. The claim that (9) 'becomes' (9') is immediately preceded by the caveat mentioned in the previous section: although the definite article is frequently used differently 'for our purposes we take *the* as involving uniqueness'.³⁵ Russell says that these sentences are logically equivalent *if* (9) is used strictly, and he does not say what it is to use a description strictly. Russell remarks that it would be 'more correct' to use descriptions strictly, but we are not told where this norm is coming from. If it is a norm that guides speakers in their everyday talk, Russell's theory of descriptions may be empirically significant. If it is a norm that guides philosophers who wish to wipe out 'deficient' features from everyday language, it is probably not.

As far as I can tell, there is nothing in 'On Denoting' that would decide this question. Russell's subsequent comments, however, seem to favour the view that regards the theory as a lot more stipulative than descriptive. Responding to Strawson's claims that he ignored important features of our actual use of descriptions, Russell claims to have never been concerned with ordinary language as such, expresses agreement with Strawson's contention that 'ordinary language has no exact logic', and characterizes his theory of descriptions as a proposal for a 'linguis-

there was an executed king' we would need to replace 'an' by 'a'.) A sensible sufficient condition for sameness of logical form might then be this: two expressions ε and ε' have the same logical form if there are (possibly complex) expressions $\varepsilon_1, \dots, \varepsilon_n$ which syntactically make up ε and expressions $\varepsilon'_1, \dots, \varepsilon'_n$ which syntactically make up ε' , and for every $1 \leq i \leq n$ substituting each ε_i for ε'_i and *vice versa* everywhere in an argument preserves the argument's validity. (This would be undeniably strong as a necessary condition: we don't want to say that 'There were kings' and 'There were some kings' must have different logical forms just because substituting 'kings' for 'some kings' in 'Charles II is a king who never got executed, and so is Louis XIV; therefore some kings never got executed' turns a valid inference into an invalid one.)

³⁴ By the time of 'The Philosophy of Logical Atomism' Russell came to reject propositions as entities built from objects, properties, and relations but kept the talk of logical form. Logical form remains for him a feature of an expression which encodes its pure logical inferential properties.

³⁵ Russell (1905), p. 213.

tic novelty', for a 'modification of common speech'.³⁶ All this suggests that the theory of descriptions in 'On Denoting' is no less stipulative than the theory of tense in 'The Philosophy of Logical Atomism'.

What is the methodology that leads Russell to introduce his interpretation for definite descriptions? He is far from being explicit, but the following remarks might give us a clue:

My theory of descriptions was never intended as an analysis of the state of mind of those who utter sentences containing descriptions. Mr. Strawson gives the name 'S' to the sentence 'The king of France is wise', and says of me 'The way in which he arrived at the analysis was clearly by asking himself what would be the circumstances in which we would say that anyone who uttered the sentence S had made a true assertion'. This does not seem to me a correct account of what I was doing. Suppose (which God forbid) Mr. Strawson were so rash as to accuse his char-lady of thieving: she would reply indignantly, 'I ain't never done no harm to no one'. Assuming her a pattern of virtue, I should say that she was making a true assertion, although, according to the rules of syntax which Mr. Strawson would adopt in his own speech, what she said should have meant: 'there was at least one moment when I was injuring the whole human race'. Mr. Strawson would not have supposed that this was what she meant to assert, although he would not have used her words to express the same sentiment. Similarly, I was concerned to find a more accurate and analysed thought to replace the somewhat confused thoughts which most people at most times have in their heads.

The passage begins with a sentence where Russell appears to make the point that has become the core of the standard response to Strawson: that the theory of descriptions is *not* about speaker meaning. What a sentence containing a description means is sometimes different from what a speaker meant in uttering it, and Russell's theory concerns the former, not the latter. The example can also be taken to illustrate the distinction: it shows that the concern of a semantic theory is what the charlady's sentence means in Standard English (something blatantly false) not what she meant (something arguably true). What is decisively odd is how the passage ends: the word 'similarly' in the last sentence suggests that interpreting the charlady's sentence involves finding 'a more accurate and analysed thought to replace the somewhat confused thoughts' she had in her head. But why think the charlady has confused thoughts in the first place?

No contemporary semanticist would find the charlady's utterance a sign of confusion. She is certainly not confused about the facts, and she doesn't seem confused about what her words mean either. The char-

³⁶ Russell (1957), p. 387–9.

lady speaks the general working-class Southern British variety of English, of which a well-known dialect is Cockney. In Cockney, her sentence means that she never did any harm to anyone, which is—we might presume—just what she meant in making her utterance. The reason Strawson would refrain from using her words to voice the same sentiment has nothing to do with confusion on her part: it is simply that Standard English (unlike Cockney, or many Romance and Slavic languages) lacks negative concord.³⁷

Why does Russell not see the situation this way? It is possible that he thinks the Queen's English is superior to Cockney, at least when it comes to negation, but I doubt that this is the right reading of the passage. He is much too careful to talk about 'the rules of syntax which Mr Strawson would adopt in his own speech' not about the *correct* rules of English. What Russell rejects is not our egalitarian attitude towards the dialects—it is rather the shiftiness of our stance. Most of the time, we treat dialects as different versions of the same language: we are happy to say that the charlady and Strawson both speak English. But when it comes to details, like negative concord, we start speaking as if dialects were distinct, albeit similar, languages, each with its own grammar. Russell refuses to play along; for him dialects are always equally compelling versions of the same language. It is a single language, English, that both allows and forbids negative concord, which means that English has no coherent syntax or semantics. This particular incoherence may be easily kept under control: the charlady and Mr Strawson tend to stick to their own versions of English. Nonetheless, they are aware of the conflicting rules and even tacitly acknowledge them in interpreting each other. This opens up the possibility of genuine confusion, confusion we are *all* prone to simply in virtue of speaking a natural language.

