Russell's theory of descriptions

0. Russell makes two claims which need to be sharply distinguished, claims which I will label (Equiv) and (Form).

(**Equiv**) says that a statement of the form

(D) The F is G

is equivalent to, has the same truth-conditions as, the corresponding sentence of the form

(R) There is one and only one F, and it is G.

The latter, of course, standardly goes into the notation of Predicate in a familiar way

(R*) $(\exists x)(Fx \,\&\, (\forall y)(Fy \supset y = x) \,\&\, Gx)$

—so (Equiv) supports a claim about how vernacular sentences of the form (D) should be rendered into Predicate. But the equivalence of (D) and (R*) is best regarded as a *consequence* of the basic Russellian equivalence claim (Equiv),and the invocation of Predicate is, strictly speaking, not required to state the basic content of the Theory of Descriptions.

Now, equivalences come very cheaply and easily. Consider, to borrow a nice example from Casimir Lewy,

(1) Rain is good for the crops

is true exactly when

(2) If anyone were to broadcast on the radio that rain is good for the crops, she would be broadcasting a truth.

is true. But it would evidently be crazy to maintain that the fact that (1) has the same truth-conditions as (2) shows the true underlying semantic structure of (1)—that *really* (1) says something about radios! Wittgenstein in the *Tractatus* held that, between *contingent* propositions at any rate, necessary equivalence amounts to having the same content: Lewy's example refutes this claim (at least on the obvious interpretation).

We evidently can't infer from the availability of an equivalence that we have found something revealing of underlying semantic structure or logical form (whatever that might exactly be). However Russell does, famously, maintain

(**Form**)—the proposition that the equivalence of (D) with (R) reveals the true semantic nature of (D). Maybe on the face of it, (D) looks like a referring-expression/predicate sentence; but really, it belongs with (R) in the class of *quantifier*/predicate sentences.

(Equiv) could be true and (Form) false. For example, it could be the case that (D) is indeed true when and only when (R) is true, but that this equivalence is not (so to speak) basic, and is only a consequence of the fundamental semantic story about (D), a story which treats 'The F' not as a quantifier but in some other way. So we are faced with two separable questions: Is (Equiv) true? And if so, what exactly does (Form) mean, and is it (properly understood) also true?

Part One: The Equivalence Thesis

1. Let's immediately clear up two possible misunderstandings about (Equiv), that can give rise to captious objections. First, the domain of quantification in (R), or (R*), must be understood as contextually indicated. Suppose I say

(3) The cat is on the mat.

Plainly, I don't normally mean to say

(4) There is one and only one cat in the whole wide world and it is on the mat.

I mean, the Russellian will say, that there is one and only one cat in some contextually indicated domain (e.g. cats-that-belong-to-us or cats-in-this-room-now, or...), and it is on the mat. Compare, e.g.

(5) Everyone has now arrived.

Plainly, in normal contexts, this isn't used to say that everyone in the whole world has arrived—I mean that everyone in some contextually indicated domain (everyone on the class list, everyone who had an invitation, every member of the philosophy faculty ...) has arrived. For ordinary quantified sentences, the relevant domain is typically fixed by conversational context; so it is no objection to (Equiv) that the domain of quantification in (R) needs to be fixed similarly.

Second, Russell is explicit that the Theory of Descriptions is intended to apply only to descriptions involving singular reference to particulars. It is not intended to apply to the likes of

(6) The books are on the table

(not singular), nor to

(7) The wine in Russell's cellars is Bordeaux

(not reference to a particular). So it is no objection to (Equiv) that it doesn't apply to (6) and (7)[1].

2. Is (Equiv), applied to the sort of cases Russell intended, and with the domain of quantification suitably understood, true?

At first sight, one direction of the biconditional looks pretty compelling, i.e.

(E1) If a proposition of the form (R) is true, then so is the corresponding proposition of the form (D).

For if there is one and only one F, and it is indeed G, then what *more* can possibly be required for it to be the case that the F is G? So let's focus for the moment on the other half of (Equiv), in the form

(E2) If a proposition of the form (R) is false, then so is the corresponding proposition of the form (D).

Strawson has denied (E2)—see his 'On Referring'. He notes that (R) is false[2] in two types of case.

(A) There is one and only one F, but it isn't G,

(B) There isn't one and only one F.

