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INCOMPLETE DESCRIPTIONS, INCOMPLETE QUANTIFIED EXPRESSIONS

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0. BACKGROUND

It was in 1905 that Bertrand Russell first formulated the claim that definite descriptions (like ‘the first dog in space’ and ‘the pug Liza owns’) are devices of quantification rather than devices of reference. By Russell’s lights, his theory of descriptions was to make a significant contribution to several areas of philosophy; natural language semantics—how definite descriptions work in languages like English or Japanese—did not seem to be one of them. It is therefore a curious outcome that over the past sixty years, this turned out to be the area in which some of the most fruitful and lively debates were spawned by Russell’s paradigm¹—a “paradigm of philosophy”, as it was called by F. P. Ramsey as well as G. E. Moore and A. J. Ayer. The present paper focuses on one chapter of the ongoing debate: the challenge presented by incomplete definite descriptions like ‘the table’ and ‘the pug’.

The debate over incomplete definite descriptions was progressively broadening in its scope and implications—it is worth distinguishing three stages. Initially, at issue was the meaning of a specific, rather narrow class of expressions, incomplete definite descriptions: are they devices of reference or of quantification? Subsequently, Russell’s followers strived to provide a general framework for treating incompleteness phenomena exhibited by *all* devices of quantification, incomplete definite descriptions included. But this turned out to require considerable semantic complexity, prompting a third round of considerations that were already emerging in the literature elsewhere: On what grounds can additional semantic structure be posited? What aspects of this structure appear at the pragmatic level only? To what extent can the semantic and pragmatic levels come apart? These are some of the biggest questions anyone can ask about semantics. I will devote a section to each of the three stages, bringing together and criticizing the arguments on each side as we go along. In the end, Russell’s theory of descriptions gets the upper hand; but perhaps more important are the insights about semantics and pragmatics which prove Russell right.

Enter Stage 1: Peter F. Strawson (1950) championed a reversal a Russell’s verdict, and argued that definite descriptions were devices of reference after all. One of his most memorable objections involved the sentence ‘The table is covered with books’. ‘The table’ and ‘the pug’ are *incomplete* definite descriptions because more than one entity satisfies them—tables abound and, to a lesser extent, so do pugs.

- (1) The table is covered with books.

¹ See Neale’s illuminating summary (2005, 826–64).

- (2) The pug is asleep.

Nonetheless, Strawson's objection goes, incomplete definite descriptions can feature in true utterances: when I say (1) grudgingly in the dining room as dinner time is approaching, or when Liza says (2) in response to an inquiry about the source of sonorous snoring sounds. Accommodating these true utterances is easy if, along with Strawson, we treat incomplete definite descriptions (for short, incomplete descriptions) as devices of reference: they refer to some salient entity (the table or pug in question). By contrast, Russell's theory (in its basic form at least) has no comparably simple solution; for according to it, utterances of (1) and (2) are equivalent to (3) and (4), respectively:

- (3) Exactly one table exists and it is covered with books.
(4) Exactly one pug exists and it is asleep.

Both of these are false on account of tables and pugs aplenty.

Why call a description like 'the pug' incomplete? Because incomplete descriptions are too impoverished, they do not contain enough linguistic material to single out a unique entity. We expect this defect alone to prevent them from featuring in utterances that are at once impeccable *and* true. Imagine holding up a copy of the paper "On Quantifier Domain Restriction", and saying 'The author of this is Hungarian'. Your utterance would fail to be true, or, at the very least, would be less than perfect because of the simple fact that the paper has *two* authors (only one of whom is Hungarian). Still, Strawson's objection goes, certain incomplete descriptions somehow manage to function just as well as complete descriptions (for example, 'the pug Liza owns'), giving rise to impeccable and true utterances.

Out of Strawson's criticism emerged a more general lesson: incomplete descriptions are easily understood as devices of reference, but difficult (if not impossible) to understand as Russellian devices of quantification.² It is important to keep in mind that what is at stake for a pure Russellian theory is maintaining a single, unified account—a quantificational one—to encompass all definite descriptions, including incomplete ones. This amounts to a universal claim to the effect that *all* definite descriptions are devices of quantification. The *Referentialist Challenge* need only make a lesser, existential claim: that *some* definite descriptions are devices of reference; incomplete descriptions are supposed to be the culprit.³

According to a recent tack at deflecting the Referentialist Challenge (inaugurating Stage 2), incomplete descriptions are a special case of a broader incompleteness

² A prominent revival of this point is due to Wettstein (1981). Previously, Donnellan (1966) had stressed that the so-called referential uses of incomplete descriptions cannot be handled by Russell's theory. From the early 1970's, Kripke motivated a distinction between speaker's reference and semantic reference, which would allow the Russellian to maintain that definite descriptions are always devices of quantification at the level of semantics, but nevertheless convey or communicate (at the level of speaker's reference) something about a specific entity (Kripke 1977). This Russellian defense has since come under fire (see Schiffer 1995, 2005); I will mention this criticism at the very end of the paper.

³ Strawson (1950) championed the stronger claim that definite descriptions should be treated as devices of reference across the board. Today, philosophers tend to agree that Russell's theory gives the right model for *some* definite descriptions.

phenomenon exhibited by quantified expressions of all sorts, like ‘some pug’, ‘every bowl’, ‘no beer’, ‘exactly two students’, and ‘most students’:

- (5) Every bowl is empty.
- (6) There is no beer.
- (7) Exactly two students come from Nebraska.
- (8) Most students are from Virginia.

What makes these sentences special is that we can issue true utterances of them despite the fact that the world contains nonempty bowls, copious amounts of beer, far more than two Nebraskan students, and more non-Virginian students than Virginian ones. ‘Every bowl’ is thus an incomplete quantified expression in that it can be used to talk about, and say something true about the dog bowls in a certain house, even though the expression in itself is too incomplete, too impoverished for that purpose. I will call the general incompleteness phenomenon exemplified in (5) through (8) *Q-incompleteness*.⁴ (To handle incomplete descriptions, the Russellian theory can appeal to whatever machinery is independently motivated by Q-incompleteness.)

The majority opinion has it that Q-incompleteness should be handled within *semantics* (as opposed to pragmatics): Liza *says* something true when she utters (2) while her pug Bumba is snoring away in the corner. Likewise, when Liza is asked to check if the dogs have enough water, she *says* something true as she utters (5) upon finding that every dog bowl around the house is empty.⁵ It is not that she manages to get something true across while saying something *false*. Proponents of the semantic approach to Q-incompleteness have become wrapped up in emphasizing their disagreements with one another. In the process, they have all but forgotten about several crucial results emerging from the debate. My aim is to supply these results in order to clarify the tasks ahead and the prospects of adopting some version of the semantic approach.

First, to set the ground for treating incomplete descriptions as a special case of Q-incompleteness, I will show why the Referentialist Challenge is completely unmotivated (Section 1). Our best bet is therefore to treat descriptions as devices of quantification, and incomplete descriptions, as a species of incomplete quantified expressions.⁶ I continue by

⁴ Sometimes this is called quantifier incompleteness (see Neale 1990). I avoid this name because it misleadingly suggests that the incompleteness has to do with the quantifier itself (say ‘every’) and not some other part(s) of the quantified expression ‘every bowl’ (say ‘bowl’). These very considerations prompted Neale (2000) to introduce the label quantifier *matrix* incompleteness (where the quantifier matrix is what follows the quantifier).

⁵ See Neale (1990, 2004), Stanley and Szabó (2000a), Recanati (2004), Pelletier (2004).

⁶ For the purposes of this paper, I assume that if definite descriptions are not devices of reference, then they must be Russellian devices of quantification. This masks over three otherwise important alternatives. First, some linguists and philosophers have proposed to treat descriptions (both with the definite article ‘the’ and the indefinite ‘a(n)’) as predicates (see Partee 1987, Graff 2001). In addition to sentences like (1) and (2), they also considered others with ‘the pug...’ and ‘a pug’ in predicative position, as in: ‘Bumba is the pug who lives here’ and ‘Bumba is a pug’. Second, in Heim’s influential File Change Semantics (1982), descriptions introduce unbound variables (that is what referring to discourse referents amounts to). Third, according to an alternative quantificational treatment, the truth of (2) requires only that *some* pug be asleep, not that *a single, unique* pug be asleep, as in (4) (see Ludlow and Segal 2003, Szabó 2000, 2005a, and Zvolenszky 1997). With respect to Q-incompleteness, there is no need to distinguish these proposals from Russell’s theory. Why? On the one hand, if descriptions are treated as predicates or unbound variables, the incompleteness phenomena,

systematizing benchmark criteria that hold for any version of the semantic approach to Q-incompleteness (Section 2). These are criteria that have thus far been dispersed over the literature, affording only fragmented views of what tasks semantic approaches are up against. Once we bring together a comprehensive task list for Q-incompleteness, we are confronted with the realization: quantified expressions have become high-maintenance. It turns out, however, that the one seemingly viable alternative to the semantic approach—the so-called pragmatic approach—is fraught with problems that are far graver than previously thought (this brings in Stage 3–Section 3). Given all the high maintenance, a semantic approach might not seem like a good option. But it is the only one we have left. Realizing this also affords some broader insights about how to draw the semantics-pragmatics boundary – and how not to draw it.

How does the centenary theory of descriptions look after all is said and done? Better than ever. Russell’s insight remains: definite descriptions are devices of quantification. Incomplete descriptions serve to reinforce this point, not jeopardize it. Not because handling incomplete descriptions as quantified expressions is easy. It is just as hard as handling incomplete quantified expressions—that takes implementing some version of the semantic approach, and that is not going to be easy. But once such a semantic approach is in place, our account of incomplete descriptions is complete.

1. DEFLECTING THE REFERENTIALIST CHALLENGE

The underlying consensus among philosophers is that some, even most definite descriptions clearly *are* quantified expressions; Russell’s example was: ‘the center of mass of the Solar System at the first instant of the twentieth century’.⁷ Incomplete descriptions therefore raise the question: should they receive special treatment, or should they be accommodated within a uniform theory that treats definite descriptions as devices of quantification? The Referentialist Challenge urges the former, defenders of Russell, the latter. Two considerations are central to weighing these options against one another. First, do the two options provide sufficiently broad solutions? In this respect, the referential alternative fares poorly because it is far too limited to provide a wholesale remedy. But the

along with associated challenges, solutions will be no different. On the other hand, with the third alternative, the non-Russellian quantificational treatment, incomplete definite descriptions become, if anything, tamer—as tame as ‘a pug’, which is quite unremarkable with respect to Q-incompleteness. See the exchange between Bach (1999; 2000, 274) and Stanley and Szabó (2000a 242; 2000b 296–7). Or maybe they are not so tame after all, argue Buchanan and Ostertag (2005, 896, n.15).