In *The Principles of Mathematics* Russell says mathematicians had been confused about the continuum for centuries, then Cantor gave a surprising definition and thereby uncovered a notion that was 'presupposed in existing mathematics, though it was not known exactly what it was that was presupposed'.³⁸ In general, the aim of definitions is not to match precisely what people mean by certain expressions but to uncover 'ideas which, more or less unconsciously, are implied in the ordinary employment of the term'.³⁹ This is, I suspect, exactly the way

³⁷ Negative concord is a syntactic feature of a language where, in negative clauses indefinites, as well as expressions such as 'any', are replaced by their negative equivalents. For a survey of the literature and a bibliography, see Ladusaw (1996).

³⁸ Russell (1903), sect. 335.

³⁹ Russell (1903), sect. 2.

Russell thought about the accomplishments of his own contextual definitions in 'On Denoting'. He gave what he thought a 'somewhat incredible interpretation',⁴⁰ which does not lead to contradiction and resolves some difficulties concerning definite descriptions and opaque contexts, the law of excluded middle, and denials of existence. From his own experience he knew that this is no small feat, and the success suggested to him that the interpretation he found might be what provides the *rational basis* for our confused thoughts whose verbal expression involves descriptions.

Russell's assessment of the merits of his own theory would be hard to accept. It is compelling to say that there is a rational basis for much of the confused thought and talk about the continuum that mathematicians had been engaged in since antiquity. It is also plausible that Cantor came close to capturing this rational basis through a precise definition. But it is hard to believe that all our thinking whose verbal expression involves descriptions is confused—it would imply that pretty much *all* our thinking is confused. I am not saying that theories about descriptions before Russell couldn't have been as confused as theories about the continuum before Cantor. It is rather that understanding 'the' and 'a(n)' is part of the basic linguistic competence of English speakers, while understanding 'continuum' is not. We need a good grasp of the interpretation of the articles to talk about anything, even if our explicit theories about what we are grasping are dead wrong. This is not so for words like 'continuum'.

Russell thought of the theory of descriptions as a useful stipulation that uncovers the rational basis in our confused use of the articles. We should set Russell's self-assessment aside and look at his theory of descriptions as an accidental contribution to the semantics of natural language. The question is whether the theory thus construed will stand on its merits. Once we make the shift of perspective, we are no longer entitled to Russell's dismissive attitude towards evidence that his theory does not accord with ordinary linguistic intuitions. The troubling intuitions can perhaps be explained away, but they cannot be neglected.

3.

When trying to cast a theory in a mould that differs substantially from what its author had in mind, it is useful to set some minimal standards of fit. How much of what Russell says about descriptions in 'On Denoting' do we need to preserve in order to legitimately count the resulting

⁴⁰ Russell (1905), p. 214.

view as *Russellian*? The common practice these days is to focus on truth-conditions. Semantic theories dealing with a fragment of a natural language are called Russellian if they agree with the theory of 'On Denoting' about circumstances in which sentences containing descriptions would be true or false.

Actually the standard is somewhat looser. Russell claims to have given a *complete* reduction of sentences with descriptions to sentences without such expressions, but to make the reduction work we need bold and implausible assumptions about predicates. For example, to capture the generic reading of 'The humpback whale eats plankton', we need a predicate 'humpback whale' true of nothing but the species *Megaptera novaengliae* and a predicate 'eats plankton' true of species, rather than individual animals. These are not the usual interpretations of these predicates—if they were the sentence 'There is just one humpback whale in the whole world' should ring true and 'My pet fish at home eats plankton' should ring like a category mistake. Or consider plural and mass nouns. If the Russellian theory is correct across the board, the truth of 'The dolphins were following the boat' requires that 'dolphins' be true of a single thing (perhaps constituted by the contextually relevant dolphins) and the truth of 'The water was turbulent' requires that 'water' be true of a single thing (perhaps constituted by the contextually relevant portion of water). Again, it seems clear that in their normal interpretations 'dolphins' and 'water' don't have singleton extensions. It seems unlikely that the best semantics for generics, plurals, and mass terms will include such expansive commitment to ambiguities—the usual assumption is that the Russellian theory itself needs some adjustment. In any case, semantic theories count broadly Russellian even if they reject the application of Russell's theory for these cases; what matters is to give Russellian truth-conditions for the relatively straightforward sentences Russell considered.