In case (A), then the proposition (D) is plain false. For example, there is one and only one present Queen of England and she isn't bald (really!); so the claim

(8) The present Queen of England is bald

is plain false. However, in case (B)—says Strawson—the corresponding (D) fails to be either true or false. There is no current King of France, so the claim

(9) There is one and only one present King of France and he is bald

is false, but

(10) The present King of France is bald

is neither true nor false: which gives us a counterexample to (E2).

But why should we buy the claim that (10) is neither true nor false? Here's one line of thought. Compare (10), which involves an 'empty' definite description (one that fits no one) to

(11) Brintangle is bald

where 'Brintangle' is an empty name: I hereby tell you that it is a name of no one—and more than that (just to block irrelevant considerations) the name 'Brintangle' doesn't belong to any tradition of myth making, story telling or the like. I've just this moment made up this name-like expression as a kind of name-in-waiting, which is yet to be given a use. Now, while the potential name 'Brintangle' still is dangling free, is (11) true or false?

It is very natural to answer *neither*! (11) hasn't yet been given a fixed content (it no more expresses a definite complete thought than the frankly gappy '... is bald'), so it doesn't yet partition possible worlds into those that are consistent with it and those that aren't. Since (11) doesn't yet partition the worlds, the question 'Which partition does the actual world fall into?' can't be answered. (11) doesn't yet *say* anything definite, and so the question of truth or falsity doesn't yet arise.

Let's accept that that is the right line to take about (11). Can we now say that, just as the question of truth or falsity doesn't arise for (11) because it contains an empty name which implies that (11) doesn't yet say anything definite, so the question of truth or falsity doesn't arise for (10) because it contains an empty description which implies that (10) doesn't yet say anything definite? Well, plainly not so! For (10) *is* a contentful claim, at least if we were right about (E1) above. If there is one and only one present King of France, and he is bald, then (10) is true—and if true with respect to certain possible worlds, i.e. those containing unique bald French Kings, then (10) is contentful (for this claim *does* partition the possible worlds

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1. However, (6) seems to present a prima facie problem for the further thesis (Form): for if we accept that (Equiv) gives the logical form of 'The book is on the table', we might expect that something *very* like (Equiv) would give the form of the *very* similar 'The books are on the table': but it isn't easy to come up with a plausible candidate.

2. I should strictly write 'A proposition of the form (R) is false', etc. but this gets tedious, so where no confusion should result I'll talk casually of (R) being false.

into those consistent with it and the rest). So the (10)/(11) analogy fails.

The Russellian will agree, of course, that there are two importantly different ways in which (10) can be untrue. There are (A) cases, where there is a King, but he isn't bald; and there are (B) cases, where there isn't a French King. But so what? Generalizing, there are two ways in which (D)-type propositions can be untrue—but that's no complaint against (Equiv). Indeed the equivalence of (D) with the conjunctive (R) exposes precisely *why* there are various ways in which (D) can be untrue!

3. A crucial step in the previous argument might be challenged. I endorsed (E1) as giving sufficient conditions for the truth of (10). The argument then went—since (10), we agree, could be true, it is contentful and so not 'neither true for false' in the radical way (11) is. But perhaps we shouldn't have endorsed (E1) in the first place, as it now seems that once (E1) is accepted the Russellian is on strong ground.

Here is the best line of reasoning that I can construct for rejecting *both* (E1) and (E2), and thus re-assimilating (10) to (11). (It might very well be said that in focusing on Strawson's claim about (10) being neither true nor false, I have been missing his underlying point, and that what follows better captures his real concern.)

Consider an example involving demonstrative reference. I say '*That* is a physicist', pointing out a particular person. What is required for truth? Surely, just that the demonstrated person be a physicist. The demonstrative just fixes the object whose satisfaction of the condition expressed by the rest of the sentence is required for the whole claim to be true—demonstratives thus function as the Simple Theory of Names says that names function, i.e. both operate non-descriptively, purely referentially, to tag items, either temporarily, for the purposes of the immediate conversational context (in the case of demonstratives), or in a more permanent way (in the case of names). And what if there is *no one* demonstrated—I'm hallucinating, for example? Then, plausibly, I fail to make a contentful claim. Just as 'Brintangle is a physicist' fails to say anything if 'Brintangle' is still (as it were) a name in waiting, so too does 'That is a physicist' if the demonstrative is still waiting to be pinned down to the world.