⁷ For modern defenses of Russell’s theory, see Davies (1981) and Neale (1990, 2004). Within linguistics, by contrast, treating definite descriptions as referential is considered a far more popular option, although it is unclear how the linguists’ claims should be lined up with the philosophers’. Certainly, linguists place a great deal of emphasis on the characteristics definite descriptions share with quintessential referring expressions like proper names, demonstratives, and pronouns. But this is not to say that accounts that capture those shared features are referential or non-quantificational (the second half of Section 1 shows this much). For example, it would be much too hasty to translate the claim that ‘the pug’ is a referential phrase (Beghelli and Stowell 1996 and Szabolcsi 1996) or a referential expression/R-expression (Chomsky 1988) into the claim that ‘the pug’ is a device of reference/referring expression in the philosopher’s sense. At the other end, we should also be wary of equating philosophers’ claim that a definite description is quantificational with the possibility of treating it within Generalized Quantifier Theory, because any expression, even proper names can be treated as generalized quantifiers (see Montague 1973). Moreover, we should be wary of equating Heim’s (1982) claim that descriptions refer to discourse referents with the claim that descriptions are referring expressions.

second consideration—intuitive appeal and similarity to complex demonstratives like ‘that pug’—is generally thought to favor the referential treatment. In what follows, I will elaborate the two considerations, showing that in both respects, the Russellian theory actually has the edge.

Let us first turn to generality. By treating incomplete descriptions as devices of reference, we straighten things out only for a limited range of incomplete descriptions, and thus fail to address the predicament in its entirety. Here is why. Incomplete descriptions come in at least two varieties: the referential and attributive uses (Donnellan 1966). A speaker may use ‘the table’ referentially, intending to state something about a specific table, for example, when I say (1) while standing over the dining table, my mind and stomach already dinnerbound. Alternatively, a speaker may use ‘the table’ attributively, with no particular table in mind. Consider a striking example. I am designing the layout of my new apartment and show you a sketch I drew up. You look at it and say:

(9) The table will get lots of light. (What a great spot to put it!)

You cannot possibly have a *specific* table in mind, because you have so little information to go on based on having merely glimpsed at the sketch. You know next to nothing about this table. Moreover, if I tell you that I have yet to select the exact size, shape, material, and the carpenter who would make the table, then you can conclude: the table (whatever its features will be eventually) has yet to come into existence! In this context, your utterance of (9) constitutes a clear case of attributive use. For referential uses, maintaining that ‘the table’ serves to refer to a specific object seems plausible; but an analogous move is preposterous in an attributive case like the one under consideration.⁸ Given that attributive and referential uses of incomplete descriptions can occur in true utterances equally well (compare (1) and (9) above) and behave similarly in general, positing a referring function for referentially used incomplete descriptions can be no more than partial, temporary alleviation of a deeper ailment. And the cure, once we have it, will render that same symptomatic relief entirely superfluous.

This powerful point has dissuaded some from taking the Referential Challenge on board (as I think it should). But others have thought that the Russellian alternative is counterintuitive from a second vantage point, so the Referential Challenge might still be an overall superior option. To make the case against the Referential Challenge as strong as possible, I will now examine this second consideration, turning it upside down into an argument *for* Russellian theories.

The Referential Challenge has gotten considerable mileage out of features that certain definite descriptions share with quintessential referring expressions like complex demonstratives.⁹ Imagine that instead of saying (2), Liza gestures towards the corner where Bumba, her pug is snoring, and says:

⁸ See Davies (1981) and Neale (1990).

⁹ Larson and Segal (1995, 334–5) also point out that certain descriptions resemble another group of quintessential referring expressions: proper names. They mention the fact that some languages (including German, Greek, Hungarian and Spanish) allow (and sometimes even require) a definite determiner in front of a proper name (‘The Liza left’ can or must be said in place of ‘Liza left’). They consider this to be evidence for a lexical ambiguity in the definite article, in the light of which it would be reasonable to posit a lexical ambiguity for definite descriptions: a referential meaning besides a quantificational one. First, I do not see why the ‘the Liza’ phenomenon requires us to posit a lexical ambiguity in ‘the’ (the subsequent discussion on

(10) That pug is asleep.

It seems exceedingly plausible that the utterances of (2) and (10) should receive like treatment (see Schiffer 1995, and also 2005). But complex demonstratives are supposed to be prime examples of referring expressions, along with simple demonstratives like ‘this’ and ‘that’ (accompanied by some sort of pointing), and proper names. So ‘the pug’, along with ‘that pug’, should be referential.

I agree that (2) and (10) should be treated alike. But I do not think this should prevent us from handling *both* within a quantificational framework with referential elements. Definite descriptions with referential components—‘the pug *over there*’, ‘the capital of *Hungary*’, ‘the pug that is *that pug* (pointing)’—are commonplace and need to be accounted for no matter what we do about incomplete descriptions. My view concurs with Neale’s (1990, 95–102; 2004): analyze ‘the pug’ and ‘that pug’ as quantified expressions with referential elements. This could well provide an excellent explanation for why definite descriptions and complex demonstratives are hybrids in that they exhibit behavior typical of referring expressions as well as behavior typical of quantified expressions. Certain referential (specifically, demonstrative) elements would account for the former, the quantifier, for the latter.

How might we handle Q-incompleteness phenomena as well as complex demonstratives within a single framework? A bit of notation and semantics for quantified expressions (adapted from Neale 1990) will help illustrate what I have in mind. With a restricted quantifier for ‘every’, let us represent (5) as:

(5') [every x : bowl(x)] empty(x)

(All occurrences of the variable are bound within the restricted quantifier itself (in brackets) as well as in the subsequent clause.) We can introduce further restricted quantifiers to capture (7) and (8):

complex demonstratives suggests otherwise). Second, the strength of the data definitely does not outweigh the extreme arbitrariness of positing a cross-linguistically universal homonymy (strikingly different from the case of the English noun ‘bank’, whose two meanings are not carried by homonyms in other languages).

The following three features of Hungarian I find similarly inconclusive:

- Taking the etymological relationship between the English ‘the’ and the demonstrative ‘that’ one step further, in Hungarian the demonstrative ‘that’ (‘az’) and one form of ‘the’ (‘az’; the other is ‘a’) are homonymous. (The distinction between the two forms of ‘the’ is analogous to that between the English indefinite article ‘an’ and ‘a’.)
- *Az a mopsz*
 That_{DEM} the pug ...
 ‘That pug’ (said while pointing to something)
- *Az a mopsz, amelyikről tegnap olvastunk, valójában nem létezik.*
 That_{DEM} the pug which we read about yesterday does not actually exist.
 ‘The pug we read about yesterday does not actually exist’ (pointing is pointless)

These examples do, however, provide further motivation for assimilating (at least some) definite descriptions to complex demonstratives. Moreover, the last example provides reason against treating complex demonstratives as devices of reference across the board, and reason for adopting something like King’s (1999, 2001) quantificational approach to complex demonstratives.

- (7') [(exactly) 2 x : student(x)] from (Nebraska, x)
 (8') [most x : student(x)] from (Virginia, x)

(To keep the formalism more English-looking, predicates and quantifiers and singular variables are uncapitalized, and singular terms are capitalized.) Each restricted quantifier, including the definite article, can be defined set-theoretically, along the lines of the following sample definitions from Generalized Quantifier Theory (Barwise and Cooper (1981):

(11) ¹⁰	‘[every x : F(x)] G(x)’	is true iff	$ \mathbf{F} - \mathbf{G} = 0$
	‘[an x : F(x)] G(x)’	is true iff	$ \mathbf{F} \cap \mathbf{G} \geq 1$
	‘[(exactly) 2 x : F(x)] G(x)’	is true iff	$ \mathbf{F} \cap \mathbf{G} = 2$
	‘[most x : F(x)] G(x)’	is true iff	$ \mathbf{F} \cap \mathbf{G} > \mathbf{F} - \mathbf{G} $ ¹¹
	‘[the x : F(x)] G(x)’	is true iff	$ \mathbf{F} = 1$ and $ \mathbf{F} \cap \mathbf{G} = 1$
	or equivalently,		$ \mathbf{F} = 1$ and $ \mathbf{F} - \mathbf{G} = 0$

Notice, however, that these definitions make (5'), (7') and (8') false on account of the plurality of pugs, the fact that there are far more than two Nebraskan students, and that Virginian students constitute a minority in the world's student population. Handling Q-incompleteness takes a bit more work: we need to leave room for some sort of contextual supplementation. For now, I will use a blank predicate template for this ingredient:

- (5'') [every x : bowl(x) & __(x)] empty(x)
 (7'') [exactly 2 x : student(x) & __(x)] from (Nebraska, x)
 (8'') [most x : student(x) & __(x)] from (Virginia, x)

How do we formalize utterances with definite descriptions? For complete descriptions, the following seems straightforward:

- (12) The pug Liza owns is asleep
 (12') [the x : pug (x) & own (Liza, x)] asleep (x)

We can then apply the set-theoretic definition for 'the' in (11). But for incomplete descriptions within true utterances (like (2)), again, we need to make room for some contextually supplied supplementation that allows Liza to say something true about her pug Bumba by uttering (2).

- (2) [the x : pug(x) & __(x)] asleep(x)

To make her utterance more explicit, Liza could have supplemented (2) with added linguistic material: 'the pug *there*', 'the pug *I own*'. These correspond to various ways of filling in the blank (marked in bold):¹²

¹⁰ \mathbf{F} is the set of things that are F; $\mathbf{F} \cap \mathbf{G}$ is the set of things that are both F and G; $\mathbf{F} - \mathbf{G}$ is the set of things that are F and not-G; $| \mathbf{F} |$ is the cardinality of \mathbf{F} (Neale 1990, 41–43).

¹¹ 'Most Fs are Gs' is true iff the Fs that are G outnumber the Fs that are not G.

- (2'') [the x : pug(x) & **located** (x , **There**)] asleep (x)
 (2''') [the x : pug(x) & **own** (**Liza**, x)] asleep (x)

Within the context of utterance, the demonstrative ‘There’ and the indexical ‘I’ refer to the indicated location and the speaker, respectively.¹³ An utterance like (10) featuring a complex demonstrative can be captured as either of the following (Neale 2004, 174–5):

- (10') [the x : pug(x) & **identical** (x , **That**)] asleep (x)
 (10'') [an x : pug(x) & **identical** (x , **That**)] asleep (x)

(‘identical’ is the two-place identity predicate.) Notice how close (2'') and (10') are. Further, the truth conditions for ‘the’ differ from those for ‘an’ only in that ‘the’ requires the restriction to fit a unique entity, whereas ‘an’ does not. Because an adequate singular demonstration already secures uniqueness, (10') and (10'') are equivalent; let us stick with the former to keep up the parallel between (2) and (10).

With the restricted quantifier notation at hand, let us take stock of some of the ways in which incomplete descriptions and complex demonstratives mimic referential expressions, including simple demonstratives (like ‘this’ and ‘that’) as well as proper names. There are two crucial features to consider:

- absence of variation: *referring expressions do not exhibit variation with respect to a higher quantifier*.¹⁴ For example, the pug cannot vary with the retrievers when I make a true utterance upon spotting the beat-up looking Bumba:

Every retriever chased the pug.
 Every retriever chased that pug.

By contrast, the truth of ‘Every retriever chased some pug’ allows that the pugs vary with the retrievers. This indicates that ‘some pug’ is not a referring expression.

¹² For a more elaborate way of handling Q-incompleteness within Generalized Quantifier Theory, see Stanley (2002). The simpler version here will do for our purposes.

¹³ In the same context, we can gesture towards several locations, objects (‘Put the book there, and not there’; ‘Give me that book, not that book’). To accommodate this, we need to subscript demonstratives across the board (Kaplan 1989). For simplicity, I have omitted the subscripts.

