Descriptions, by Stephen Neale. Cambridge, Mass., MIT Press, 1990.

Reviewed by

STEPHEN H. LEVY

Calculemics, Inc.
37 Elm Street, Suite 11
Westfield, NJ 07090, USA

In his provocative book, Neale is concerned to develop "that paradigm of philosophy, Russell's theory of descriptions," (Ramsey) in new directions. He argues that "the Theory of Descriptions has application well beyond the sorts of phrases and constructions Russell dealt with" (p. 6). In particular, he argues that Russell's analysis offers the basis for a coherent, comprehensive analysis of the complete range of noun and pronoun phrases in natural language. Neale defends his position quite well, offering numerous examples and cogent arguments. Along the way, he treats several pertinent topics, including generalized quantification, modal contexts, speech acts, and anaphora.

Recall that a central question for Russell was how sentences such as

The present king of France is bald

could be meaningful if there were in fact no present king of France. As Neale points out, Frege had drawn the important distinction between referring expressions (e.g., names like "Venus") and quantifiers. One of Russell's achievements was to redraw the boundaries between the two groups of linguistic expressions. Definite descriptions like "the present king of France" became analyzable in terms of quantifiers alone, despite initial appearances that they were, to the contrary, referring expressions. What expressions are in one class and what are in the other, whether the two classes are mutually exhaustive, and whether a given expression can fall in both groups, are questions that continue to generate controversy and absorb Neale's attention in this work.

To say that an expression is *referring* is to say that the speaker of the statement containing it has in mind, or means, by that expression a particular object. Neale calls the statement that contains a referring expression "object-dependent." Presumably, all of us — whether Russellians like Neale or not — agree that such object-dependent statements and their associated referring expressions exist, and moreover, that descriptions may sometimes be referring expressions ("The man in the far corner...," p. 8). Those he calls the ambiguity theorists (e.g., Donellan [*1966*]), however, argue that only for *non*referring descriptions is a Russellian analysis correct. For referential descriptions, an object-dependent analysis is necessary. In no case, they suggest, are both analyses correct.

In opposition, Neale argues with H.P. Grice [*1976*] that the Russellian analysis is correct whether the description is referring or not. This view maintains that the referential aspect of object-dependent statements is properly analysed in light of a theory of speech

acts, or what Neale, following an old tradition, calls the *pragmatic* account. In light of this view (Grice [*1976*], Searle [*1969*]), we must distinguish between what is *said* (the proposition expressed) and what is *meant* (the proposition conveyed). The Russellian analysis captures the one, the speech act analysis the other. Neale aims to defend both as a coherent, integrated theory.

In his chapter 2 on Russell's theory, Neale first points out that the theory of descriptions is logically independent of several other theories of Russell (such as his epistemological sense datum theory), and should not be faulted simply because of their perceived shortcomings. He then defends Russell's claim that we can understand a description in a proposition expressed by a sentence "The *F* is "*G*", "although we have no acquaintance with what it denotes," because the proper specification of truth conditions of the sentence does not demand such acquaintance. Consider, he argues, "that at the time of his writing, David Wiggins was the Honorary Librarian of the Oxford Philosophy Library. Consequently, at that time if we uttered the sentence

The current Honorary Librarian is very interested in questions about identity

we would say something true. The issue is: does the "proper specification of the truth conditions" of the sentence expressed depend on specific facts about the individual David Wiggins who happens to be the *F* that is *G*?

Neale argues that it does not because in a counterfactual set of circumstances (here he draws on Kripke [*1980*]), someone else, say John Perry, who also satisfies *G* (i.e., is interested in questions about identity) may have been the Honorary Librarian. But in that counterfactual world, too, the sentence would still be true. Neale concludes that the meaning, or the specification of the truth conditions, of the proposition expressed depends on facts about neither David Wiggins nor John Perry. More generally, he concludes
the principle

D3) The individual x that actually satisfies a definite description 'the *F*' does not enter into a specification of the truth conditions of 'the *F* is *G*' in either actual or counterfactual situations (p. 23).