Now, to get 'That is a physicist' pinned down to someone (we are at a party, let's suppose, and there are a *lot* of people there; you know there are some physicists present and want to know what these strange people look like ...), I typically need to gesture somehow. Not necessarily, of course; someone may have just made herself salient by laughing loudly or by brushing past us, spilling your drink—and then I can say 'That's a physicist!' relying on the fact that your attention is already fixed on the right person. But in most case, a nod of the head, a glance, a pointing is likely to be required. Now let's ask; when is e.g. pointing successful? Here are two rough suggestions

(a) I successfully demonstrate Jill by pointing if a line continuing the direction of my pointing finger intersects Jill before hitting any other person.

(b) I successfully demonstrate Jill by pointing if my gesture succeeds in getting you 'fixed' on Jill—so that, e.g., you take my claim 'That is a physicist' to be about her.

These two criteria of success could peel apart—my rough gesture may in fact not geometrically indicate Jill (follow my finger's line and the first person you get to is the almost totally hidden Jack, whom I have not even noticed), though it might still serve to get you noticing Jill. And then, surely, it is (b) that should take priority. If I succeed in my aim of getting you suitably 'fixed' on Jill, then the pointing has done its job, even if I did not draw an accurate bead on Jill (even if, had my finger been a pistol, it is Jack who would have dropped).

There's another way to get the demonstrative in 'That is a physicist' attached to a particular person, apart from relying on prior salience or on making salient by gesture; I can make someone salient by (as it were) *verbally* gesturing towards her. E.g. I say 'That *woman drinking a martini* is a physicist'. You look round for the obvious glass with the olive in, and fix on Jill that way. As with ordinary pointing, we can ask about what is required for successful verbal pointing. And as before there are two (types of) answer

(a*) I successfully demonstrate Jill because she is indeed the one woman drinking a martini (in whatever the salient group is).

(b*) I successfully demonstrate Jill if my description succeeds in getting you 'fixed' on Jill—so that, e.g., you take my claim 'That woman ... is a physicist' to be about her.

Again these two criteria of success could peel apart—my rough verbal gesture may in fact not correctly locate Jill by (a*) though it might still (b*) serve to get you noticing her. Suppose it is not martini in Jill's glass but neat gin—her neighbour drinking what looks like a large lemonade is in fact the one downing a huge martini. But then surely, it might again be said with some plausibility, it is (b*) that should take priority. If I succeed in my aim of getting you suitably 'fixed' on Jill, then the description has done its job, even if it is inaccurate. You pick up my message so long as you latch on to Jill and realize that it is she who is being said to be a physicist; my message is *true* just so long as she *is* a physicist.[3]

But, finally, if that is the right thing to say about 'That woman drinking a martini is a physicist', it looks plausible that the same could go for 'The woman drinking a martini is a physicist' (for the forms with 'That' and 'The' look pretty much like stylistic variants in this case). Suppose then that, at the party, intending you to pick out Jill, I say 'The woman drinking a martini is a physicist'; then—it seems reasonable to say—I succeed in my speech performance if you fix on Jill and understand that she is being said to be a physicist. And I say something true so long as she *is* a physicist (and blow the exact contents of her glass!). Such uses seem to be (in Christopher Peacocke's phrase) *entity invoking*[4].

Used like that, our original (D) type statements peel right apart from (R) type statements.

> (D) can be true and (R) false—as when Jill is a physicist though drinking the wrong stuff (so that there isn't one and only one woman drinking martini).
>
> (D) can be false and (R) true—as when Jill isn't a physicist, though there is in fact (quite by accident) someone else around who is uniquely a physicist drinking martini.
>
> (D) can perhaps even lack a truth-value yet (R) be true—as when I'm so plastered that I'm hallucinating Jill and there is no one there whom I am fixing on as 'The/that woman drinking a martini', though (again quite by accident) there is someone else around who does make (R) true.

In this way, demonstrative-like, entity-invoking uses of definite descriptions seem radically to refute (Equiv), and do this basically in the sort of way that Strawson was suggesting[5]. For in such a case, descriptions are functioning as referring expressions much more akin to demonstratives and names.

4. The line of thought developed in the last section was (very roughly) suggested by Donnellan's famous 'Reference and Definite Descriptions'. As Donnellan notes, it seems to be too much to say that *all* uses of descriptions are demonstrative-like. You and I are at the scene of the crime; Jones's body is horribly mutilated; I say 'This is no ordinary killer; Jones's murderer is plainly deranged'. Here, I'm not using the description 'Jones's murderer' to (as it were) pad out a demonstrative—there is nobody relevant around to be demonstrated! Rather, what I say could be glossed 'Jones's murderer *whoever it is* is plainly deranged'.