The choice of truth-conditions as prime characteristics of what makes a theory Russellian is anything but obvious. The theory of 'On Denoting' is committed to a realist conception of meaning: sentences mean propositions built up from objects, properties, and relations. It is these propositions that are the bearers of truth or falsity in the first place; sentences have truth-values only derivatively. It is understandable that contemporary semanticists want to detach Russell's views on descriptions from the particular background theory within which he chooses to present it. A lot of this background is surely inessential to what Russell is up to: although by the time of *Principia Mathematica* he abandons his commitment to propositions, he does not say that the

theory of descriptions is in need of revision. But if we are willing to abstract away from the particular mechanism through which Russell thinks sentences containing descriptions come to have their truth-conditions, we should also ask whether there are aspects of the truth-conditions themselves that are explanatorily idle.

What drew Russell to his 1905 view on descriptions is a complex and contentious question. To answer it, we would need to take a close look at the view advocated in *The Principles of Mathematics*, at the papers written during the intermediary period of 1903–5, as well as the arguments in the Gray's *Elegy* passages of 'On Denoting'. I do not intend to do that here. What Russell emphasizes in 'On Denoting'—whether or not this was in fact the driving force that brought him to the new view—is the curious tendency of definite descriptions to lure us into absurd conclusions; like that France is still a monarchy:

The present king of France is bald or the present king of France is not bald.

If the present king of France is bald, the present king of France exists.

If the present king of France is not bald, the present king of France exists.

Therefore

The present king of France exists.

This argument is strangely appealing. So much so, that some philosophers have actually accepted its conclusion—usually with the caveat that His Majesty is unreal—while others felt the need to deny the first premiss, and abandon bivalence. Both of these seem desperate measures. Russell's way out of the bind is to plea that the argument equivocates: the clause 'the present king of France is not bald' is ambiguous and the premisses come out true only if we read it in two different ways. If negation is given wide scope over the description the first premiss is true but the third false, if the scopes are reversed the third is true but the first is false.

The puzzle about the present king of France is one of three Russell singles out in 'On Denoting'. The other two are the question of how George IV could possibly have wondered whether Scott was the author of *Waverley*, and how the difference between *A* and *B* could fail to exist. The solutions to these problems are also based on scope. The most natural (and allegedly true) reading of 'George IV wondered whether Scott was the author of *Waverley*' involves the description taking narrow

scope with regard to the propositional attitude verb. This reading does not entail the other reading ('The author of *Waverley* is such that George IV wondered whether Scott was him'), which is presumably false. 'The difference between *A* and *B* does not exist' is also ambiguous, and it is contradictory only if the definite description scopes over the negation. The other reading is true just in case *A* and *B* fail to differ. There is more to these puzzles, for the semantics of 'wonder' and 'exist' bring in extra complications—nonetheless, the heart of the solution in each case is the recognition that definite descriptions bear scope.

Russell says that his theory could be tested by its capacity to deal with these three puzzles; they are the ones any good theory about descriptions 'ought to be able to solve'.⁴¹ This suggests a clean minimal criterion for being a Russellian semantics: the theory must solve these puzzles the way Russell solved them. To do that a theory must meet just two criteria: (i) definite descriptions must exhibit scope ambiguity with regard to negation and propositional attitude verbs, and (ii) the reading where the description takes narrow scope should not entail the reading where it takes wide scope. Call a semantic theory that meets these two criteria *minimally Russellian*.

The first of these criteria says *nothing* about truth-conditions. Whether we will be *prima facie* inclined to posit an ambiguity of scope in a particular case does depend, of course, on there being truth-conditionally discernible readings to capture, but simplicity and uniformity may convince us of the presence of scope ambiguity even if the readings are equivalent. The second criterion *does* constrain the truth-conditional import of 'the', but only marginally. We can't have 'the' mean the same as 'most' (since if it is not the case that most *F*s are *G*s then it follows that most *F*s fail to be *G*s) but it could mean the same as 'some', 'every', or even 'five'. Russell's explanation of why the argument to the conclusion that France still has a king is a fallacy would go through under these interpretations of the definite article without any change whatsoever.

To say that the three puzzles arise because definite descriptions are scope-bearing elements is a rather shallow explanation. A deeper analysis would have to account for *why* descriptions are assigned scope in the first place. Russell does have such a deeper explanation: his proposal is that descriptions are scope-bearing elements because they are *incomplete symbols*. To appreciate the explanation, we need to take a step back and see why scope is problematic in the first place.

⁴¹ Russell (1905), p. 215.

Start from the simplest realist semantics, a view the early Russell would no doubt have found attractive. Assume that what it is for an expression to be meaningful is for it to stand in the *meaning-of* relation to its meaning, that the meanings of complex expressions are literally built up from the meanings of its parts, and that the way simpler meanings compose into more complex ones tracks the way the expressions that have those simpler meanings compose into expressions that have those more complex meanings. Sentential meanings are structured entities—propositions—made up of the meanings of words, and the structure of a proposition mirrors the grammatical structure of any sentence that has that proposition for its meaning.

This view runs into difficulties very quickly. Consider (10):

- (10) Every charming sans-culotte cheered the beheading of an old aristocrat.