In fact, Neale might formulate his principle as "*No* individual that satisfies a definite description 'the F' enters..." because, he continues, "the proposition expressed by my original utterance is neither Wiggins-dependent nor anybody-else-dependent." In reply, one may say that it is, nonetheless, dependent on *some* individual *x* or other. Neale would agree, and argue that the Russellian analysis in terms of quantifiers reveals this dependency. An analysis in terms of *referring* to a particular individual is unnecessary.

By way of contrast, Neale following Kripke, formulates a principle on referring expressions:

R3) If '*b*' is a genuine referring expression that refers to *x*, then '*b*' is a rigid designator; i.e., *x* enters into a specification of the truth conditions of (the proposition expressed by) an utterance *u* of '*b* is *G*' with respect to actual and counterfactual situations (p. 20).

Neale argues that (p. 39) "the formalism of *Principia Mathematica* is no more essential to the Theory of Descriptions than is Russell's sense datum epistemology or his desire to

treat proper names as truncated descriptions...." He suggests that natural language is sufficient to express the theory as well as provide a proper analysis of sentences in terms of it. (Russell's own presentations, and later ones including Neale's, lend credence to this view.) Nonetheless, Neale prefers to place the theory of descriptions in "a more general quantificational framework" to clarify the range of application of the theory.

This framework involves the use of *generalized* quantifiers introduced by Wiggins [*1980*], and Barwise and Cooper [*1981*]. For instance, to represent the proverbial "All men are mortal," instead of writing the traditional

$$(x)(\text{Man } x \supset \text{Mortal } x)$$

we write

$$[\text{every } x : \text{Man } x]\ [\text{Mortal } x]$$

Following Wiggins, Barwise, and Cooper, Neale argues that this way of representing sentences is better on several counts. First, in the traditional way, there is no unified phrase or single constituent that corresponds to the noun phrase "All men" in the original English sentence. In the generalized way, however, there is a single constituent—namely, [every x: Man x]—that corresponds to the noun phrase. This is so because the traditional way introduces truth-functional connectives (here, if...then) to represent the natural language sentence, but these do not preserve the correspondence. Second, these *restricted quantifiers* let us represent ordinary language quantifiers such as *most* that are not representable at all in truth-functional logic. (To say that "most F are G," you must say set-theoretically that the intersection of F and G is greater than the difference of F–G.) Neale considers another system of quantifiers put forth by Evans and others that he considers equally expressive, but prefers this one because of the first reason above—it represents the quantifier with a single constituent. Third, Neale argues that generalized quantifiers let us represent more clearly the relations between pronouns and their antecedent descriptions—pronouns anaphoric on descriptions. This point Neale illustrates in the last two chapters of his book.

Of course, what quantificational representation we should use depends on our purposes as well as the semantics and syntactics of language. Neale's overriding purpose is to display the power of the theory of descriptions in a wide range of contexts, and for that he prefers generalized quantifiers. For other purposes, generalized quantifiers may not be suitable. There may be little virtue, for instance, in keeping a one:one correspondence between the original sentence and its representation if doing so obscures other relationships of importance or interest. Or, say, if we want to construct proofs by induction concerning a formal system, the fewer classes of quantifiers in our language, the simpler the proof may be. And if we want to analyze what the *true* or *deep* structure, or *logical form*, of language is, then set-theoretic notation may be appropriate for quantifiers such as "most", "less than half", and the like, since generalized quantifiers may obscure the hidden relationships of set intersection and the like.

For the most part, Neale seems to agree that there is not just one logical form of a given sentence. Typically, he speaks of the logical form or LF of a sentence as its representation using generalized quantifiers. Later, following Chomsky's theory of syntax [*1986*], he uses the term to refer to the representation of sentence structure derivable from the original

natural language sentence (its *S-Structure*) by repeated applications of formal operations such as quantifier raising. However, at one point he calls the Chomskyan representation "official" and says that the generalized quantifiers

> might as well be thought of as LF representations (or as transparently related to LF representations). (p. 193)

In any event, a distinction between S-structure and LF proves important later for developing Neale's analysis of pronouns.