Contrast the case where you and I are observers in court; in the dock, eyes rolling, face contorted by uncontrolled tics, drooling, is the man charged with Jones's murder. I say 'Surely, he isn't fit to stand trial. Jones's murderer is plainly deranged'. The same form of words, but this time (it seems) a quasi-demonstrative, entity invoking, utterance—I'm saying that *that* man, the pathetic figure in the dock, is deranged.

Suppose that Jones wasn't murdered (death was due to a wild panther). In the first 'whoever it is' case, what I say is certainly untrue, and is plausibly plain false, as (Equiv) would predict. In the second quasi-demonstrative case, it is rather plausible to say that my message is that *that* man is deranged, which is true. The two uses thus peel apart. Donnellan calls the first an *attributive* use, and the latter a *referential* use, and claims that while (Equiv)—and indeed Russell's complete Theory of Descriptions—may perhaps hold for the quantificational message conveyed in the attributive use, it certainly does not hold for the referential use[6].

5. But, do we really need to say that there are referential, entity invoking uses of definite descriptions in order to accommodate the relevant speech phenomena?

Suppose that we talked, not English, but Russellish—which is just like English except that the form of words 'The F is G' is now just stipulated to mean exactly 'There is one and only one F and it is G'. And

3. More formally, though still roughly, the picture is this. A speaker uses the augmented demonstrative 'That F' purely referentially in uttering the sentence 'That F is G', only if there is a unique object x such that the speaker intends that, through his utterance of that sentence, his audience will come to believe, concerning x, that it is G; and the speaker speaks truly just so long as x is indeed G. In such a use, the augmenting description 'F' does not enter into the truth-conditions of what is said, but serves only to get the audience suitably fixed on x—and a description can do this even if it doesn't actually fit x (so long as, e.g., the audience *believes* that it does).

4. More formally, though still roughly, the picture is this. A speaker uses the definite description 'The F' in a purely referentially, entity invoking, way in uttering the sentence 'The F is G', only if there is a unique object x such that the speaker intends that, through his utterance of that sentence, his audience will come to believe, concerning x, that it is G; and the speaker speaks truly just so long as x is indeed G. In such a use, the description 'F' does not enter into the truth-conditions of what is said, but serves only to get the audience suitably fixed on x—and a description can do this even if it doesn't actually fit x (so long as, e.g., the audience *believes* that it does).

5. But note: in the case where no one is drinking martini, Strawson officially implies that there is a truth-value gap (nothing true or false is said), whereas here we are suggesting that something true might still be said. But this disagreement shouldn't be allowed to mask the more fundamental agreement that (some) definite descriptions, taken as quasi-demonstratives, work referentially not quantificationally.

6.So this is a nice ecumenical position—Russell is right for the attributive use, Strawson for the quasi-demonstrative or referential use.

consider again the second of those two scenarios above. For definiteness, assume the set-up is that

i) you and I take it as agreed that the man in the dock did the dirty deed (so we have fallen into thinking of him as the one and only one person who murdered Jones)
ii) actually the man in the dock didn't do the deed (our agreed presumption is false)
iii) I can see the man in the dock, your view is obscured by the pillar, and we each know this.

Seeing the gibbering wreck in the dock I say in Russellish

(M_R) 'Jones's murderer is plainly deranged',

which is by stipulation just short for 'There is one and only one person who murdered Jones and he is plainly deranged'. What I say is thus strictly false (though that is unknown to each of us).

But, since you and I both accept that the man in the dock is indeed the murderer, my speech intention in uttering (M_R) could sensibly be to fix your mind on him, and get you to believe that he is deranged. In fact, in the given Donnellan-style story, this is naturally taken to *be* my intention—the news that I am trying to get across is

(P) that man is plainly deranged,

and I utter (M_R) because it follows immediately from (P) and the agreed background belief that the man in the dock is the murderer. And, if you think about it, you will realize this (taking me to be a co-operative informant, passing on what I take it will be news, given that you can't see). So, my underlying message is naturally understood as entity invoking; my ultimate concern is to fix your mind on a particular person and for you to come to believe that he is deranged (and my choosing that Russellish description form rather than a purely demonstrative one is not germane to my prime speech purposes).