¹⁴ Beghelli, Ben-Shalom and Szabolcsi (1996, 30–2) employ this test to a related but distinct end about scope relations, noting that the test is not entirely general because certain scope-taking elements are incapable of *inducing* variation (‘the pug’, ‘a pug’), whereas others are incapable of *exhibiting* variation within the scope of a higher quantifier—besides ‘the pug’, there is also ‘both pugs’ and, crucially, quintessential quantified expressions like ‘every pug’ and ‘no pug’. In the light of these, it is clear that absence of variation *alone* cannot establish that an expression (a definite description, say) is a referring expression! The notion of variation will be important in Section 3.

My arguments about variation rely only on the uncontroversial, linear ordering of scope-taking expressions, with linear order establishing the hierarchy of scopes. Such readings are clearly available, no matter what other scope orderings might also be available.

- absence of non-rigid readings: referring expressions designate rigidly—they pick out the same individual in every counterfactual situation in which they pick out anything at all (Kripke 1980). One consequence of this is that *utterances involving referring expressions lack non-rigid readings*. Complete definite descriptions are the prime examples of *non-rigid* designators. This is shown by the availability of the non-rigid, natural-sounding reading of the following:

The first dog in space might have been a pug.

According to the non-rigid reading, it could have so happened that a pug was selected to be the first astronaut dog ever (instead of Laika, who was of a different breed). In the counterfactual circumstance envisioned, the dog in virtue of which the statement is true need not be Laika, but whatever happens to be the first space-bound dog in that circumstance. In other words, the truth conditions of the actual statement need not involve Laika, but whatever fits the description ‘the first dog in space’.

By contrast, *a non-rigid reading is virtually unavailable for complex demonstratives and referential uses of incomplete descriptions*. Consider the already familiar situation with Liza uttering the following as her pug is snoring in the corner:

The pug might have been a statue. or
That pug might have been a statue.

Suppose that these are uttered by someone with no doubt in her mind that she is looking at a live, snorting pug (we need this assumption to exclude interference from an epistemic reading of ‘might’, with the utterance implicitly prefixed with ‘for all I know, ...’.) Non-rigid readings of these, if available, would say something quite ordinary, namely, that in a counterfactual scenario, whatever the contextually salient/demonstrated object is in the given circumstance, is a pug statue (usurping the flesh-and-blood pug’s corner).¹⁵ But that reading is not there for either utterance; the only way to interpret both utterances is as fantastic statements about flesh-and-blood pugs potentially turning into statues, or—even stranger—as possibly having been statues all along.

With one crucial amendment suggested by Neale (2004, 171–173), the restricted-quantifier approach I have outlined is set to explain the absence of variation and of non-rigid readings for incomplete descriptions and complex demonstratives alike. Recall that for the complex demonstrative ‘that pug’, the previously outlined analysis was:

- (10) That pug is asleep.
(10') [the x : pug(x) & **identical** (x , **That**)] asleep (x)

¹⁵ See Kaplan (1989, especially 514–29) for an explanation of why complex demonstratives lack a non-rigid reading of this sort.

Here, the contextual supplementation involves the singular term ‘That’ for the pug, and this effectively blocks the possibility of variation, and of non-rigid readings. But the situation is different with the supplementations we have so far considered for incomplete descriptions:

- (2) The pug is asleep.
- (2'') [the x : pug(x) & **located** (x , **There**)] asleep (x)
- (2''') [the x : pug(x) & **own** (**Liza**, x)] asleep (x)

Consider (2'''). ‘The pug Liza owns’ *can exhibit variation*. For example, Liza might purchase a new pug every twenty years, in which case the pugs would vary with time for “Every year, Liza celebrates the pug’s birthday.” Further, ‘the pug Liza owns’ *can have a non-rigid reading*: about some other pug Liza might have purchased instead of Bumba, had things gone differently. The same considerations hold for (2'') as well. This means that (i) we had better supply contextual supplementations that block variation and non-rigid readings) provided that (ii) we think *sometimes* incomplete descriptions indeed mimic referring expressions in these two respects. (i) is easy—all we need is an analysis that parallels that in (10''):

- (2''''') [the x : pug(x) & **identical** (x , **That**)] asleep (x)

Here, the very inclusion of a referring expression for the pug in question serves as a variation-repellent, rigidifying element. The usual response to (ii) is to point exactly to (2)-type scenarios: Liza and her audience are standing over Bumba as she utters “The pug is asleep”. What is distinctive about this sort of case? First off, we have a *referentially used* incomplete description; but there is more, according to Stephen Schiffer:¹⁶ not only was it Liza’s intention to say about a specific pug (in full view) that it is asleep, but she had no intention to say anything *further* about this pug: that it is a pug, that it is located in such-and-such position, that it is owned by her. We discern this in part from the fact that she would have indistinguishable communicative intentions, had she instead opted for a complex demonstrative and uttered (10): “*That* pug is asleep”; and in that case it seems exceedingly plausible that *all* she intended to say was that the creature gestured at, Bumba, is asleep.

All this may well raise some eyebrows: with variation-repellent, rigidifying elements incorporated into quantified expressions, what is the point of insisting that we still need *quantified* expressions? If this is all it takes to have a quantificational account, then the claim that had seemed so bold—‘definite descriptions are devices of quantification’—becomes very flimsy, requiring no more than a bit of notational magic (see footnote 7 above).

My response to this is threefold.

First, if we want a sufficiently general solution, we still need a unified theory for incomplete descriptions across the board, including attributive uses (‘The table will get lots of light’). And a unified treatment for definite descriptions would also be nice, especially if

¹⁶ Stephen Schiffer made this argument (1995, 376–85), choosing an even more pointed example: identical communicative intentions when uttering the simple demonstrative ‘he’ to point to a specific man, versus uttering the incomplete description ‘the guy’. See also Schiffer’s subsequent (2005, 1155–7) elaboration of the argument, to which we will return in Section 3.

it could accommodate the striking similarity between incomplete descriptions and complex demonstratives. If the price of uniformity is that some limit cases come out odd or degenerate because of (rigidifying) elements not featured elsewhere, then that is a price worth paying.

Second, upon closer inspection, we find that incomplete descriptions and complex demonstratives exhibit some features characteristic of quantified expressions. These phenomena are straightforwardly accounted for in the restricted-quantifier framework described here, but are difficult for an alternative referential treatment. There is an opposite side to the variation story discussed earlier:

- possibility of variation: under one clearly identifiable condition, both incomplete descriptions and complex demonstratives can exhibit variation (referential dependence) with respect to a higher quantifier. Consider the following:

(14) Most avid skiers remember that first black diamond run they attempted to ski. (King 2001)¹⁷

(15) Every man is married to the woman on his left. (Lepore 2004, adapted from Heim)

Clearly, the attempted black diamond runs can vary with the skiers, just as the wives can vary with the men.

(15) can be uttered when ten couples are lined up, so the rightmost man actually has ten women standing to his left, including his wife standing right next to him. This is why ‘the woman to his left’ is an incomplete description akin to ‘the pug’. Accordingly, I have left room for the additional predicate below, to be filled by a predicate that would provide a restriction only to the adjacent woman:

(15') [every y : man (y)]([the x : woman(x) & stands-to-left-of (x,y) & __(x) married-to (y,x)])

Jeff King (1999, 2001) offers a unified account of ‘that’ phrases to cover examples with and without demonstrations (including 10 and 14). For (14), we *cannot* construe the contextual supplementation as ‘identical(, That)’, we should instead go with something like the following:

(14') [most y : avid_skier y]([the x : f-b-d-r-a-b (x,y)] remember (y,x))
 (‘f-b-d-r-a-b’ abbreviates ‘first black diamond run attempted by’)

These cases of variation will remain central in later discussion. Notice that what makes the variation possible is that the restriction for the complex demonstrative ‘that first black diamond run *they* attempted’ and the incomplete description ‘the woman to *his* left’ includes the variable y which is bound from

¹⁷ Neale (1993, 107) disagrees with King about this sort of data, finding that “unlike quantification into definite descriptions (and other quantified NPs), quantification into complex demonstratives seems to be highly unnatural, if not downright ungrammatical.” But there are considerations that favor King’s treatment, see, for example, footnote 9.

higher up—cases of quantifying in, according to King. So in the case of incomplete descriptions (and complex demonstratives), on occasion *variation can be induced after all, as long as the restriction includes a variable bound from above.*

Proponents of the Referentialist Challenge—like Schiffer—can make a comeback: There is a key difference between (14) and (10), in which the complex demonstrative was used to demonstrate something specific: Bumba; likewise, there is a key difference between (15) and (2), in which the incomplete description is used referentially, to single out Bumba. The difference consists precisely in the fact that for (2) and (10), a contextual supplementation along the lines of ‘identical(., That)’ works and nothing else does, whereas for (14) and (15) such a supplementation does not work, while others (like those outlined in (14’) and (15’)) do. Nobody would claim that we are dealing with referring expressions in (14) and (15). So how we handle them has no bearing on how we treat (2) and (10), which contain what seem like referring expressions: ‘the pug’, ‘that pug’. The Referentialist Challenge is precisely about giving up on the idea of having a unified treatment for all four cases. Instead, we must admit that (2) and (10) do not admit of a Russellian treatment.

The Russellian can respond that these cases of variation provide yet another *indirect* argument for a unified Russellian theory: the restricted-quantifier treatment is good at handling not just attributive uses of incomplete descriptions, but also incomplete descriptions and incomplete ‘that’ phrases that exhibit variation.¹⁸ Not only is the Russellian theory good in that department, it is indispensable—it is hard to see how *else* variation might be accounted for. Once we have a theory with such general application that additionally can, with the help of supplementations like ‘identical(., That)’ adequately cover even the un-quantified-looking specimen of the form ‘that/the ...’, then why resist including them in the theory?

A third consideration weighs far more decisively in favor of Russellian unification: we have some mixed cases of complex demonstratives as well as incomplete descriptions, that are somewhat like referring expressions, but not quite. These can be adequately treated as restricted quantifiers, but cannot be treated as referring expressions. And once we lump them within the restricted-quantifier group, it becomes entirely artificial to not do the same for the straight-out referring expressions. To make this point, we return to the other side of the story about non-rigid readings:

- possibility of non-rigid readings:

That chair could have been leather.

The chair could have been leather.

Imagine my utterance of either of the above as I gesture towards a plastic chair while surveying the layout of an apartment. My utterance *can* express the following: ‘A leather chair could be put in place of the one actually standing there’. This suggests a non-rigid reading—invoking a counterfactual circumstance involving a leather chair distinct from the actual plastic one standing in the

¹⁸Neale (2004, 178–82) calls these expressions that are *bound into*.

specified location. Most likely, I am not after expressing the rigid reading, which involves the ambitious enterprise of transforming the plastic chair into a leather one.

Crucially, ‘the chair’ is not a typical case of an incomplete description attributively used: it is in part about the specific location being demonstrated. The contrast we have is precisely the one we witnessed between (2''), and (2'''):

- (2'') [the x : pug(x) & **located** (x , **There**)] asleep (x)
(2''') [the x : pug(x) & **identical** (x , **That**)] asleep (x)

In the case of (2), there were reasons to opt for the supplementation ‘identical ($_$, **That**)’ . In the chair-example, that would not work, but the alternative supplementation—‘located ($_$, **There**)’—would. Parallel considerations hold for ‘that chair’ as well. This bolsters the Russellian’s case in two ways. First, there is a marked artificiality to providing distinct treatment for incomplete descriptions that have non-rigid readings and those that do not. Second, the analogy with complex demonstratives is put into a new light: it turns out they, too are not *always* exactly like referring expressions after all. So despite what had been previously thought, the analogy actually cuts both ways: complex demonstratives at times behave like quantified expressions. For incomplete descriptions as well as complex demonstratives, we find some mixed cases that allow non-rigid readings. These cannot be treated as referring expressions, but lumping them with quantified expressions *and* still maintaining a separate referential account for the rest is entirely ad hoc.