In chapter 3 on context and communication, Neale is concerned to spell out a Gricean response to the "referential challenge," the view that referential uses of descriptions are (sometimes at least) part of their very meaning, not merely an accoutrement however essential arising from their context of utterance. Neale defines what he calls the *basic case* of a referential usage of a definite description 'the *F*' in an utterance of "The *F* is *G*" in terms of the following four conditions:

> a. There is an object *b* such that *S* knows that *b* is uniquely *F*;
>
> b. It is *b* that *S* wishes to communicate something about;
>
> c. The phrase 'The *F*' occurs in an extensional context;
> d. There are no pronouns anaphoric on this occurrence of 'The *F*'. (p. 65)

Ideally, he says, the referentialist should argue that the Russellian interpretation is wrong in the basic case. Presumably, however, a subset of referentialists could argue that in the basic case, the referentialist and Russellian interpretations are both correct, but that in other more complex cases, only the referentialist interpretation is correct. In any event, the referentialist arguments Neale finds "depart from the basic case in one way or another." Chapter 3 treats two of these arguments, the remaining chapters treat two more.

Neale calls the first argument the "argument from misdescription" (p. 91). It turns on situations in which condition (a) in the basic case is not satisfied. Consider, for instance, Donnellan's argument [*1966*] citing an utterance of the sentence

> Smith's murderer is insane

where Smith was not murdered after all, but that the individual referred to by the speaker (say, Jones) is indeed insane. On the Russellian analysis, the proposition expressed is *false*, since there is no *x* that murdered Smith. But according to Donnellan, since the individual referred to (Jones) is insane, the proposition is *true*. Donnellan concludes that the referential use of the non-denoting description, "Smith's murderer," is essential to the meaning and truth of the proposition expressed. In Neale's terminology, the proposition expressed is held to be "object-dependent, rather than descriptive."

In reply, Neale argues that we have conflicting intuitions as to whether the proposition expressed is true or raise, and that the theory of descriptions in conjunction with an adequate theory of the *context* of speech acts explains this fact. Indeed, it is because multiple propositions are expressed that we harbor conflicting intuitions or views on the point. In

Gricean terms, the proposition *meant* is true, but the proposition *said* is false. Neale questions whether the referentialist even recognizes that multiple propositions are expressed. In any case, which proposition is more salient is also central to the dispute.

The second argument Neale calls the "argument from incompleteness." He cites Strawson's example [*1950*]

The table is covered with books

which Strawson argued was a referential usage of a description not amenable to Russell's analysis. The initial difficulty is twofold: 1) to the extent that the description 'The table' is satisfied by a unique object, to that extent it seems to used referentially; and 2) to the extent that the description 'The table' is satisfied by many objects, to that extent it seems not to be a *definite* description. The natural reply is to clarify things either by expanding the description in light of the context or by restricting the implicit domain of quantification. Donnellan [*1968*] and Wettstein [*1981*] objected to this response that there are many ways to complete the description or restrict the domain of quantification, and we cannot be sure we have done so correctly. Wettstein argues that in some cases there is no adequate description at all, and concludes that in such cases the description serves as a demonstrative referring expression.

In reply, Neale points out that even in the face of quantification without any description, as in

Everybody was sick

when speaking of a dinner party the speaker attended, we may again either implicitly restrict the domain of quantification (say, to those who attended the party) or we may add an informative phrase to complete the quantifier (say, "who attended the party"). Further, Neale holds that where the meaning is determinate, an adequate description can always be constructed. The expanded description may itself sometimes incorporate references to related objects, as in Wettstein's scenario surrounding "The murderer is insane," where there is an implicit reference to the victim lying *here* on the floor. However, whore the description contains a reference implicit or otherwise, it does not follow that the description *itself* is referential (p. 100).

A similar phenomenon in the field of artificial intelligence not mentioned by Neale is worth noting here. Restriction of the domain of quantification, if sufficiently narrow, may generate, or appear to generate, a referential usage. In the research of Winograd [*1972*] and others, computer-generated natural language descriptions of blocks (cubes, pyramids) in a simulated "block world" — e.g., "the small red cube on top of the large green one" — acquire referential usage, simply because every description is "understood" to apply only to objects in that world. (By "understood" in the context of artificial intelligence, we mean what a computer expert could verify — that the processing of the natural language descriptions makes use of the internal representation of the objects in the block world.) Whether this indicates that the generated descriptions refer or not depends on the thorny question whether it is correct to say that there is something the computer "*wishes* to communicate about," (condition b) in Neale's basic case), a matter not to be pursued here.