In short, then: in this example, what I strictly say in Russellish is false—though my ultimate speech purpose is to convey an entity-invoking message which is true. So, the sort of case that Donnellan describes, where we don't treat the strict satisfaction of the description as a condition for truth of the underlying *intended* message, could naturally arise even if we talked Russellish, where definite descriptions are stipulated to be quantificational! And that shows that, even if (Equiv) holds, and sentences involving definite descriptions *in English* have quantificational truth conditions, it could still be natural to hear uses of such sentences as intended, on occasion, to convey entity invoking messages.

But now Donnellan has a problem. He says (or at least our reconstruction of him says) that certain uses of 'The F is G' are entity invoking in the sense that there is a unique object *x* such that the speaker intends that his audience will come to believe, concerning *x*, that it is G; *and (according to Donnellan) the speaker speaks truly in such a case just so long as x is indeed G*. But, as we have seen, the Russellian can cheerfully allow that there are occasions when the speaker uses 'The F is G' when there is a unique object *x* such that the speaker intends that his audience will come to believe, concerning *x*, that it is G; *and (according to Russell) although the speaker strictly says something false if there is no F, his intended message—what he principally intends his audience to gather—will be true so long as the intended object x is G*. But now, in such cases where there is no F but the intended object is G, what reason is there for preferring the Donnellan line ('The speaker says something true') over the Russell line ('The speaker says something strictly false, but what he intends and is understood as principally conveying is true')? At best, it is a stand off; but arguably, Russell wins. For we should in general avoid postulating ambiguities unnecessarily; so we should prefer, if available, semantic theories that treat 'The' as univocal, explaining away apparent variations in use in contextual ways (and thus avoid saying that 'The F is G' can ambiguously have either Russellian or quasi-demonstrative truth-conditions). [7]

Part Two: Logical Form

6. We have not finally established that (Equiv) holds, of course; but it should now be clear that the equivalence thesis is not absurd, and is defensible against some familiar lines of attack from Strawson and Don-

7.For more defence of Russell along these lines, see Kripke's 'Speaker's Reference and Semantic Reference' *Midwest Studies in Philosophy II* (1977).

Of course, it wouldn't be very satisfactory to say that 'empty' uses of 'The woman drinking a martini is a physicist' are false, while still allowing that 'empty' uses of 'That woman drinking a martini is a physicist' express a truth! So the Russellian would now have to backtrack through the discussion in §5, and say that in such 'empty' cases involving a descriptive demonstrative, then again what is said is strictly false, even if the main intended and understood message is true.

nellan. So in what remains, I will assume that (Equiv) holds, and go on to ask whether this in any good sense gives the true 'logical form' of descriptions.

What, however, is meant by talk of logical form here? What is the cash value of saying of an equivalence that one side reveals the true underlying form of the other? A fair question, but I know of no helpful general answer (so I won't muddy the waters here by chasing down and then criticising various attempts to give a general answer). However, I think that, abstracting from more abstract and principled considerations, we can locate *part* of Russell's claim about logical form in the following way.

(Form*) Propositions of the kind
The F is G
are semantically more akin to propositions involving quantifiers, like
Some F's are G
Most F's are G
No F is G
rather than to propositions involving names or demonstratives, such as
N is G
That is G.

So let us focus on this pared down thesis, that descriptions belong semantically with quantifiers rather than names. This still isn't ideally clear, but it is perhaps clear enough to make some headway with.

7. Note first that we can accept the Theory of Descriptions, now understood as (Equiv) plus (Form*), without holding that (R*) gives the true logical form of (D)—for neither (Equiv) nor (Form*) say anything at all about the relation of the English (R) and the Predicate sentence (R*).

It is sometimes implied that the Theory of Descriptions is, at bottom, a theory about how to translate the vernacular into Predicate—but that just can't be the right way of looking at things. For if the question is (1) how best to translate 'The F is G' into *basic*, unaugmented, Predicate then there is just no issue: (R*) wins as the only half-way plausible candidate. Compare: if the issue is how to translate 'if' into (truth-functional) Sentential, then there is no issue: '⊃' wins as the only half-way plausible candidate. But we don't want to say, for that reason, that the vernacular 'if' is thereby revealed to be truth-functional—and by parity of reasoning, we shouldn't say that the conventional translation of (D) by (R*) shows that 'The' is essentially quantificational. On the other hand, if the issue is (2) how best to translate 'The F is G' into a fully formalized language *like* Predicate, but perhaps augmented with other devices, then (R*) is a loser.