At this point, the Referential Challenge is forced into surrender. The following is all it can retain: there are subclasses of complex demonstratives and incomplete descriptions whose members are not like quantified expressions, not even a little bit, and they should get their separate referential treatment. This is desperate, however. Nothing is lost by saying instead that these special subclasses are exactly that—special subclasses that represent extreme limit cases of a wider range of expressions (Neale 2004, 172–3).¹⁹ And thereby a lot is gained: the possibility of capturing generalizations and commonalities. This is not to announce an all-out demolition of the Referential Challenge, however. The Referential Challenge was onto important features of certain definite descriptions, but it was wrong in thinking that those features cannot and should not be couched within a quantificational framework.

¹⁹ Schiffer (2005, 1166, 1173–8) disagrees: he thinks that the unified Russellian account faces a *special* problem of indeterminacy ((c) of the upcoming Section 2) when it comes to certain referentially used descriptions, and is in addition saddled by further problems. At a conference on descriptions, held in Prague in 2005, an interesting exchange ensued about this between Schiffer and Neale—who thought one of the problems presented an irresolvable clash of intuitions, resulting in a stand-off, while the Russellian had an answer ready for the other criticisms of Schiffer’s. I am not going to explore this as I do not think these criticisms present nearly enough evidence to offset the extreme arbitrariness of providing a separate, referential treatment for a special, narrow class of referentially used definite descriptions.

2. BENCHMARK CRITERIA FOR THE SEMANTIC APPROACH TO Q-INCOMPLETENESS

The road has now been cleared for treating incomplete descriptions as instances of Q-incompleteness, a more general incompleteness phenomenon involving quantified expressions of all sorts. Below is an assortment of examples:

- (2) The pug is asleep.
- (5) Every bowl is empty.
- (7) Exactly two students come from Nebraska.
- (16) Both dogs are asleep.

There is widespread agreement that Q-incompleteness calls for a semantic approach (as opposed to a pragmatic one): Liza *says/expresses* something true when she utters (2) while her pug Bumba is snoring away in the corner. Likewise, when Liza is asked to check if the dogs have enough water, she *says/expresses* something true when she utters (6) upon finding that every dog bowl around the house is empty.²⁰ This section brings together five requirements that any version of the semantic approach must meet:

- (a) Contextual supplementations may change from one quantified expression to the next. (Westerståhl 1985 and Soames 1986)
- (b) The supplementation is in terms of properties rather than sets. (Stanley and Szabó 2000a)
- (c) Explaining how we manage to say something determinate if there are several competing, non-equivalent supplementations. (Wettstein 1981)
- (d) Not every property of an individual is relevant in a given context. (Reimer 1998)
- (e) At the level of semantic interpretation, we must allow bindable variables whose values are supplied by context. (Stanley and Szabó 2000a)

These five criteria are crucial because together they yield a complicated web of non-negotiable requirements for semantic approaches. This task list steers clear of two distracting controversies that have divided proponents of the semantic approach. First, the list renders inconsequential the choice between so-called explicit and implicit approaches to incompleteness. Second, the list (particularly (e)) allows us to sidestep a recent round of debates over whether argument places for the supplementations should be posited within logical form. I will enumerate (a) through (e) and then say something about the two controversies.

(a) “*Contextual supplementation works at the level of constituents of sentences or utterances, rather than the level of the sentences or utterances themselves.*” (Soames 1986, 286)

Consider an example adapted from Lewis (1979):

- (17) The dog chased the other dog.

In terms of the restricted quantifier notation already familiar from Section 1, this can be represented as follows:

²⁰ See Neale (1990, 2004), Stanley and Szabó (2000a), Recanati (2004), Pelletier (2004).

(17') [the x : dog (x) & __(x)]([the y : dog (y) & ~ identical (y,x) & __(y)] chased (x,y)

Let us further assume the (Russellian) truth conditions for the definite article, given in set-theoretic terms in (11). Liza can make a true utterance with (17) to describe the (unlikely) scenario in which her pug Bumba chased the other household canine, a retriever. The only way to capture this true reading is if the supplementations filling the two blanks for the two incomplete descriptions ‘the dog’, and ‘the other dog’ are distinct. Otherwise, we would have conflicting requirements, no matter what uniform supplementation we select: ‘the dog’ would call for just one dog, whereas ‘the other dog’ for two. Liza’s supplemented utterance might be like (17''), formalized in (17'''):

(17'') The dog *that is mine* chased the other dog *in this household*,

(17''') [the x : dog (x) & **belongs_to** (x, I)]([the y : dog (y) & ~ identical (y,x) & **here** (y)] chased (x,y))

What if Liza instead saw two indiscernible bobtails, one chasing the other? In that case, no descriptive material is available to her to tell apart the two dogs.²¹ Still the following line of response is straightforward: the only way Liza could produce a true utterance with (17) in that scenario is if she were in a position to point to which dog she meant by ‘the dog’.²² An appropriate demonstrative intention is required of her. That, in turn could help tell the dogs apart, providing a plausible alternative treatment (below) in accordance with the limit case involving the ‘identical (__, That)’ restriction:

(17''''') The dog *identical to that* chased the other dog __.

(17''''') [the x : dog (x) & **identical** (x, \mathbf{That})]([the y : dog (y) & ~ identical (y,x) & __ (y)] chased (x,y))

Contextual supplementations may also vary within a single utterance in the case of other quantifiers like ‘every’, as in:

(18) Every sailor waived to every sailor.

²¹ Szabó (2005a) takes this to be a decisive point against semantic approaches to incompleteness.

²² In the scenario described, there is still an element of asymmetry between the bobtails: one is the chaser, the other, the chasee. But what if both chased the other, making the situation entirely symmetric? Here is an interesting response: the very fact of symmetry forces us to treat (17) either as ‘the one dog chased the other’ or as ‘the dogs chased the other / one another’. Both would involve removing the maximality constraint from the definition of ‘the’: that there is *at most one* dog. This would amount to treating ‘the dog’ in (17) as ‘the dog(s)’ or ‘whoever is a dog’—a *numberless* description ‘*wh*’ we might define as follows: (along the lines of Neale 1990, 222–40):

$$\text{‘[whe } x: F(x)] G(x)\text{’ is true iff } |F - G| = 0 \text{ and } |F| \geq 1$$

Elbourne (2005) offers a solution in terms of situation semantics: he thinks asymmetry *is* a condition on the grammaticality of (17) and shows a way to construe it as asymmetrical. Szabó (2000) and others suggest another way of lifting the maximality constraint, see footnote 6.

For further discussion, see Stanley and Williamson (1995) as well as Soames (1986) and Westerståhl (1985).

(b) *Supplementation in terms of properties rather than sets.* (Stanley and Szabó 2000a)

From what we have seen so far, it would appear as though the supplementation provides a restriction to a certain array of objects/creatures under consideration. For example, in the case of (5), we might want to home in on the dog bowls around the house by intersecting the set of bowls with the set of dog supply items around the house. The idea is that the former element is audible in Liza's utterance, and the latter is supplied by context.

Stanley and Szabó (2000a, 252) pointed out that supplementation is more appropriately done in terms of *properties* rather than *sets*. This way, we can avoid rigidifying incomplete descriptions and incomplete quantified expressions—fixing the entity (or entities) which they fit across possible circumstances. This is important because rigidifying would prevent us from capturing the intuitive truth conditions of modal utterances such as (19):

(19) If Liza owned another pug, then there would be seven inhabitants.

I may truly say (19), with context allowing me to zoom in on the individuals in Liza's household. Let us assume that only six individuals are actually living there: four humans, two dogs. But if the supplementation for the quantified expression 'seven inhabitants' were in terms of the set of individuals *in the context of utterance*, then (19) could not be true. Here is why. There are just six individuals within the utterance context: the four humans and the two dogs. So the supplementation cannot furnish a seventh individual. But intuitively, (19) is true if in an appropriate counterfactual circumstance Liza gets an additional pug and there are no other changes in household residents. To capture this, we must have context supply a condition on the set of individuals to be considered, namely, that those individuals must possess the property of being in Liza's household, *within the counterfactual circumstance, rather than the actual one*. This way, since (19) is about a non-actual possible circumstance in which there are seven inhabitants, the property supplied by the context of utterance—being in Liza's household—applies to individuals in that household in that possible circumstance: four humans and three dogs.²³

(c) *If there are several competing, non-equivalent supplementations among which we cannot decide, then how can Liza have said something determinate (expressed a determinate proposition)?* (Wettstein 1981)

Let us return to Liza's utterance of (2), as she is gesturing towards the snoring Bumba: 'The pug is asleep'. Recall that we considered two supplementation possibilities: 'The pug I own is asleep', and 'The pug over there is asleep'. These are non-equivalent, nonetheless, we can easily imagine that we would have no ground for choosing between these two, and

²³ It was on purpose that I constructed (19) so that the set of individuals within the counterfactual domain is greater than the actual set (with six individuals only). This allowed me entirely to avoid metaphysical claims about identifying things across possible worlds, in order to make the point that supplementation in terms of sets gets truth conditions wrong. Thanks to Zoltán Szabó for pointing this out.

perhaps a host of other supplementation options to get at what Liza has expressed. But Wettstein argues that intuitively, in saying (2), Liza has expressed something determinate.²⁴

This indeterminacy problem calls for a solution, to be sure. But the problem it presents is so general that we cannot reasonably expect Russell's theory—Wettstein's intended target—specifically to solve it.²⁵ Neale (1990) pointed out that the need for completions arises for quantifier expressions quite generally (see also Salmon 1991, 89):

Suppose I had a dinner party last night. In response to a question as to how it went, I say to you ... 'Everyone was sick.' Clearly I do not mean to be asserting that everyone in existence was sick, just that *everyone at the dinner party* I had last night was. In some fashion or other, this is discernible from the context of utterance. (emphasis in original) (Neale 1990 94-5; also, see references in note 44 on 114)

Indeed, Stanley and Szabó (2000a) developed a detailed proposal for how context might contribute to the utterance of 'Everyone was sick', in order to make it true. But that proposal, and probably all others, are susceptible to the indeterminacy problem.^{26, 27}

²⁴ For discussion, see Ostertag (1999), especially 126–8. Blackburn (1988) does not seem to share the intuition that (2) expresses something determinate, instead proposing a theory according to which (2) expresses "some more or less vague *class* of propositions" (p. 271).

²⁵ To argue that the indeterminacy problem raises special difficulties for definite descriptions that do not arise for quantifier expressions, one might point out the following. It is often reasonable to think that the speaker herself lacks a clear idea about which exact *group* of people she has in mind when she says 'Everyone arrived'. In such scenarios, it would seem quite natural to claim that the speaker has not said anything determinate. By contrast, indeterminacy of this sort never affects speakers who utter incomplete descriptions; they always seem to have something or someone specific in mind when they say 'the ...'.

I find the source of such indeterminacy to be distinct and separable from the sort of indeterminacy brought about by the problem at hand. For there exist uses of quantified expressions where there is no question as to which individuals should count; for example, Liza's utterance of 'Every bowl is empty' could be such. It would seem as if on that occasion, something determinate was expressed. But the indeterminacy worry would still arise, since we cannot choose between 'bowls for the dogs' and 'bowls around the house'. Thanks to Stephen Schiffer for discussion on this.