What would be helpful is a realm of agreement or "common ground" between the Russellian and the referentialist positions. We have some in the nature of quantification

itself. If a necessary condition of referring is that the speaker has an object of discourse in mind, something he or she "wishes to communicate something about" then that same condition obtains — there is an elemental component of referring — in delineating (tacitly or explicitly) the domain of quantification itself, because, *inter alia*, it is that very domain that the speaker has as the object of discourse, what the speaker "wishes to communicate something about."

In chapter 4, Neale considers the effect of non-extensional contexts (those in the scope of modal operators or propositional attitudes) on Russellian analyses of definite descriptions. Quine's argument against the intelligibility of quantifying into modal contexts is the concern. If Quine is right, it seems that descriptions in modal contexts cannot be analysed in a Russellian way.

After defining extensional sentential operators in a traditional, Carnapian way as depending solely on the truth values of its constituent sentences, Neale argues that the modal operators "it is necessary that" and "it is possible that" comprise a subclass of *non*-extensional operators, which he labels *intensional* and defines as follows:

> *O* is intensional if and only if any sentence *B* with the same truth conditions as *A* can be substituted for *A* in *O*(*A*) to produce a sentence *O*(*B*) with the same truth value and truth conditions as *O*(*A*). (p.127)

Quine argues that you cannot quantify into modal contexts because the principle of substitutivity (PS) — the ability to substitute in a sentence one name of an object for another name of the same object, *salva veritate*: truth value being preserved — failed in those contexts. (Quine calls contexts where the principle fails *opaque*.) Neale argues to the contrary that modal operators are intensional, and that the principle of substitutivity holds for intensional operators.

Recall that Quine starts with the presumably true statements

a) It is necessary that 9 > 7.

and

b) 9 = the number of the planets.

and argues that the principle of substitutivity should sanction the inference that

c) It is necessary that the number of planets > 7.

But Quine takes (c) to be obviously false (there might have been fewer, or more, than 9 planets), and concludes that the principle is not applicable and the modal context opaque.

Neale responds that A.F. Smullyan [*1948*] had answered Quine quite well, but had been misunderstood. He proceeds to develop Smullyan's argument. First, Neale argues that PS does not sanction the inference as stated because it involves a definite description, not an identity statement involving two genuinely referring expressions (names or demonstratives), which PS requires. In Russell's theory as developed in *Principia Mathematica*, a definite description is an abbreviation. To see what inferences are legitimate, we should unpack the notation and see what inferences can be made in the unabbreviated notation.

So is the inference legitimate in the *un*abbreviated form (without the description)? Following Smullyan, Neale points out that there are two natural interpretations of (c) that treat the phrase "the number of planets" as a definite description:

c1) There is a unique number that numbers the planets, and that number is necessarily greater than 7.
Formally, $(\exists x)(x)(Py \equiv y = x) \ \& \ \lambda(x > 7)$

c2) It is necessary that the number that numbers the planets is greater than 7.
Formally, $\lambda(\exists x)(x)(Py \equiv y = x) \ \& \ (x > 7)$

Interestingly, (c1) quantifies into a modal context, so given his rejection of such quantification, Quine would not *in the end* want to take (c1) as his interpretation of the conclusion c) that PS seems to warrant. (Neale thinks Quine should reject (c1) outright because it quantifies into a modal context, but given the nature of Quine's argument as a *reductio ad absurdum*, he could assume it initially, only to reject at the end.) Moreover, Quine would not want to interpret (c) as (c1) anyway, because it does not capture the obviously *false* statement he takes (an utterance of) (c) to express — if it is intelligible, (c1) seems to be true. Yet, as Smullyan showed, it is (c1) that is derivable from (a) and (b) given standard first order logic (even without appeal to rules of exclusively modal logic). Neale offers a derivation of (c1) that is sound (though marked with some typographical errors.)