To see how we can *obviously* do better than (R*) in a suitably augmented formal language, consider the quantifiers 'everyone', 'someone' and 'most [people]'. In plain Predicate, we represent the first two using the universal and existential quantifiers, running over the domain of people; and we could easily enough augment Predicate with a majority quantifier '$(\mathbf{M}x)$' such that

$$(\mathbf{M}x)Fx$$

is true so long as most of the domain are Fs. But how do we deal with restricted quantifiers as in 'all/some/most philosophers are good at logic'? The first two have conventional representations

$$(\forall x)(Px \supset Gx)$$
$$(\exists x)(Px \,\&\, Gx);$$

but already we might feel that these representations involve an uncomfortable degree of butchery of surface syntax—why should we treat 'all' as constitutionally iffy, and 'some' as disguising a conjunction? If we insist on trying to represent *sorted* quantification in a language like Predicate where the quantifiers are unsorted (all running over some fixed total domain), then the best we can do is mimic the effect of sorted quantification by a combination of unsorted quantifiers and the use of '⊃' and '&'. Now, in the case of formally representing 'all' and 'some' propositions, it is worth paying the price of butchering surface syntax to get the benefit of an easy-to-manipulate single-sorted logic; but this trade-off isn't on offer across the board. For suppose we try to express the restricted majority quantification 'most philosophers are good at logic' using the single sorted '$(\mathbf{M}x)$' quantifier. Obviously

$$(\mathbf{M}x)(Fx \supset Gx)$$

won't do, for that is true if (say) most people in the domain aren't philosophers. And

$$(\mathbf{M}x)(Fx \,\&\, Gx)$$

is no better, as this implies that most people are philosophers. And a quick check reveals that no other combination of 'Fx' and 'Gx' using the standard connectives will do the trick. So, to express sorted majority quantifications, we *can't* use an unsorted operator which binds just one predicate or open sentence[8]—we need a variable-binding operator that takes *two* predicates/open sentences, something like

(**M**x)[Fx:Gx],

defined to be true just when a majority of the items which satisfy F also satisfy G. But, of course, once we have augmented our language with one variable binding operator which takes two predicates to yield a sentence, we might as well have some more of the same type, thus

(∀x)[Fx:Gx]
(∃x)[Fx:Gx]

true respectively when everything/something that satisfies F, satisfies G. And now we could add in

(**I**x)[Fx:Gx],

a Russellian construction, true just when exactly one thing satisfies F, and it also satisfies G.

In summary: there is nothing to prevent our augmenting our formal language with dyadic quantifiers, which take *two* predicates to form a sentence. Such an addition would more neatly formalize the vernacular sorted universal and existential quantifiers, and is actually mandatory if we want to express e.g. sorted majority quantifiers. And if we then add a Russellian operator of the same type (so still a quantifier, though a dyadic one), we can formalize (D) type propositions not by (R*)—with its intrusive 'ands' and 'if'—but simply by

(**I**x)[Fx:Gx].

So, as I said before, if the issue is how best to translate 'The F is G' into a fully formalized language *like* Predicate, but perhaps augmented with other devices, then (R*) is certainly not the best we can do, even we stick to wanting quantificational translations.

8. Turning back to (Form*). This can usefully be unpacked into a two-component thesis: the negative component claims that 'The F is G' is *not* to be construed as semantically like 'N is G' or 'That is G', the positive component saying that 'The F is G' *is* to be construed as having the same basic semantic structure as 'Every F is G', 'No F is G'. And the key point to make here is that establishing the negative component does not establish the positive component.

The considerations in favour of the negative half of (Form*) are very familiar. We have already noted, in arguing against Strawson, that empty descriptions seem plainly to have a different semantic impact from empty names. The latter deprive (most) sentences which involve them of content; whereas 'The F is G' partitions possible worlds even if there are no F's in the actual world. Again, the behaviour of descriptions, in their logical interaction with other operators (tense, modal, even simple negation), seems to mirror that of quantifiers, rather than names. Thus

Some Cabinet Ministers were socialists in 1948
Every ticket might win
Everyone is not here yet

are all ambiguous, and indeed *scope ambiguous*, whereas replacing the quantifier in each case with the name 'John Major' yields a non-ambiguous claim. Now, the statements

The Prime Minister was a socialist in 1948
The number of planets might have been even
The King of France is not bald

are all arguably as ambiguous as those quantified sentences, and the ambiguity is again naturally taken to be a scope ambiguity. Contrast

(Of the Prime Minister it is true that)(in 1948 it was true that) *he is a socialist,*

and

(In 1948 it was true that)(Of the Prime Minister it is true that) *he is a socialist.*[9]

Similarly for the other cases. But if, in such cases, there are indeed genuine scope ambiguities (as there assuredly *seem* to be), then this much is secure—descriptions do not operate semantically like names[10].