(10) seems ambiguous: it can express a proposition that allows different charming sans-culottes to have cheered the beheading of different old aristocrats or a proposition that requires that they all have cheered the beheading of the same old aristocrat. At the same time, it appears that (10) has a single grammatical structure: ‘every charming sans-culotte’ is the subject, ‘cheered the beheading of an old aristocrat’ the predicate, within the predicate ‘the beheading of an old aristocrat’ is the object. Some of the words within the sentence may well be ambiguous, but there seems to be no chance to trace the ambiguity of (10) to what dictionaries can tell us about the different meanings of ‘charming’, ‘cheered’ or ‘old’. If so, one of the two propositions expressed by (10) cannot be simply built up from the lexical meanings of words within (10) in a fashion that mirrors the grammatical structure of this sentence.

The trouble has not much to do with the realism of the proposed semantics. It is fundamentally a conflict between ordinary linguistic intuitions and the principle of compositionality. If the meanings of English sentences are *determined* by the way their constituents are put together and by the meanings of those constituents then a syntactically and lexically unambiguous sentence must have just one meaning.

Linguists and a few philosophers tend to resolve this difficulty by giving up on some ordinary intuitions. Some deny that (10) is ambiguous—they think that it has a unitary meaning that is underspecified with respect to the scope relations of the quantifying phrases.⁴² Some deny that (10) has a single syntactic structure—they think that the reading

⁴² See Kempson and Cormack (1981) and Bach (1982).

where the object takes scope over the subject is generated through movement that remains invisible on the surface.⁴³ And some deny that (10) is free of all relevant lexical ambiguities—they explain the scope possibilities of (10) by assigning multiple (but systematically related) meanings of different types to both the subject and the object.⁴⁴

Many philosophers tend to be less flexible about intuitions, so they might want a different solution. There is a simple one Russell suggested—it involves a substantial weakening of compositionality. Instead of saying that for each complex expression ε , the meanings of ε 's constituents together with the way those constituents are combined determine the meaning of ε , say only that for each complex expression ε , the meanings of ε 's constituents, *if they all exist*, together with the way those constituents are combined, determine the meaning of ε . When it comes to (10), we can deny that 'every charming sans-culotte' has a meaning and we have no violation of this weaker notion of compositionality.⁴⁵

Once we deny the meaningfulness of 'every charming sans-culotte' and 'an old aristocrat', the question arises how sentences in which these meaningless expressions occur manage to be meaningful. Russell's response is that we associate certain rules with incomplete symbols, and these rules specify what the meaning of larger complete symbols is in which they occur as constituents. Whenever we have more than one incomplete symbol in a sentence there is a question about the order of

⁴³ See May (1977) and Heim and Kratzer (1998).

⁴⁴ See Cooper (1975) and Hendriks (1993).

⁴⁵ Isn't this weaker construal of compositionality trivial? It depends on *which* constituents of a complex expression the principle is taken to quantify over. Consider:

- (*) For every complex expression ε , the meanings of ε 's *immediate* constituents, *if they all exist*, together with the way those constituents are combined determine the meaning of ε .
- (**) For every complex expression ε , the meanings of ε 's *primitive* constituents, *if they all exist*, together with the way those constituents are combined determine the meaning of ε .

(ε is an immediate constituent of ε' iff ε is a constituent of ε' and ε' has no constituent of which ε is a constituent. ε is a primitive constituent of ε' iff ε is a constituent of ε' and ε has no constituent.) (**) makes compositionality vacuous for all complex expressions that contain primitive components that lack meaning. Russell thinks 'every' and 'an' are incomplete symbols (he is not explicit, but would no doubt say the same about 'of'), so as far as (10) is concerned (**) is empty. (*), on the other hand, still has some bite: the meanings of 'charming' and 'sans-culotte' must determine the meaning of 'charming sans-culotte' and the meanings of 'old' and 'aristocrat' must determine the meaning of 'old aristocrat'. Note also that a theory like Russell's can preserve the spirit of a stronger compositionality by talking about the rules associated with incomplete expressions rather than their meanings.

applying these rules, and depending on this order we may get different meanings. This is Russell's account of scope.⁴⁶

If we called a semantic theory which incorporates Russell's scope-based solutions to the three puzzles he raises in 'On Denoting' *minimally Russellian*, we should call theories that go along with him when it comes to the nature of scope *maximally Russellian*. The overwhelming majority of linguists and philosophers who call themselves Russellians about definite descriptions are not advocating a maximally Russellian semantics. It is fairly common practice these days to assign a genuine semantic value to quantifying phrases—as Montague showed, to say that 'every charming sans-culotte' expresses the property of being a property every charming sans-culotte has does not get into the way of accounting for scope-ambiguities.⁴⁷ And those who think this phrase by itself means *nothing* are surely not in a position to criticize such a semantics citing their intuitions that 'every charming sans-culotte' must mean something *other* than a property of properties. A theory that assigns semantic values to quantifying phrases can easily get Russellian truth-conditions for sentences in which these phrases occur.

There are also positive reasons for rejecting maximally Russellian theories. The theory in 'On Denoting' is applicable only to sentences where the quantifying phrase combines with a predicate to form a sentence. But combining with a predicate is not the only way quantifying phrases may enter into larger expressions. Consider, for example the sentence (11):

- (11) Some king or some queen was beheaded.