²⁶ See Stanley and Williamson (1995). Ostertag and Buchanan (2005) suggest that on a different conception of communication, the indeterminacy problem ceases to be a problem. Their account no longer operates with the usual notion of what is said—I will return to it briefly at the very end of the paper.

²⁷ We may appeal to two strategies in order to handle the indeterminacy problem as a general problem. I will describe both, though I will not defend them. Thanks to Stephen Schiffer and Zoltán Szabó for suggesting these strategies. According to one strategy, we might adopt a supervaluationist account of the truth conditions of an utterance like (5)—'Every bowl is empty'. (5) would be true just in case it is true with all eligible supplementations for 'every bowl' (see Schiffer 1995). One problem with this solution is that it is a bit too powerful for its own good: it can deliver a determinate truth value even when we do not have the *intuition* that the speaker has said something determinate.

According to another strategy—based on Loar (1976)—we can narrow the range of eligible supplementations for (3) as follows. Ask Liza, the speaker, whether she would maintain her utterance even in a counterfactual circumstance in which one of the eligible supplementations was false—say, some of the dog bowls around the house were not for the two resident dogs, but reserved for canine guests. If she maintains (3), then the supplementation she is intending is not in terms of what belongs to the two resident dogs, Bumba and the retriever. If she retracts (3), then the supplementation she is intending is in terms of what belong to Bumba and the retriever. This strategy helps reduce the number of eligible supplementations but probably does not always guarantee a unique supplementation. The notion of a common ground (in Stalnaker's (1978) sense) could help narrow things further. For example, if it is part of the common ground for a conversation that one owns a dog just in case it lives in one's household, then we need not distinguish between the two alternative supplementations. The interesting substantive hypothesis is that when after questioning the speaker about counterfactuals we are still left with several eligible supplementations, then the common ground assumes that those supplementations can be equated.

Moreover, criteria (a) and (b) above serve to aggravate the problem: our range of non-equivalent options extends further if we allow the supplementations to vary within a single utterance, and yet further if we allow coextensive but non-equivalent *properties*. Bumba might be the only animal present when Liza utters:

(20) The animal is asleep.

In this context, for a single supplementation possibility in terms of sets—the singleton set consisting of Bumba—we have several non-equivalent properties with that set as their extension: being in the given room, being a pug, being a dog, to mention but a few. Shifting from sets to properties therefore introduces a further dimension of indeterminacy.

(d) *Not every property of an individual is relevant in a context.* (Reimer 1998, 103)

In keeping with Donnellan's (1966) well-worn example, imagine two detectives, a man and a woman arriving at the scene of Smith's murder; Jones, the murderer is already gone. Looking around, the detectives comment on the scene, trying to figure out what has happened. The woman says:

(21) The murderer was in a hurry.

Now suppose that unbeknownst to her partner, the speaker had committed murder in the past. Still, her utterance of (21) purports to say something about Smith's murderer, not herself. And it would not change things even if the partner knew about the ex-murderer's past. It is easy to imagine this context as one in which the detective's having been a murderer is simply irrelevant.

Recanati (2004) has a response. He proposes a refined version of situation semantics—according to him, the supplementation of incomplete quantified expressions and incomplete descriptions makes reference to some situation. In the above scenario, we should distinguish two situations, the context of utterance, call it *s*, and an earlier *s'*, when the murder took place. An utterance of (21) instructs us to move back in time to *s'*, so the supplemented description is 'the murderer in *s'*', which fits Smith's murderer, but not the ex-murderer detective, who arrives on the scene much later. This way, (21), when uttered in situation *s*, amounts to this:

(21') The murderer in *s'* was in a hurry.

But things get trickier. Consider the following comment from the male detective, as he gestures towards his partner:

(22) The murderer is probably as tall as you. (Williamson)²⁸

In this case, the situation has to include both the ex-murderer detective and Smith's murderer, and with that situation supplied, we still fail to obtain a unique murderer. Still, the utterance of (22) is unquestionably about Smith's murder, and is true just in case that person has the appropriate height.

²⁸ Thanks to Tim Williamson for discussion and for suggesting some excellent examples, including this one.

Recanati (2004, 35–6) acknowledges similar examples in which getting the right reading requires that the situation shift from one sentence to the next. But he does not consider cases like (22), where the shift is called for mid-sentence. One way for him to handle utterances like (22) is by distinguishing between contextually relevant and irrelevant properties of individuals, along Reimer’s lines. Stanley and Szabó (2000a) propose another solution (described in (e) below) with variable pairs rather than just simple argument places for situation variables. For (22), this would amount to introducing an *additional* contextual variable for situations, so we get ‘murderer in s’, *despite the fact that a different situation is at issue*: one that includes Smith’s murderer *and* the female detective (who does not satisfy ‘murderer in s’). Recanati finds Stanley and Szabó’s proposal unnecessarily complicated. It is instructive to note that he can only avoid that complication at the cost of positing Reimer’s twist about property relevance.

Notice that Reimer’s point can be made with other quantified expressions (witness (23)), and also without an implicitly relational noun like ‘murderer’, ‘mother’, ‘student’, for which we can ask “whose murder/mother/student is it?” (witness (24)):

(23) We have caught every murderer.

(24) The dog is going to jump in your lap.

The ex-murderer detective’s partner might utter (23) to mean that they tracked down every one of their murder cases, without meaning to say that his partner was finally caught for the murder she had committed. In addition, upon spotting the retriever running towards Liza, whose lap is already occupied by Bumba, I might truly utter (24), to say that the retriever (who is not the only dog in this situation) is about to jump.

Recanati has to contend with further complications in order to accommodate two other points discussed earlier: (a) the point about shifting supplementations) and (b) the point about supplementation in terms of properties instead of sets). Indeed, Soames (1986) formulated (a) in response to the early, classical situation semantics of Barwise and Perry (1983). The issue was and still is: how can we induce situation shifts within a sentence, as (a) would require? To accomplish that, situations need to be more complicated beasts than we might originally think.

In addition, (b) requires that situations supply not the individuals actually in them, but individuals who bear the property of being in the given situations (in a counterfactual circumstance, say). This is evident if we imagine the two detectives making the following claims about the innocent Spencer:

(25) If the murderer is Spencer, then he must have already left town.

(26) If the murderer had been Spencer then he would have already left town.

Whether or not the detectives know that the murderer was Jones, not Spencer, the natural readings of their utterances are about Spencer’s behavior, were he to have committed the murder. In order to get this reading, we cannot just have the murder situation supply the actual murderer, Jones, because then the detectives would be making fantastic claims about what would happen if Jones were to become somebody else. Instead, being in a given situation is a property, and we need to take stock of counterfactual situations as well.

The foregoing casts doubt on the following assessment by Recanati:

Stanley's and Szabó's proposal complicates the picture by forcing us to introduce a pair of an objectual variable and a higher-level function variable even when we could directly relativize a predicate to a given situation. This is OK if the complication is necessary to achieve a uniform analysis, but in the present case the complication seems to me unnecessary. (Recanati 2004, 34)

Let us now turn to Stanley and Szabó's account, which is more upfront about the added complexity it introduces, but when all is said and done, is probably no more complicated than Recanati's alternative.

(e) *At the level of semantic interpretation, we must allow bindable variables whose values are supplied by context.*

Stanley and Szabó (2000a) argue that nominals (like 'bowl' and 'pug') come with indices consisting of two variables. The first (marked as f below) is a higher-level variable whose value is a function from properties to properties. The second variable (marked as i below) is filled with a property. The values for both variables are supplied by the context of utterance. Notice that these variables are not only posited for cases of incompleteness, but accompany nominals quite generally.

(5''') Every bowl $_{f(i)}$ is empty.

(5'''' [every x : bowl $_{f(i)}$ (x)] empty (x))

For example, in the case of Liza's utterance 'Every bowl is empty', the value of i might be the property of being in Liza's household, and f might be a function that applied to an argument j yields the property of being a dog supply item located in j . $f(i)$ thus yields being a dog supply item in Liza's household, which is then intersected with the bowls to get the value of $bowl_{f(i)}$. Thus (5''') is true just in case every dog bowl around Liza's household is empty.

This does seem quite complicated. But with the variable pairs in place, we get a smooth ride afterwards. For example, in the case of the utterance addressed to the ex-murderer detective, we have

(22') The murderer $_{f(i)}$ is probably as tall as you.

The value of i might be being a murder victim in the context of utterance, and f is a function from victims to perpetrators.²⁹ Because the only murder victim in the context of utterance is Smith, $murderer_{f(i)}$ will stand for no-one but Smith's murderer; the fact that there is an ex-murderer detective present is irrelevant, as it should be.

Stanley and Szabó consider it to be the major advantage of their view that it can handle quantified contexts—cases in which the value of the supplementation is bound by a higher variable. They consider utterances like (27):

(27) In most of John's classes, he fails exactly three Frenchmen.

They write:

²⁹ What is going to be captured by the function f , and what will be the value of the argument i ? The framework leaves this question open: for example, someone like Recanati might equally well let f be 'murderer in situation $_$ ', and i be the situation in question.

The natural interpretation of [(27)] is that where x is a class of John's, John fails three Frenchmen in x . To capture this reading, we need to postulate a variable bound by 'most of John's classes' which is in some way associated with the quantifier phrase 'three Frenchmen'. The different values of these variables correspond to the different quantifier domains for the phrase 'three Frenchmen'. So, the phenomenon of quantified contexts shows that quantifier expressions contain variables which can be bound, and whose purpose is to supply the domains for quantifier expressions. (Stanley – Szabó 2000a, 250)

In restricted-quantifier notation:

(27') [most x : class $f(i)$ (x) & taught_by (x , John)]([3 y : frenchman $g(x)$ (y)] fails (x , y))

The crucial bit here is *frenchman* $g(x)$, where x is the class-variable bound from above, and g is a function from groups (say, classes) to their members (say, students).³⁰

To illustrate further, consider a simpler and more illuminating example:

(28) Every guest ate every dumpling. (Williamson, adapted from Kuroda 1982)

(28') [every x : guest $f(i)$ (x)]([every y : dumpling $g(x)$ (y)] ate (x , y))

(28') aims to capture the natural reading according to which the guests ate only what was on their plates and not literally everything (many times over). g might be a function that for each individual yields whatever is served for that individual (or put in front of her).

With the technical legwork behind us, we have finally arrived at a crucial and profound point about Q-incompleteness: *if we want to capture the natural readings of utterances like (27) and (28), at the level of semantic interpretation, we need to allow that the Frenchmen vary with the classes, and that the meals vary with the guests.* This is a general formulation of a requirement, one specific implementation of which is in terms of variable binding. Notice, however, that the requirement about accommodating variation would hold even if our framework of choice were a variable-free one (as in Quine 1960).³¹ Stanley and Szabó opt for constructions like *dumpling* $g(x)$, with contextually filled in argument places for g and x , and with x bound by the universal quantifier for guests. Accommodating variation will remain an important point throughout the rest of the paper, and in Section 3, we will see that (28) with 'every' provides a powerful demonstration which (27) with 'three' does not.

Notice however, the hefty price tag we have landed: we need to posit pairs of contextual variables that are phonologically null and unmotivated by syntactic considerations. Moreover, Wettstein's indeterminacy problem (c) wreaks havoc for quantified expressions across the board: how do we choose among nonequivalent combinations of candidate supplementations for all the f 's, i 's, g 's?