Since c1) is not to the point, Neale writes that the

> pertinent question...is whether... [c2] is derivable using standard rules of inference (including PS). (p. 137)

We should, however, generalize the point and say that the question is whether any formal statement interpreting (c) falsely *à la* Quine is derivable from premises (a) and (b), since there are other plausible candidates besides (c2). (For instance, (c2) could be transformed by placing the modal operator just after the existential or the universal quantifier to change its scope — as well as diverge from Russell's treatment of descriptions in PM — or we could formulate the statement in set theory, dispensing with the predicate *P*.) In any case, (c2), the false reading of (c), seems not to be derivable from (a) and (b). Neale argues forcefully that it is not derivable, but does not establish the point. Nonetheless, Neale shows that Quine's argument that modal contexts are opaque does not succeed — in particular, Quine has not shown that a false interpretation of conclusion (c) is derivable from premises (a) and (b). As things stand, then, we can continue to pursue modal logic with quantification. And an apparent obstacle to Neale's program to extend Russellian analyses of descriptions into all contexts has been removed.

In chapters 5 and 6, Neale shows in detail how Russell's theory of descriptions can provide analyses of a broad span of sentences using pronouns. He argues that like all noun phrases, pronouns are analyzable into either referring expressions or quantifiers *à la* Russell's theory of descriptions. Anaphoric pronouns, those having antecedents, also fall into the same two camps. Pronouns whose antecedents are referring expressions are themselves referring expressions, as *he* in the sentence

Jones is a crook; he tried to bribe the judge. (p. 167)

has the referring name Jones as its antecedent (underlining showing the relation between anaphoric pronoun and antecedent).

Neale argues further that pronouns whose antecedents are analyzable into quantifiers are themselves either

- bound to those quantifiers or, more interestingly,
- comprise quantifiers distinct from them.

An example such as

The boy liked the girl who kissed him

belongs to the first group. It may be formalized as

[the x : boy x] ([the y : girl y & y kissed x] (x liked y))

where the penultimate x representing him is bound by the initial quantifier representing the boy. Here Neale is in agreement with the tradition stemming from Quine [*1960*] and Geach [*1962*] on the analysis of these sentences.

Neale spells out a syntactic criterion for distinguishing bound anaphora. This criterion relies on the notion of *c-command*, developed by Reinhart [*1976*] and others:

P1) A phrase A c-commands a phrase B if and only if the first branching node dominating A also dominates B (and neither A nor B dominates the other.) (p. 173)

where a *branching node* is one in the Chomskyan tree representation of the structure or logical form of a sentence, and one node *dominates* another if it is above it in that representation of the sentence. The criterion credited to Evans [*1977*] is then

P2) A pronoun P that is anaphoric on a quantifier Q is interpreted as a variable bound by Q if and only if Q c-commands P. (p. 174)

Neale argues for the existence of the second group of anaphoric pronouns — those to be analyzed in terms of quantifiers not bound to their antecedents — in response to those philosophers and linguists who have argued that certain sentences show that a referential interpretation of these pronouns and their antecedents is necessary. Consider Geach's example

8) John bought some donkeys and Harry vaccinated them.

Neale, following Evans [*1985*], points out that a bound analysis of the anaphor them is inadequate because if we use an existential quantifier to represent the sentence, so:

[some x : donkeys x] (John bought x & Harry vaccinated x)

the representation will be true even if Harry vaccinates only *some* of the donkeys John bought, whereas the natural reading is that Harry vaccinated *all* of the donkeys John bought. Neale argues that referential interpretations of this and related sentences will in general not do because the antecedents are not used referentially. (He notes that sometimes the antecedent proposition *meant* as opposed to the proposition *said* may be used referentially.) Nor, further, he argues, will Geach's "pronouns of laziness" — wherein the pronoun stands for a repeated, verbatim occurrence of its antecedent — entirely account for them. They do not work where the antecedents are indefinite descriptions, as

A cat is on the lawn. He looks like a stray to me. (p. 179)

because the natural readings permit the representations to be satisfied by truth conditions different from those that satisfy the original sentences — here, two cats could be at issue in the representation.