If we try to extract 'some king' from (11), the remainder is not an expression of English. Any straightforward way to assign truth-conditions to (11)—and to all the infinitely many complex phrases which contain Boolean combinations of quantifying phrases—requires that we assign semantic values to the quantifiers and explain how the semantic values of the complex phrases are determined by the semantic values of their components. The alternative is to claim that the syntactic structure of (11) is that of (12):

⁴⁶ Years before 'On Denoting' Russell already believed that the meanings of denoting phrases are *unanalysable*, that words like 'all', 'every', 'any', 'some', 'a', or 'the' do not have a meaning but contribute to the meanings of larger expressions through associated rules; see Russell (1903), pp. 72–3. The novelty in 'On Denoting' is the idea that denoting phrases themselves lack meaning in isolation.

⁴⁷ Of course, to remain compositional such a theory must deny either that (10) has a single syntactic structure or that all its lexical items are unambiguous. Montague denied the former; some of his followers denied the latter.

- (12) Some king was beheaded or some queen was beheaded.

But this makes a mess of English grammar. There is really no good reason to think that the grammatical structure of (11) is anything but what it seems to be: 'some king or some queen' is the subject, 'was beheaded' the predicate. Russell often said that the grammatical structure of sentences is misleading as to what their logical form is. This may be so. But he never suggested that we should think of ourselves as being easily misled regarding the grammatical structure itself. He took it for granted that if an expression seems to be the subject of a sentence in the lights of the best syntactic evidence, it most likely is. I suggest that we should all exercise Russellian humility when it comes to grammar. If we do, sentences like (11) give us excellent reason to abandon the idea that quantifying phrases are incomplete symbols.

To sum up, there is no good reason to abide by the current practice of calling semantic theories Russellian just in case they assign Russellian truth-conditions. This is because no one thinks Russellian truth-conditions are adequate when it comes to generic or plural definite descriptions and, more importantly, because these truth-conditions do no explanatorily work in 'On Denoting', or in Russell's subsequent writings. We could call a semantic theory *weakly Russellian* if it can give the exact same explanation Russell gave for the three puzzle cases in 'On Denoting', which essentially boils down to allowing scope-interactions between definite descriptions and other scope-bearing elements. In this sense the majority of linguists and philosophers are Russellians. We could call a semantic theory *strongly Russellian* if it subscribes to Russell's view about the source of scope ambiguities, that is, if it does not assign semantic values to definite descriptions in isolation. In this sense the majority of linguists and philosophers are not Russellians. But whether we want to be Russellians in either sense has nothing to do with the question, whether sentences containing definite descriptions have uniqueness entailments.

4.

Deciding between competing theories is always a contentious matter. We tend to believe that, other things being equal, the theory that is more comprehensive in its coverage of the data, more parsimonious in its explanations, and more conservative in its assumptions is the better one. But in all the interesting cases it is a matter of fierce controversy how to measure comprehensiveness, parsimony, or conservativeness,

and how to adjudicate among them when they are in conflict. When it comes to semantics, the situation is a lot worse than usual. Not only are we uncertain as to what counts as the better theory, we lack agreement about which theories are good enough. We have no consensus on what the relevant data are, what counts as an explanation, and which traditional assumptions are worth taking seriously.

Among the controversial but reasonable demands on a theory of meaning is that it must account for the *point* of having various sorts of expressions in a language, that it must tell us what those expressions are *for*. The demand is often trivial—it is hardly surprising to say that the point of having the word ‘table’ in English is to have a predicate that applies to all and only tables, and that without such a predicate we would find it hard to talk about tables. But when it comes to more interesting words such explanations often ring hollow. It is, for example, not enough to say that the truth predicate is for talking about truths because it is not immediately clear why one would want to do that. If in uttering ‘Snow is white’ and “‘Snow is white’ is true’ we assert exactly the same thing, talk about truths appears redundant. To appreciate what ‘true’ is for we need to focus on other sentences—like ‘Everything Russell ever said is true’, ‘True premisses never entail false conclusions’, or ‘This sentence is true’—and we need to find an illuminating way to express what the truth predicate is doing in these. Hopefully we can revisit then “‘Snow is white’ is true’ and realize that, far from being idle, ‘true’ does the same thing in that sentence as well. If so, we will be on our way to a substantial account of the point of the truth predicate.

In asking what something is for, we expect an explanation of its function. Such explanations are hardly ever self-standing when it comes to the functions of parts within complex wholes—there is no sensible way to tell what a small cogwheel in an old clock is for without specifying its role in the working of the clock. One way to approach this sort of task is to ask how the whole would be impaired if the relevant part was removed. Similarly, we can approach the question of what certain linguistic expressions are for by asking how the language as a whole would be impoverished if it did not contain those expressions.