Lepore (2004) considers this reason enough to give up on semantic approaches. I propose something different: now that in (a) through (e) we have made clear exactly how much complexity is involved in adopting a semantic approach to Q-incompleteness, let us first set aside two debates that have proved distracting, and then see how the semantic approach fares with respect to the alternative pragmatic approach. I devote the remainder of

³⁰ Strictly speaking, we need properties, not sets, of course, as prescribed in (b).

³¹ I owe this point to Stephen Neale.

this section to the first task and address issues about explicit versus implicit approaches and about logical form. In Section 3, I will turn to the pragmatic approach, showing that it is not viable.

Explicit versus implicit

According to Neale (1990, 95–6), defenders of Russell’s theory of descriptions may adopt one of two approaches—the so-called explicit and implicit approaches. The explicit approach has it that (2) expresses the same proposition as expressed by another utterance containing a description that is no longer incomplete, say, ‘the pug Liza owns’, or ‘the pug over there’. The context of utterance supplies the additional material in the description. Meanwhile, the implicit approach restricts the domain of quantification, by, for example, limiting it to the individuals owned by Liza (among which there is only one pug), or the individuals in her household (among which there is only one pug). Again, the context of utterance supplies the appropriate domain restriction. Russell’s uniqueness condition for definite descriptions is thus fulfilled for incomplete descriptions; (2) evaluated against the limited domain is true.

Having sketched these two approaches in barely more detail than I have just done, Neale noted that “[w]hen all is said and done, the explicit and implicit methods might turn out to be notational variants of one another” (Neale 1990, 115, note 48). He reiterated this point in Neale (2000, 288): “I introduced my labels in such a way that they were neither exclusive nor exhaustive, deliberately refraining from talk of introducing an explicit/implicit *distinction*” (emphasis in original).

Turning an incomplete description into a complete one with extra material does look like a different enterprise with different challenges than restricting the domain of quantification.³² But at the end of the day, the apparent differences collapse: after all, even if we opt for the implicit approach and aim at supplying domain restrictions, we have to make sure that

- (a) the restrictions are allowed to vary with the quantified expressions,
- (b) the restrictions specify properties rather than sets,
- (c) the indeterminacy problem has been acknowledged to the extent it arises (and given the other four points, the problem afflicts the implicit approach as much as the explicit one),
- (d) not all properties of individuals are relevant, or else
- (e) domain restriction should capture the phenomenon of quantified contexts—that is, the possibility of variation.

So little has been said about the explicit and implicit approaches that it is hard to see off hand how either approach could be made out to meet one of the criteria which stumps the other approach. In any case, there are three possible outcomes: neither approach succeeds in meeting (a) through (e); only one of them is successful; or both are. Should the last scenario obtain, by the time each approach meets the five criteria we have set out, they will have become virtually indistinguishable.³³ So the important question is not whether to go

³² For example, Reimer (1992, 1998) thought that the explicit and implicit approaches fared differently. Zvolenszky (2000) criticizes Reimer and gives arguments for why the two approaches collapse into one.

³³ See also Neale (2000, 288–9).

implicit or explicit, but for each approach, whether and how the five benchmark criteria can be met.

What makes it into the logical form?

Stanley and Szabó (2000a, 2000b) argue that the phenomenon of quantified contexts (in (27) and (28)) requires that we adopt a version of the semantic approach in which “the contextual parameter is provided as the value of a variable in the logical form of a sentence relative to a context” (2000a, 248). Neale (2000b, 292–3) calls these syntactic semantic approaches and objects that Stanley and Szabó have not provided any arguments against *non-syntactic* semantic approaches, in which the contextual argument places are not part of the logical form.

The debate thereby shifted to the issue of what conception of logical form can serve as basis for semantic interpretation, and what can and cannot be part of the logical form. Stanley (2000, 2002) argued that “all truth-conditional effects of extra-linguistic context can be traced to logical form” (2000, 391). Neale (2004) and Bach (2000) thought that more robust—lexical or syntactic—motivation was needed for introducing added structure at the level of logical form.

As a result, the crucial requirement (e) on semantic approaches was pushed into the background. Namely, *regardless of our conception of logical form, if certain kinds of dependency relations between quantifiers are considered to be part of the truth conditions of an utterance—for example, the truth conditions of the natural reading of (28) (‘Every guest ate every dumpling’) allow that the dumplings consumed vary with the guests—then the requisite variation or dependence must be secured at the level of semantic interpretation, at the level of what is said or expressed.* This is a claim to which any proponent of the semantic approach must subscribe, and this is what crucially distinguishes them from proponents of Bach’s alternative pragmatic approach. We will now look at that approach; more specifically, we will examine the dire consequences of forfeiting (e) and going pragmatic with respect to claims like (28).

3. WHY NOT GO PRAGMATIC

We have now witnessed the Gordian knot with which Q-incompleteness phenomena present semantic approaches. The daunting complexity does not give us reason to eschew Russell’s theory of descriptions; the complicated machinery for quantified expressions has to be in place no matter what we do about definite descriptions. Indeed, it would count against Russell if definite descriptions turned out to be less demanding than their quantified brethren.

With high-maintenance quantified expressions across the board, one might, however, reconsider the phenomenon of Q-incompleteness. Maybe it was a mistake to want some utterances of (1), (2), and (5) through (9) to come out true (I repeat some of them here).

- (2) The pug is asleep,
- (5) Every bowl is empty.

Maybe we should say that an utterance of (2) cannot be true given the plurality of pugs. When Liza utters (2), she says something strictly speaking false, namely

(4) Exactly one pug exists and it is asleep.

But she also conveys or communicates something true about a conversationally salient pug, her pug Bumba. In the same way, when Liza utters (5), she says something strictly speaking false, namely that every bowl in the world is empty, but she also conveys something true about the dog bowls around her house (Bach 1987, 2000, 2001). This approach to Q-incompleteness recruits Grice's famous (1967) distinction between what is said and what is communicated. It is commonplace that our utterances can communicate far more than what we have strictly speaking said. For example, in a conversational context in which it is common ground that Bumba gets walked at 7 o'clock, Liza might utter 'It is almost 7' and thereby convey that it is time to get Bumba ready for his walk. But what she has strictly speaking said is simply about what time it is and makes no mention of Bumba. A widely held view has it that what is said is a matter of semantics, and what is conveyed, a matter of pragmatics.

Bach employs a *pragmatic approach* to Q-incompleteness: he moves incompleteness phenomena—for quantifiers as well as descriptions—into the purview of pragmatics. This yields a radically simplified semantics (which can, incidentally, maintain Russell's theory of descriptions in its simplest form).³⁴ *The pragmatic approach has it that semantics should not get bullied into managing complicated quantifier phenomena that are better handled within pragmatics.*

In what follows, I will consider two objections Bach (2000) levels on the semantic approach. I will examine and deflect these, exposing controversial and problematic aspects of the pragmatic approach along the way. Following is a preview of the objections and replies:

- **Objection 1:** The semantic approach introduces syntactic complexity that the pragmatic approach can otherwise avoid.

Reply: The pragmatic approach already has to accommodate comparable syntactic complexity elsewhere: in genitive constructions and with adverbs of quantification. Then what is the point in resisting the complexity in an isolated range of cases—with incomplete quantifiers, say?

- **Objection 2:** The pragmatic approach can appeal to scope relations to account for quantified contexts: the Frenchmen varying with the classes in

(27) In each of John's classes, he fails exactly three Frenchmen.

Reply: 'three Frenchmen' and 'some pug' are special in that they can exhibit variation with respect to a higher quantifier *even if they do not contain variables for that quantifier*. By contrast, other *quantified expressions like 'the pug', 'both dogs' and 'every dumpling' cannot exhibit variation unless they include a variable bound by the higher quantifier*. (This is a point we have already noted in Section 1 with respect to 'the'.) In the absence of these variables, the pragmatic approach cannot accommodate

³⁴ For a different point of view, see Bach (2004).

variation and has to settle for unexpectedly bizarre truth conditions for certain utterances.

Two crucial considerations will emerge from these objections: one about variation, the other about the notion of what is said. After the objections, these will be discussed in turn.

Objection 1: Avoiding extra structure

The pragmatic approach has it that we often engage in loose talk: we do not bother to say certain details explicitly (although we could do so), but we still manage to communicate the extra details. Consider:

(29) Jack and Jill are married.

In uttering this, all I have strictly speaking said is that Jack and Jill are both married *to someone or other*. But on most occasions, I manage to convey something much stronger: that Jack and Jill are married *to each other*. One could be more explicit and say:

(30) Jack and Jill are married to each other,

but most of the time, we do not bother to do so and are happy enough just uttering (29).

The pragmatic approach says something similar about (2). Liza could have uttered something more explicit ('The pug I own is asleep'), thereby saying something true. Instead, she is content with having said something false, but meant or communicated something true, namely that the unique pug she owns is asleep.

The supposed advantage of the pragmatic approach is that it can take the surface syntax of (2), (5) and others at face value. No need for extra variables or argument places as in the following:

- (2') [the x : pug(x) & __(x)] asleep(x)
- (2'') [the x : pug(x) & located (x , There)] asleep (x)
- (2''') [the x : pug(x) & own (I, x)] asleep (x)
- (2'''') [the x : pug(x) & identical (x , That)] asleep (x)
- (2''''') [the x : pug $f(i)$ (x)] asleep (x)

These are what Liza meant or communicated, but what she has expressed or said is just what the simplest version of Generalized Quantifier Theory would yield:

(2'''''') [the x : pug (x)] asleep (x),

which is true just in case there is a unique pug in the universe and that pug is asleep.

But things are not that simple. A considerable burden is already imposed on the pragmatic approach because of the expectation that it, too, has to supply truth conditions—however weird or farfetched they might be—for what is expressed. Notice, for example, that in the case of (29), what is strictly speaking said is structurally no simpler than what is communicated: both have to accommodate the two-place 'married' relation, but what is said is about being married to someone or other, as in

(29') $\exists x,y$ (married (Jack, x) & married (Jill, y))³⁵

This is hardly simpler than what is communicated—about Jack and Jill's being married to each other:

(30') married (Jack, Jill)

The pragmatic approach cannot avoid serving up truth conditions of some sort, because it is a cornerstone of this approach that *relative to what is expressed—a certain set of truth conditions*—something *else* gets communicated. This is an important detail which I will examine more closely at the very end of the paper.

There are lexical grounds for 'married' being a two-place relation (like 'mother' and 'murderer'). But no such robust grounds are available to justify the extra argument places quite generally posited by the semantic approach. The pragmatic approach does have to accommodate added structure elsewhere, however, not because it is lexically or syntactically motivated, but because without the additions, we would not get *any* truth conditions. On the one hand, this happens in the case of adverbs of quantification:

(31) Usually, when a pug falls asleep, it snores.

(32) Every pug snores occasionally.

Both of these involve quantification over cases/occasions/times (see Lewis 1975): according to (31), among the majority of occasions with a pug sleeping, the pug also snores; according to (32), for each pug, there are times when it snores.

On the other hand, genitive constructions require an extra argument place for relations (see Jensen and Vikner 2002). The relation might vary: by saying 'Liza's bowl', one might mean the bowl Liza uses, the bowl belonging to Liza, the bowl she is giving away, the bowl she has just received, etc.

(33) Liza's bowl is empty.