Neale's solution for unbound anaphors like them in 8) is, much like Evans', to treat them as definite descriptions analyzable in terms of Russell's theory. So Neale represents 8) as a conjunction of two sentences:

[some x : donkeys x] (John bought x) &
[the y : donkeys y & John bought y] (Harry vaccinated y) (p. 180)

The anaphor sentence introduces its own description based on the antecedent sentence. The description itself may be further analyzed in a Russellian way.

There is a principle at work here for distinguishing *un*bound anaphora. Neale formulates the half of it operative in the example as follows:

P5a) If x is a pronoun that is anaphoric on, but not c-commanded by, a nonmaximal quantifier '[Dx:Fx]' that occurs in an antecedent clause '[Dx:Fx] (Gx)', then x is interpreted as '[the x : Fx & Gx]' (p. 182)

where a nonmaximal quantifier is one, like *some Fs*, which, when binding an open sentence Gx, does not entail "All F are G" for every G.

Neale raises the question whether the principle is a "descriptive generalization,... processing heuristic,...[or] a linguistic rule" of some kind (p. 184). (Similar questions can be raised about the other principles Neale enumerates.) He favors seeing it "as a generalization, and perhaps also as a processing heuristic, ... [but wants to] proceed as if (P5) were a linguistic rule...." Now, the phrase "x is interpreted" would probably be better read as "x *should* be interpreted," since as stated it does not describe how many would naturally interpret such sentences as 8). The fact that some have been led, as Neale points out, to analyze the sentences otherwise — as a quantifier bound to the antecedent, for instance — shows that the sentences are not naturally interpreted that way. This would seem to make the principle a heuristic or linguistic rule as to how to proceed in analyzing sentences. At the same time, if the rule works, generalization describing the sentence structure you will find if you analyze it the way the principle directs.

In conclusion, Neale dexterously weaves together a variety of strands in the philosophic and linguistic literature. He makes a strong case that Russell's theory of descriptions can provide the centerpiece for an analysis of sentences that have been thought to require a referentially-based account. Neale's book also provides a comprehensive survey of the literature on the tangled topics of referring and descriptions. (Peirce [*1932–1958*] is perhaps the sole major figure who was omitted). It merits the attention of any student of these topics.

References

Barwise J. and Cooper, R. 1981. *Generalized quantifiers and natural language*, Linguistics and Philosophy **4**, 159–219.

Chomsky, Noam. 1986. *Knowledge of language*, New York, Praeger.

Donnellan, Keith. 1966. *Reference and definite descriptions*, Philosophical Review **75**, 281–304.

—. 1968. *Putting Humpty Dumpty back together again,* Philosophical Review **77**, 203–215

Evans, G. 1977. *Pronouns, quantifiers, and relative clauses*, Canadian Journal of Philosophy **7**, 467–536.

—. 1985. *The collected papers*, Oxford, Clarendon Press.

Geach, Peter. 1962. *Reference and generality*, Ithaca, NY, Cornell University Press.

Grice, H.P. 1975. *Logic and conversation*, in P. Cole and J. Morgan (editors), *Syntax and semantics*, vol. 3: *Speech acts* (New York, Academic Press), 41–58.

Kripke, Saul. 1980. *Naming and necessity*, Cambridge, Mass., Harvard University Press.

Peirce, Charles S. 1931–1958. *Collected papers*, Cambridge, Mass., Harvard University Press.

Quine, Willard Van Orman. 1960. *Word and object*, Cambridge, Mass., MIT Press.

Reinhart, T. 1976. *The syntactic domain of anaphora*, Doctoral dissertation, Massachusetts Institute of Technology.

Smullyan, A.F. 1948. *Modality and description*, Journal of Symbolic Logic **13**, 31–37.

Strawson, Peter. 1950. *On referring*, Mind **69**, 320–344.

Thomason, Richmond H. 1989. (editor), *Philosophical logic and artificial intelligence*, Dordrecht, Kluwer Academic Publishers.

Wettstein, H. 1981. *Demonstrative reference and definite descriptions*, Philosophical Studies **40**, 241–257.

Wiggins, D. 1985. *'Most' and 'all': some comments on a familiar programme*, in M. Platts (editor), *Reference, truth, and reality* (London, Routledge & Kegan Paul), 318–346.

Winograd, Terry. 1972. *Understanding natural language*, New York, Academic Press.