So what is the point of having the definite article in English? Russell does not address this issue, which should not be surprising, given that he was not interested in English at all. But Russellians, when they applied his theory to natural language, latched onto some of his claims and extracted a doctrine from his writings. The doctrine is that the definite article is primarily for building definite descriptions, and that the

point of those is in some way analogous, but also importantly different from, the point of proper names. While proper names are for *referring* to objects, definite descriptions are for *denoting* them. Pretending that ‘Scott’ is a genuine proper name—Russell, of course denied this, but for expository purposes he was happy to engage in this pretence—the doctrine entails that ‘The author of *Waverley* is mortal’ is not *about* Sir Walter Scott in the same sense as ‘Scott is mortal’ is. Call this the *Russellian doctrine*.

Russell thought the difference between the functions of proper names and definite descriptions is so subtle that we often confuse the two. The source of our troubles is that we are taken in by grammar. Here is a characteristic passage from ‘The Philosophy of Logical Atomism’:⁴⁸

There are great many sorts of incomplete symbols in logic, and they are sources of a great deal of confusion and false philosophy, because people get misled by grammar. You think that the proposition ‘Scott is mortal’ and the proposition ‘The author of *Waverley* is mortal’ are of the same form. You think that they are both simple propositions attributing a predicate to a subject. That is an entire delusion: one of them is (or rather might be) and one of them is not. These things, like ‘the author of *Waverley*’, which I call incomplete symbols, are things that have absolutely no meaning whatsoever in isolation but merely acquire one in a context. ‘Scott’ taken as a name has a meaning all by itself. It stands for a certain person, and there it is. But ‘the author of *Waverley*’ is not a name, and does not all by itself mean anything at all, because when it is rightly used in propositions, those propositions do not contain any constituent corresponding to it.

This passage is puzzling both for superficial and deep reasons. The superficial reasons are connected to the fact that it is from 1918, when Russell no longer believes in what we now call (and what he used to call earlier) propositions. Not only that, he actually uses the word ‘proposition’ to talk about what we call (and what he used to call) sentences.⁴⁹ Accordingly, the passage makes the surprising claim that the *sentence* ‘The author of *Waverley* is mortal’ does not have subject–predicate form and does not contain a constituent corresponding to the description. The claims become less odd if we take him to say that the *logical* form of the sentence is not subject–predicate (although its grammatical form is) and that the *logical analysis* of the sentence contains no constituent corresponding to the description (while the verbal expression of the sentence surely contains the description as a grammatical constitu-

⁴⁸ Russell (1918).

⁴⁹ See Russell (1918), pp. 185.

ent). Once we make these adjustments, we can recognize the doctrine of incomplete symbols from 'On Denoting' in the passage.

What is deeply puzzling is how Russell thought the doctrine may explain our confusion about definite descriptions. It is clear how someone who failed to recognize that a certain symbol is incomplete might get confused about what sort of proposition the sentence expresses, and also that this may lead to logical error. But according to Russell's theory, 'an author of *Waverley*', 'every author of *Waverley*', and even 'no author of *Waverley*' are *all* incomplete symbols. They have no meaning in themselves, and the meaning of sentences in which they occur is given through a contextual definition. Still, we do not tend to get confused about these the way we do about definite descriptions. When Alice says to the White King that she sees nobody on the road, the White King responds: 'I only wish *I* had such eyes. To be able to see Nobody! And at this distance too! Why, it's as much as *I* can do to see real people, by this light!' All this was lost on Alice, not being much given to metaphysics. But even Russell's Meinong (let alone the real one) would be unlikely to take this as anything but a jest. Although 'nobody' bears considerable grammatical similarity to a proper name (because it can almost always be substituted for a proper name *salva beneformatione*), we feel no genuine inclination to treat it as one when it comes to logic. Russell's claim that *grammar* makes us think that singular definite descriptions behave just like names lacks all plausibility. It is a pity it is so often repeated.

This brings out clearly the way in which the Russellian doctrine about what definite descriptions are for is seriously incomplete. One might agree that definite descriptions are denoting expressions—that is, in our contemporary terminology, that they are quantifying phrases—and still wonder what distinguishes them among all the others that have this *kind* of function. What we are given is nothing more than the specific Russellian truth-conditions: 'the' differs from 'some', 'every', or 'no' in terms of the way it contributes to the truth or falsity of the proposition expressed by a sentence in which it occurs, and in no other semantically relevant way. Call this the *strengthened Russellian doctrine*.

According to the Russellian doctrine, English would be crippled if we eliminated all denoting expressions from it: it would no longer contain the resources to express generalizations of any sort. According to the strengthened Russellian doctrine, if we dropped the definite article only, English would remain essentially the same language. 'The' is one of many devices of quantification, definable in terms of others. Its function is to allow us to express in a subject–predicate form propositions whose underlying structure is quite different. It is like a cogwheel in the

old clock placed behind a transparent glass for decoration—remove it and the clock might sell for less, but it will work just as well as it did before.

This view is fairly widespread among philosophers of language. I think it is fundamentally mistaken. The mistake is obvious if the argument in the first section of this paper is sound, if there really is no truth-conditional difference between indefinite and definite descriptions. Nobody can maintain that these expressions have the same function in English—try to switch the indefinite and definite articles on a page and see the meaning of the text change, sometimes into sheer nonsense. Defenders of uniqueness use pragmatic explanations based on the presence or absence of contextually fine-tuned uniqueness implications to account for all that, explanations like those I hinted at the beginning of the paper. But if uniqueness is lost, so are all those explanations.