The negative half of (Form*) thus looks rather good, even if the familiar arguments for it are not *absolutely* compelling. But defending the negative claim plainly falls short of establishing the critical positive

8. An open sentence is an expression like '(Fx ⊃ Gx)' or '(Bx ∨ (∃y)(Gy & Rzy))' which results from replacing occurrences of some name(s) in a sentence by some variable(s), and which yields a sentence if prefixed by some matching quantifier(s).

thesis. In particular, we cannot infer from the fact that descriptions exhibit scope phenomena akin to quantifiers that they are a species of quantifier.[11] Scope phenomena are potentially on the cards *whenever* we are building up complex sentences by constructive operations on simpler parts; the order of operations can make a difference, whether the operations are quantificational ones or not.

9. Consider, for an illustrative example, *function* expressions in arithmetic. Thus, '...times...' expresses a function which takes two numbers as input and delivers a number as output (the expression, if completed with two designators for numbers, produces a complex designator for a number); likewise '... squared', and 'factorial ...' express monadic functions which take one number and yield another. The order in which a series of functions is applied to some base number is crucial. Thus if we take the square of 2, and then take the factorial[12] of the result, we get 24; if we take factorial of two and then take the square of the result, we get 4. The expression

Factorial two squared

is ambiguous—involves, indeed, an ambiguity in the relative scopes (the relative order of application) of two operations.

This example is doubly instructive. It reminds us that scope phenomena are pervasive (so that the inference 'descriptions have scopes, so are quantifiers' would be far too quick); but it also reminds us of a class of expressions curiously absent from pure Predicate, but which are undoubtedly closely related to definite descriptions. After all, talk of *two squared* is surely nothing other than talk of *the square of two*; and *factorial seven* is defined as *the product of seven with each integer smaller than it.* And conversely, the description term *the Prime Minister of France* could as well be regarded as built up by applying the expression for the Prime-Minister-of *function* to the name of the country.

The omission of function expressions from classical pure Predicate languages goes back to that key source, the language of Russell and Whitehead's *Principia Mathematica*. Instead of function expressions like '..+..'—mapping pairs of numbers to numbers—a *Principia* language has, in its pure form, only the corresponding relation *Plus* (where the relation Plus(x,y,z) holds between x,y and z just when x + y = z), and instead of allowing '2 + 3' as a term, we have to use the Russellian translation of 'the *z* such that Plus(2,3,z)'. Thus instead of expressing the symmetry of addition as

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9. In our newfangled notation, this is the contrast between

(**I**x)[Px:[1948]Sx]

and

[1948](**I**x)[Px:Sx].

We can also, of course, say

(**I**x)[[1948]Px:Sx]

Which says that the then Prime Minister in 1948 is now a socialist.

10. It might be said that, strictly, we have only shown that *some* descriptions induce scope phenomena, and so that those descriptions at least are not name-like. We can, however, 'rigidify' descriptions. Thus consider 'The *present* Prime Minister': this description is temporally rigid, i.e. continues to pick out the same person even if we are talking about the past or future—the claim

The present Prime Minister was a socialist in 1968

= (Of the Prime Minister it is true that)(in 1968) *he is a socialist*

is quite unambiguously about Tony Blair—so the description has wide scope with respect to the tense operator. Likewise, 'The actual Prime Minister' is modally rigid, continues to refer to Blair across possible worlds; so that

The actual Prime Minister might have been a woman

= (Of the Prime Minister it is true)(it might have been the case that) *s/he is a woman*

is—on certain views—a false claim about Blair.

In some contexts, descriptions are naturally taken as rigidified (i.e. as marked as having wide scope); but there is no reason to suppose that 'The' is actually *semantically ambiguous* between the unmarked and marked uses, as the differences between the uses can be explained contextually. So, if we adopt again the methodological principle of not multiplying ambiguities beyond necessity, the preferable line is to take descriptions as, fundamentally, subject to scope phenomena, and hence not names.