(33') [the x : bowl (x) and R (Liza, x)] empty (x)

On the semantic approach, context supplies various values for R depending on the nature of the relation between Liza and the bowl (she might be sitting at a breakfast table with an empty bowl in front of her). And it is easy to imagine situations in which we have no basis for choosing between two non-equivalent relations. That is, Wettstein's indeterminacy problem (in (b), Section 2) proves to be even more general, encompassing genitive constructions as well.³⁶ The pragmatic approach avoids the indeterminacy problem, but not the added structure, yielding the following for (33):

(33'') $\exists R$ [the x : bowl (x) and R (Liza, x)] empty (x)

³⁵ I have used an existential quantifier to reflect the fact that the variables x and y receive default binding.

³⁶ See Zvolenszky (2000).

But this is true whenever we have an empty bowl, because *some* relation between any bowl and Liza is guaranteed to exist (no matter how far removed they are from each other in space and time), and that is enough to make (33") true (see Neale 2000, 291).

Let us take stock of where the pragmatic approach stands. On the up side, it has avoided the indeterminacy problem. But it has done so with the help of extra structure, which sits idle when it comes to getting something plausible at the level of what is expressed. By contrast, the semantic approach has done much better: it likewise incorporates extra structure but uses it to capture intuitive truth conditions. Further, given that the pragmatic approach does, in the end, accommodate added argument places in certain cases (adverbs of quantification and genitive constructions), nothing is gained by insisting that elsewhere, in the case of quantified expressions, no additional structure is admitted. In sum, simpler structures is not an overall advantage that the pragmatic approach can claim over its semantic counterpart. In addition, the pragmatic approach is faced with the extra burden of how by saying something false, one can convey something true. This might not seem like a heavy burden—in fact, it is! After tackling the second objection, I will return to this point.

Objection 2: Variation in quantified contexts

Recall:

(27) In most of John's classes, he fails exactly three Frenchmen.

Given the unintuitive truth conditions that the pragmatic approach is saddled with in a host of cases, one might be puzzled by Bach's insistence that at the level of what is expressed, he can capture the reading of (27) according to which the Frenchmen vary with the classes taught by John. But he does insist, pointing out that for him the Frenchmen do vary with the classes, it is just that the three Frenchmen flunked with respect to a given class need not be *in* that class. Bach applauds this outcome, suggesting that at the level of what is said, the 'in-class' requirement is no more in effect in (27) than in (34):

(34) After most of John's classes, he sips wine with exactly three Frenchmen.

Bach (2000, 280) notes that "The narrow scope of 'exactly three Frenchmen' explains why the Frenchmen may be different for each class." He is right about this: if we look back on the set-theoretic definitions for generalized quantifiers listed in Section 1, we find that 'exactly *n*' is a quantifier that can *exhibit* variation with respect to a higher quantifier, as in (35):

(35) Every retriever chased exactly three pugs.

Here, the pugs can vary with the retrievers.

Also recall, however, that other expressions like 'the' and 'every' do not exhibit this sort of variation:

(36) Every retriever chased every pug/the pug/both pugs/no pugs.

‘Every retriever’ is capable of *inducing* variation on a lower quantified expression; but the expressions in object position do not *exhibit* variation with respect to a higher quantifier. What this means is that on the simple model for quantified expressions that the pragmatic approach proposes, these same quantifiers do not exhibit variation in (28), (37) and (38) either:

- (28) Every guest ate every dumpling.
- (37) Every school honored the graduate with the best grades.
- (38) Every mother signed up both children for karate.

This in turn means that we get bizarre truth conditions for what is said:

- the truth of (28) requires that every guest eat every dumpling in the world (many times over, each guest taking her turn at the universal batch of dumplings);³⁷
- the truth of (37) requires that there be a unique student in the world with the best grades and all the schools honor her; and
- the truth of (38) requires that there be just two children in the universe, no more, and the mothers sign them up many times over.

These are very strange truth conditions, even by the standards of the pragmatic approach; evidently, not even Bach seemed to realize just how bizarre they are.

Consider a general schema for generalized quantifiers: $[? x: F(x)] G(x)$. ‘Every’, ‘the’ and ‘both’ have in common that $F - G$ (the left crescent in the Venn diagram) is empty; all the action is within $F \cap G$. More to the point, the resulting quantified expressions are principal filters:³⁸

- (39) A GQ [Generalized Quantifier] is a *principal filter* iff
 there is a set of individuals A such that A is not necessarily empty and
 for any set of individuals X , $X \in GQ$ iff $A \subseteq X$. (Szabolcsi 1996, 14.)

For our purposes, this means that the quantified expressions that are principal filters always “talk about” the same set, no matter what quantifier’s scope they find themselves in: they “talk about” the set consisting of every dumpling, the singleton set consisting of all graduates with the best grades, the two-member set consisting of all children. (“No dumplings” is a special case to which we will return shortly.)

Recall further that there is a way to induce variation even on our selected set of quantified expressions: *all we need is to have the quantified expressions include variables*

³⁷ Let us set aside the reading of (28) to the effect that every guest ate every *type* of dumpling, but different tokens of the given type. This reading does not require that the dumpling types vary with the guests. The reading of (28) that bodes trouble is the one according to which each guest ate all the dumplings on her plate—this reading is unquestionably available and requires that the dumplings vary with the guests. Thanks to István Bodnár for comments on this.

³⁸ Equivalently, principal filters can be defined as those generalized quantifiers that have a *non-empty unique witness set*. Beghelli, Ben-Shalom and Szabolcsi (1996, 30–1):

- A set W is a witness of a GQ iff
 $W \in GQ$ and $W \subseteq SL(GQ)$, where $SL(GQ)$ is the smallest set the GQ lives on.
- A GQ lives on a set of individuals A if,
 for any set of individuals X , $X \in GQ$ iff $(X \cap A) \in GQ$.

that are bound from the outside, by a higher quantifier. This is exactly what we have in the case of quantified contexts. And this is how we can get the natural sounding readings:

- for (28), the guests ate only what was on *their* plate,
- for (37), each school honored the best graduate *from that school*, and
- for (38), each mother signed up *her own* two kids for karate.

According to Stanley and Szabó's (2000a) proposal:

- (28') [every x : guest _{$f(i)$} (x)]([every y : dumpling _{$g(x)$} (y)] ate(x, y))
 (37') [every x : school _{$f(i)$} (x)]([the y : graduate _{$g(x)$} (y)] honored(x, y))
 (38') [every x : mother _{$f(i)$} (x)]([both y : child _{$g(x)$} (y)] signed_up_for_karate(x, y))

In each case, notice the $g(x)$ part in the second quantifier; this is where the crucial x 's come in, allowing the desired variation. Without those x 's, we are stuck with the bizarre truth conditions.³⁹

Why is variation crucial?

It is instructive to generalize the point about variation. We have uncovered a certain category of quantifiers which do not exhibit variation with respect to a higher quantifier: this group includes 'the', 'every', 'no', and 'both'. Let us call these quantifiers *variation-wary*. It turns out that *even quantifiers that are variation-wary can be coaxed into exhibiting variation—when the quantified expression contains a variable bound by a higher quantifier*. As a result, variation-wary quantifiers provide crucial testing ground for the presence of the quantified contexts prominently featured in Stanley and Szabó's argument for their version of the semantic approach—indeed, these are the only quantifiers that *can* provide the evidence Stanley and Szabó need to bolster the claim that quantified context show that we need to posit additional bindable variables at the level of semantic interpretation. Their strategy ought to have been: find an utterance which has a reading in which a variation-wary quantifier exhibits variation in the absence of an overt variable that would account for the variation. (28), (37), and (38) are such examples, because there, the 'every', 'the', and 'both' are all variation-wary. If we want to capture the plausible readings where these quantifiers exhibit variation, we have no choice but to posit the additional variables bound by a higher quantifier. By contrast, (34) and (35) do not help Stanley and Szabó's case, because 'exactly n ' is not variation-wary. At the end of the day, I think Stanley and Szabó proposal can be upheld, but the arguments for it have to be altered: they have to involve variation-wary quantifiers.

Let us give a general characterization of variation-wary quantifiers:

- (40) [Q1 x : $H(x)$] ([Q2 y : $\phi(y)$] $\psi(x,y)$)

Let '[Q1 x : $H(x)$]' be an arbitrary restricted quantifier that can induce variation; ϕ is a predicate-template that contains no free occurrences of x ; Q2 is an arbitrary quantifier, ψ an arbitrary predicate-template.

³⁹ In addition, I concur with Stanley and Szabó's (2000b, 298) doubt: how could there be no variation at the level of what is said, and then all of a sudden the requisite variable binding readily available at the level of what is communicated?

$Q2$ is *variation-wary* relative to a specific value F for ϕ , and G for ψ , iff the following holds, no matter how we change the universe of discourse:

[Q1 $x: H(x)$] ([Q2 $y: F(y)$] $G(x,y)$) entails that
 for any a, b , such that Ha and Hb ,
 [every $y: F(y)$]($G(a,y) \leftrightarrow G(b,y)$)

That is, the set of F -things G 'd by a is the same as the set of F -things G -d by b .

(41) Every retriever chased every pug.

For example, in the case of (41), if there are three retrievers, Al, Ben, and Chili, and two pugs, then the variation-wariness of 'every' in 'every pug' requires that the pugs chased by Al be the same as the pugs chased by Ben, and also the same as the pugs chased by Chili: the two unfortunate pugs, chased three times over. Because this holds no matter what the universe of discourse is like (which pugs, retrievers are in it), 'every' in (41) is variation-wary. By contrast, 'exactly three' in (35) is not variation-wary, because (35) may well be a correct description of the universe if the set of (three) pugs chased by Al is different from the set of pugs Ben chased, and the set of pugs Chili chased.

Two points of clarification are in order: first, do quantified expressions with variation-wary quantifiers coincide with principal filters? The answer is 'no', for two reasons. On the one hand, there are principal filters that are not quantifiers at all; just think of proper names like 'Bumba' (whose unique witness set is the singleton consisting of Bumba) or conjoined proper names like 'Al and Ben' (whose unique witness set is the two-element set consisting of Al and Ben). On the other hand, the quantifier 'no' turns out to be variation-wary in certain examples like the following, but 'no pugs', and 'nothing' are not principal filters:

(42) The guests ate nothing.

According to (41), what is eaten by one guest is the same as what is eaten by any other: nothing, represented by the empty set. Notice, however that (41) *can* have a reading where the food eaten varies with the guests. Imagine a dinner party where the guests leave their plates untouched (they are all vegetarians and have been served steak). I make a true utterance: "The guests ate nothing. But most of them were so hungry they snuck out and raided the apple tree in the garden." In this context, 'nothing' is an incomplete quantified expression: the food consumed by one guest need not be the same as the food consumed by another: one guest might have eaten one apple, another guest a distinct apple, a third guest, nothing at all. This indicates that (42) has a reading that requires the additional variable bound by 'the guests':

(42') The guests ate nothing that was served to *them*/that was on *their* plate.

Thus, the quantifier 'no', along with 'both', 'the', and 'every', can provide the crucial testing ground Stanley and Szabó need to argue from quantified contexts to the presence of bindable variables at the level of semantic interpretation.

The second question to ask is: does variation-resistance depend on factors outside the quantifier? The answer is ‘yes’. A negative predicate can put an end to variation-waryness. Consider (43) and (44):

- (43) The guests refused to eat/did not eat every dumpling.
- (44) The guests refused to eat/did not eat both dumplings.