The problem with uniqueness is just the tip of the iceberg. It brings out with particular lucidity the defects in Russellian thinking about anaphoric relations among descriptions. If descriptions are ordinary quantifiers, the fact that any competent speaker of English would take ‘the king’ in the second sentence of (13) to be satisfied by someone who walked in must be explained by claiming that all the kings within the domain of that description are kings who walked in. This idea is supported by the fact that (14a) sounds markedly odd—one might say that the source of the oddity is that due to the restriction of the domain the second sentence expresses a necessary falsehood. But this story wildly overgeneralizes; applying the same principles of domain restriction we would predict that the second sentences of (14b) and (14c) also express necessary falsehoods, which is not the case. *If* definite descriptions are ordinary quantifying phrases, they still behave in an extraordinary fashion when it comes to domain restriction.

- (13) A king walked in. The king was bald.
- (14a) A king walked in. The king was bald and so old that he could not walk.
- (14b) A king walked in. Some king was bald and so old he could not walk.
- (14c) A king walked in. Most kings were bald and so old they could not walk.

I find it hard to see how the contrast between (14a) on the one hand and (14b) and (14c) on the other could fail to be something pertaining to the meaning of the definite article, and even harder to see how one could concede this and still deny that it is something a theory of meaning must account for. This is not to say that the contrast has anything to do with the truth-conditions of these sentences. I believe it does not.

We can take the first step towards explaining the contrast by taking seriously what any decent dictionary tells us about the point of having descriptions in English.⁵⁰ The functions of indefinite and definite articles are complementary: the former is used to build phrases for introducing *novel* things into the discourse, the latter is used to build phrases for talking about things already *familiar*. This is why ‘the king’ in the second sentence of (14a) describes whoever ‘a king’ in the first sentence of (14a) does. Quantificational determiners, such as ‘some’ or ‘most’ have no discourse function similar to the definite article, which is why (14b) and (14c) are perfectly in order.

There are different ways to implement this intuitive idea. My preferred one involves the postulation of *files*, a level of semantically evaluable representations separate from Logical Form. Interpreting utterances involves, among other things, constructing and continuously updating a file that systematizes the information conveyed. Logical Forms are constructed and interpreted by strict rules—files are built by a mixture of strict rules and heuristics, and incorporate our best guess about how the sentences hang together, what the various cross-sentential anaphoric relations are. The idea that indefinite descriptions introduce novel elements in the discourse and definite ones pick up previously introduced ones is cashed out in terms of the introduction of a new file card into the file versus the update of an old one. When constructing a file for an utterance of (14a) the addressee, *ceteris paribus*, first introduces a file card for the indefinite in the first sentence and ‘writes’ on it *walked in*, and then when filing the second sentence, she picks out the same file card and ‘writes’ *was bald* and *could not walk* on it. A file thus constructed cannot be true. (A file is true just in case it is satisfied by some sequence of individuals, and no

⁵⁰ Here are some quotes about ‘the’: ‘Marking an object as before mentioned or already known, or contextually particularized (e.g. “We keep a dog. We are all fond of *the* dog”).’ *Oxford English Dictionary*; ‘[U]sed as a function word to indicate that a following noun or noun equivalent is definite or has been previously specified by context or by circumstance’. *Merriam-Webster Dictionary*; ‘[U]sed before somebody or something that has already been mentioned or identified, or something that is understood by both the speaker and hearer, as distinct from “a” or “an”’. *Encarta*. Note that not all dictionaries say something along these lines—for example, the entry of ‘the’ in *American Heritage Dictionary* is quite different.

sequence can contain an individual who walked in and could not walk.) But this does not mean that (14a) itself is false. As I see it, how cross-sentential connections are to be taken is not part of the truth-conditions of this sequence of sentences. I think (14a) is true just in case some king walked in and some king was bald and so old that he could not walk.⁵¹

I will not try to defend this view here. My aim is simply to point out that there is a way of incorporating the dictionary view about the function of the indefinite and definite articles into a theory of meaning. The thought that ‘a(n)’ and ‘the’ are devices of discourse coordination—even if they are also quantifiers⁵²—is hard to quarrel with. The most regrettable feature of contemporary Russellian views about definite descriptions is not that they pay undue attention to the particular truth-conditions Russell assigned to sentences containing definite descriptions, or that these truth-conditions are mistaken. It is rather that by holding on to uniqueness, they keep the illusion alive that there is a way to explain the difference in meaning between indefinite and definite descriptions without talking about what these expressions are for.⁵³

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⁵¹ The key ideas and the terminology of the explanation just given are from Heim (1982). Unlike Heim, I do not consider files as alternative logical forms. In Szabó (2000) and Szabó (2003), I argue that the uniqueness implications of definite descriptions are derivable from a small number of independently motivated principles concerning the filing of utterances. In other words, in many cases when we file an utterance of a sentence containing ‘the *F*’ the resulting file will entail that there is a unique *F* (within a contextually given domain). The sentence itself does not have such an entailment. For a different implementation of the idea that indefinite and definite articles differ fundamentally in their discourse function, see Ludlow and Segal (2004).