11. Of course, there is no other option but to translate vernacular descriptions into pure classical Predicate using quantifiers, and thus represent the scope behaviour of descriptions analogously to the scope behaviour of quantifiers—but that may just reflect the impoverished nature of pure Predicate!

12. Reminder: 'Factorial [of] 6'—usually written '6!'—is 6 × 5 × 4 × 3 × 2 × 1.

$$(\forall x)(\forall y)(x + y = y + x),$$

in pure Predicate we would have to write

$$(\forall x)(\forall y)(\forall w)(\forall z)([Plus(x,y,w) \& (\forall w^*)(Plus(x,y,w^*) \supset w^*=w) \& Plus(y,x,z) \& (\forall z^*)(Plus(y,x,z^*) \supset z^*=z)] \supset w = z).$$

Transparent, isn't it! To express the associativity of addition, i.e. the principle that we usually write (with three universal quantifiers understood)

$$x + (y + z) = (x + y) + z$$

requires not three but eleven quantifiers, if we stick to the expressive resources of pure Predicate. And so it goes.

Pure Predicate, without function terms, is hugely unmanageable for mathematics (ironic, for the canonical language of *Principia Mathematica*!); a useful formal language might thus be expected to include function expressions that can directly express the *times, square, factorial*, functions, etc. But once we are dealing with a language which has predicate expressions and functional expressions then it is natural to add a device for making functions out of relations. So '(Ty)Rxy' expresses the function which takes x to the one and only y such that Rxy—so that

$$(Ty)Rxy = u \equiv (Rxu \& (\forall y)(Rxy \supset y = u))$$

We can thus read 'T' as *the*, and the whole '(Ty)Rxy' as *the y such that Rxy*. Now, (Ty) is like a quantifier, in that it is a variable binding operation; but it is unlike a quantifier (which e.g. forms a monadic *predicate* if it binds a place in a two place relation[13]), for (Ty) e.g. forms a monadic *function* if it binds a place in a two place relation.

Now, there is an obvious *formal* program to pursue here, to explore the result of adding functions to a form of Predicate, together with a function-forming 'The' operator on relations; the resulting structure will naturally contain terms without referents (when a function formed by the description operator is applied to the wrong things—to yield a term akin to 'the present King of France')—so we will need, in the most general sense, a so-called *free logic*, i.e. a logic freed of the requirement that all terms formed from function expressions denote. There are various such free logics on the market:[14] and the brand leaders typically allow us to prove a formal version of (Equiv), such as

$$F(Tx)Rax \equiv (\exists x)(Rax \& (\forall y)(Ray \supset y = x) \& Fx),$$

e.g. *the* thing which is R to a is F iff there is one and only one thing which is R to a, and it is F. But in such logics, (Equiv) is a *consequence* of the rules governing the use of the (Tx) description operator, and the *basic* description construction is not quantificational. And that line of formal development suggests in turn that there is perhaps no necessity to treat the description operator 'the' in English as essentially quantificational: i.e. the positive half of (Form*) may well be false. However, further exploration of this would require the development of a free logic with a description operator, and that lies beyond the scope of these introductory notes.

10. In briefest summary. I have argued that (Equiv) may well be true. But this is not enough to establish Russell's Theory of Descriptions, which also incorporates (Form). This second component of the Theory is unclear in content but presumably incorporates at least (Form*), which is in turn a double-barrelled claim. The negative thesis in (Form*), insisting on the deep *difference* between names and descriptions, may well also be correct; but the positive thesis that vernacular sentences involving descriptions are—so to speak—quantificational in their deep structure is very probably false (we can construct free description languages which treat 'the' as a function-forming operator; and ordinary language seems very much more akin to such a free description language than to the more spartan logical syntax of *Principia* or even languages which treat descriptions like binary quantifiers). So Russell's Theory of Descriptions is very probably, in that last but essential respect, wrong.

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13. Thus universally quantifying into the second place in the primitive dyadic predicate 'Rxy' yields '$(\forall y)$Rxy' which is now a monadic complex predicate.

14. The main differences among them are the truth-values they assign to sentences containing empty descriptions or function terms. In particular, if *t* is an empty term, what truth-value should we give to $t = t$? A number of logicians want to fix things up so that this comes out true (a very unRussellian result!). But I like the neat logic defended most notably by Timothy Smiley, where this identity and other sentences containing empty terms come out straight false.