Imagine that the dumplings were so foul or maybe just so filling that the guests collectively ate only one and left the other(s). For both (43) and (44), the dumpling(s) *not eaten* may vary with the guests. And we get the variation without positing an additional variable in ‘every dumpling’ or ‘both dumplings’, to be bound by ‘the guests’. Here, ‘every dumpling’ and ‘both dumplings’ are no longer variation-wary (although they are still principal filters). The definite description is different:

- (45) The guests did not eat the dumpling.

Here, no matter what the universe of discourse is, according to (45), the dumpling not eaten does not vary with the guests (unless, as before, we add a variation-inducing variable: ‘the dumpling served to *them*’). So ‘the dumpling’ is unique in that it remains variation-wary even in a negative context. In addition, we can find examples of quantifiers that *become* variation-wary when paired with a negative predicate, although they are not variation-wary otherwise. Cases in point are ‘a(n)’ (meaning ‘at least one’) and ‘either’ as in:

- (46) The guests refused to eat/did not eat a (single) dumpling.
- (47) The guests refused to eat/did not eat either dumpling.

According to (45), the refused dumplings—that is, all the dumplings—do not vary with the guests. According to (46), there are just two dumplings both refused, and they do not vary with the guests either. Thus if (45) and (46) have readings in which the dumplings refused vary with the guests (and such readings are easy to come by if we set up a context in which the guests are each served two dumplings), then they, too, can serve as evidence to further Stanley and Szabó’s case. These are readings along the lines of the following:

- (46’) The guests refused to eat/did not eat a (single) dumpling served to *them*.
- (47’) The guests refused to eat/did not eat either dumpling served to *them*.

The category of variation-wary quantifier *occurrences* is worth exploring because it is distinct from any of the mathematical categories into which quantifiers are traditionally classified. But when conditions for variation are at issue⁴⁰ it is this category that is of primary interest, rather than that of a principal filter. To repeat: it is variation-wary quantifier occurrences that provide crucial test cases for the argument from quantified contexts to the need for positing additional bindable variables.

What is said versus what is communicated

⁴⁰ As is the case not just here and in Stanley and Szabó’s (2000a) work, but also in Beghelli, Ben-Shalom, and Szabolcsi’s (1996) paper.

At the very core of the pragmatic approach lies the idea that we can make do with unintuitive truth conditions at the level of what is said, as long as we can deliver the desired truth conditions at the level of what is communicated or implicated: we can cheat with the semantics as long as we get the pragmatics right at the end. Not only is this an illicit strategy—it also could not be further from the spirit of Grice’s (1975) distinction between what is said and what is implicated. A recent paper by Stephen Schiffer (2005) provides a powerful reminder: according to Grice, when it comes to utterances that are literally spoken, *speakers mean what they say*. What speakers mean is supposed to be in accordance with their communicative intentions. What is implicated is therefore supposed to be part of what is meant. But *in the case of literal speech, what is said is also supposed to be part of what is meant*. This excludes the possibility of accounting for what is intuitively a *true* utterance, *literally spoken*, on the model that:

- (A) the speaker says one thing, which is untrue, while meaning (and implicating) something else, which *is* true, or
- (B) the speaker merely makes as if to say something (but does not really say it) while meaning (and implicating) something else.

On Grice’s account, the (A)-type scenario arises when something is not quite right with what the speaker says, but nonetheless, she gets her message across. As a result, her contribution is defective in some way, but still functional. For example, when George W. Bush said (in 2002) that he was all for tracking down ‘weapons of mass production’, he inadvertently said one thing (about weapons of an unusual sort), which was clearly untrue (and perhaps void of sense even), and meant something else (about weapons of mass destruction). The diagnosis: Bush spoke literally, (strictly speaking) said something untrue or senseless, but nonetheless managed to communicate something else; crucially, he did not *mean* what he said (what his words said): he misspoke.

Let us consider another (A)-type scenario. In 2003, George W. Bush commented on the upcoming recall elections in California, saying that “a fascinating bit of political drama [was] evolving ... in the country’s largest state”. He forgot that California came in only third largest after Alaska and Bush’s very own state of Texas. He *said* the site of the political drama was the largest state. But he *meant* that the site in question was California. Again, what he said was untrue, but what he communicated was true. This scenario is crucially different from the previous one in that this time around, Bush *meant what he said*. So he meant something false and something true simultaneously. For this reason, his utterance was defective, though he did make his message clear (along with his ignorance about geography).⁴¹

Grice confines the (B)-type scenarios to the realm of figurative speech: he mentions the case of irony and metaphor (1975, 34; 1978, 53–54). In saying to someone “You’re the apple of my eye”, the speaker merely *pretends* to say (makes as if to say) what is blatantly untrue: that her addressee is an apple of some sort. With her metaphorical utterance, she implicates that she is very proud of her addressee. But she has not—literally, strictly

⁴¹Neale (1990, 91–2) offers precisely this account of misdescription scenarios described by Donnellan (1966). He stresses that an important virtue of this explanation is that we account for the fact that Bush gets something right (communicates his opinion about California), but also gets something wrong (he misdescribes California as the largest U.S. state).

speaking—*said* anything. The speaker did not *mean* the blatant falsehood, so he did not *say* it either.⁴²

In sum, (A)- and (B)-type scenarios are crucially *unlike* true, literally spoken utterances precisely because something goes wrong when the speaker is assumed to really have said what she said, and therefore meant what she said. Grice's commitment to the claim that the speaker means what she says is evident throughout his other work where he strives to define the meanings of expressions in terms of speakers' communicative intentions (1957; 1968, primarily 120; 1968, primarily 87). This suggests that (A) ought to be generalized further: with a true, literally spoken utterance at hand, we cannot posit at the level of what is said something that though perhaps true, is not part of what the speaker means. That is to say, in such cases, we cannot avail ourselves of the following model:

(A') the speaker says one thing, which she *does not mean*, while meaning (and implicating) something else.

Schiffer's (1995, 2005, especially 1163–9) criticism of a certain Russellian proposal in the face of the Referential Challenge concerns (A').⁴³ He proposes that we consider a scenario like the one in which Liza utters (2) ("The pug is asleep") as she is gesturing towards Bumba. Given that what she said is literally spoken and intuitively true, it is problematic to claim that she *says* something to the effect that 'The pug I own is asleep', because this would not be in keeping with her communicative intentions, which are merely about Bumba's, the indicated pug's state of slumber. "The pug I own is asleep" is not something Liza meant, so it is not something she said either.

This is a powerful criticism which is even more damning for those proposals which describe literally spoken, true utterances as (A)-type cases: when I open the fridge and upon seeing no beer in it, I utter "There is no beer", I have *said* something false (that the world is beerless), while implicating something true. Bach (2000) provides just this proposal, and he is not alone: Herman Cappelen and Ernie Lepore (2005), François Recanati (2001, especially 88–9), Dan Sperber and Dierdre Wilson (1986) give the very same diagnosis for this case and more generally for Q-incompleteness. Recall the scenarios that had exemplified (A): Bush's 'weapons of mass production' and 'largest state' remarks. Surely, that is not the model for fashioning *nondefective* utterances involving quantified expressions!

Another interesting recent suggestion by Gary Ostertag and Ray Buchanan (2005) is that when Liza says "The pug is asleep", she has not said/expressed anything (specific), but she has implicated that Bumba is asleep. Their approach employs in a literal-speech scenario Grice's (B)-model, originally intended for figurative speech. This carries the burden of saying what the literal-figurative distinction is supposed to consist in on such a proposal, and why Grice's figurative model is in fact appropriate for literal speech.

⁴² See the illuminating summaries in Neale (1992) and Szabó (2005).

⁴³ Schiffer (2005, 1157–78) thinks for this reason, *semantic* approaches to Q-incompleteness founder when it comes to *referentially used* incomplete descriptions. For example, Neale (1990) fails to generate what is meant at the level of what is said; Neale (2004) fares better: what is meant *is* said, but so are other things that are plausibly not meant. The shift between (2") and (2''") (in Section 1 above) reflects the change in Neale's position.

Bach, Cappelen and Lepore, Recanati, Sperber and Wilson would respond: so much the worse for the notion of what is said; in fact, even if semantics delivers such a notion, it has limited or no theoretical utility. The reason: whatever notion of what is said we might attain, will have little to do with speakers' communicative intentions. "There is no beer in the fridge" is a case in point; I had no intention to communicate the obvious falsehood that the world is beerless; still, according to these theorists, that is what I said.

Granted: nothing in the foregoing has shown that semantics delivers something like Grice's notion of what is said. How we might go about showing that it can be delivered? Or if it cannot, how can we do semantics without it? These are two of the VIQ's within philosophy of language today. But before answers are in, five things are already clear. First, the complex task list laid out for the semantic approach in Section 2 relies on the Gricean notion of what is said, which is in-synch with communicative intentions. Second, the pragmatic approach appeals to a notion of what is said that is out-of-synch with speakers' communicative intentions. Third, there is little point in couching this latter notion within the Gricean say-implicate framework, and to that end, deploying models intended for nonliteral and for defective discourse. Fourth, there is even less point in then trying to tweak the notion of what is said, to bring it a bit more in line with speakers' communicative intentions (by accounting for quantified contexts, as Bach has tried to do). Fifth, the strategy of positing the out-of-synch notion of what is said is problematic on general grounds—here are two ways this worry has been formulated. Jeff King and Jason Stanley note that this strategy "threatens to undermine the very data for semantic theories... For if speaker judgments about truth-conditions are not reliable guides to the semantic content of sentences [what is said], it becomes unclear how to evaluate semantic proposals" (2005, 141). Stephen Levinson notes that "[i]f this tactic is pursued villy-nilly, in violation of our intuitions about truth and falsity, why not claim that any other sentence for which the proponent's semantic theory makes the wrong prediction is in fact patched up by the postsemantic pragmatics and thus is after all correctly analyzed by his unlikely theory?" (2000, 231). This sort of patching-up—a virtually unconstrained maneuver once we allow the out-of-synch notion of what is said—is what Bach tried to pull off, and his was not the first attempt at it.⁴⁴

Taking stock: I have shown that the unified Russellian account, featured as part of a semantic approach to Q-incompleteness, has advantages over an account that furnishes a separate, non-quantificational account for some (referentially used) incomplete descriptions. I then pulled together an interconnected set of requirements that the semantic approach must meet. The alternative pragmatic approach is considerably simpler, but is, by its own lights, untenable. Moreover, it relies on a notion of what is said that is illicit.

The semantic approach, with all its complexities and challenges, thus remains our best option. We just have to take the bull by the horns.⁴⁵

⁴⁴ The Russellian response to the Referentialist Challenge that Schiffer (2005) criticized did the same. King and Stanley (2005, 111–3, 139–41) discuss some other instances of deploying this maneuver.

⁴⁵ This paper has benefited from comments and discussion on an ancestor (Zvolenszky 2000)—many thanks go to Ray Buchanan, Katalin Farkas, Delia Graff, Stephen Schiffer, Jason Stanley, and participants at an NYU graduate student colloquium in 2000. I am especially indebted to Zoltán Szabó Gendler and Kit Fine for extensive and insightful comments at various stages; to Stephen Neale and Stephen Schiffer for incisive comments and for pressing me on referential uses of definite descriptions (they were right!); to Anna Szabolesi for illuminating discussions and courses on quantifiers and scope, and to István Bodnár and Tim

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