⁵² In Szabó (2000) I committed myself to the view that descriptions are quantifying phrases. I no longer think that this is clearly so—there is reason to think that they might be predicates; cf. Graff (2001). This question is completely independent of the status of uniqueness implications. If definite descriptions are predicates, I insist that (i) uniqueness is not built into their truth-conditional content, and (ii) the function of definite descriptions is different from the function of ordinary predicates.

⁵³ I thank the participants of the discussion at the University College London, where I had the opportunity to present part of this material. Special thanks to Tamar Szabó Gendler, Michael Glanzberg, Stephen Neale, and Brian Weatherson for comments and criticism.

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Announcements

The Mind Association Research Fellowships 2006–2007

The Mind Association is very pleased to invite applications for up to two Research Fellowships to cover research leave for one term/semester in the academic year 2006–2007. The Fellowships are intended for academics in posts in a UK institution of higher education who are engaged in research in any area of Philosophy. The Fellowships may be used to fund research leave for projects at any stage of completion, including initial stages of research. The grants will be paid to the universities at which the scholars are employed, and will be £7,700 for a university with terms, and £11,550 for a university with semesters (plus London weighting allowance, where appropriate). Award of a Fellowship is conditional on the university's agreeing that the funds will be used to release the scholar from all administrative and teaching duties (with the optional exception of supervising doctoral students). One of the aims of the Fellowships scheme is to support academics who are substantially burdened with teaching or administrative duties. For one of the Fellowships, if suitable candidates present themselves, priority will be given to applicants who are in a non-permanent post, or for whom no more than seven years (excluding career breaks) have elapsed since their first appointment to a permanent or tenure-track post. Printed applications should be sent to the Association's Honorary Secretary: Professor Rob Hopkins, Department of Philosophy, University of Sheffield, Arts Tower, Western Bank, Sheffield S10 2TN.

The deadline for applications is 15th January 2006. Results will be available by 1st March 2006. Applications should consist of (a) a CV, including the names of two referees, (b) a research proposal of not more than 1200 words, (c) details (covering the last 5 years) of administrative and teaching duties, research leaves, and any non-academic commitments curtailing research time, such as career breaks, maternity or paternity leave, or caring for a sick relative, (d) a statement of the applicant's entitlement to research leave under his or her institution's current policy, (e) a statement of what institutional leave, if any, the applicant expects to have during the current academic year and the next academic year, (f) a statement of other sources of financial support for which the applicant intends to apply and which would cover terms/semesters consecutive with the period of research that would be covered by the Mind Fellowship (a Mind Fellowship cannot be held as part of a three term/semester period of leave in which one term/semester is covered by an AHRB grant) and

(g) a letter from the scholar's Head of Department or Dean stating that the funds will be used only for the replacement costs of teaching and administrative duties, from which the scholar must be wholly released during the tenure of the Fellowship (with the optional exception of supervising doctoral students). Applicants should arrange for their two referees to send their letters straight to Professor Hopkins by 15th January 2006. Applicants should ask referees to comment, where possible, on both their administrative load and their research proposal. Both referees should be asked to provide a detailed academic assessment of the research proposal and to grade the proposal according to the following scheme: A+: an application of the highest quality; A: an application of high quality; A-: a good application; B: a good application, but where there are significant reservations about its feasibility; R: an application where there are major reservations about its worth or feasibility.

Mind Association Conference Grants

The Mind Association currently has two conference grant schemes. The first is a major one of £2000, with a guarantee against loss of a further £500. The guarantee against loss is discretionary and subject to receipt of accounts. The second is a minor conference grant scheme of £600, normally to contribute to travel and accommodation costs for speakers. The Association has a policy of favouring open conferences over closed ones, and encourages sensitivity to ethnic and gender diversity. Conference grants are normally for conferences held in the British Isles. Letters of application, describing the aims and purposes of the proposed conference, as well as details of the costing, should be sent direct to the Secretary of the Association, Professor Rob Hopkins, Department of Philosophy, University of Sheffield, Arts Tower, Western Bank, Sheffield S10 2TN. The deadline for applications for major awards for the academic year 2006/2007 is 15 October 2005. The deadline for applications for minor awards is 15 April 2006, for any conference taking place in the academic year 2006/2007.

Conditions on the Acceptance of Mind Association Major Conference Grants:

Recipients of Major Grants are required to give the Mind Association first refusal on any volume of essays arising in whole or in part from the proceedings of the conference. The Mind Association collaborates with Oxford University Press on the selective publication of such volumes in its Occasional Series. The Association and the Press aim to maintain high levels of quality and thematic coherence in these volumes, and all contributions are individually refereed. Royalties on such volumes are paid to the Association, but volume editors are paid a fee out of these royalties in recognition of the considerable work involved in seeing the book through to publication. Conference organizers who wish to put forward a collection of papers for the series are advised to contact the Secretary of the Association before the conference,

and to secure the agreement of their contributors at an early stage. Normally a full set of draft papers, including a draft introduction, needs to be assessed before a publishing agreement can be made. Only in exceptional cases, of which prior notice must be given, will the Press consider a paper that has been previously published or accepted for publication elsewhere.

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