

## Facing Facts?

Neale [2001] is an expanded version of a paper that appeared in *Mind* in 1995. In Oppy [1997], I claimed to find fault with various aspects of that original paper. Neale and Dever [1997] then provided a vigorous defence of Neale’s original paper against my complaints. In the preface to the book, Neale [2001:x] says that he “stands by the main points” of both the original paper and the reply to Oppy [1997] My aim in the present paper is to assess the extent to which Neale is right to claim that he has now succeeded in meeting the objections that I brought against Neale [1995].

### 1

The heart of both Neale [1995] and Neale [2001] is a technical result, which Neale [2001:133, 186] refers to as a “knockdown constraint on theories of facts”, and later titles “the descriptive constraint on non-extensional logics”. This technical result is, very simply, that any sentential connective that is both + $\iota$ -SUBS and + $\iota$ -CONV is extensional (at least with respect to atomic sentences).

What is it for a sentential connective to be both + $\iota$ -SUBS and + $\iota$ -CONV?

An n-place connective  $\mathfrak{S}$  is + $\iota$ -SUBS iff:

- (1) for any true sentence  $\mathfrak{S} (... \Sigma(\iota x \phi) ...)$  in which  $\Sigma(\iota x \phi)$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$ , if  $\iota x \phi = \iota x \psi$ , then replacing the contained sentence  $\Sigma(\iota x \phi)$  by the sentence  $\Sigma(\iota x \psi)$  in the original sentence  $\mathfrak{S} (... \Sigma(\iota x \phi) ...)$  yields a true sentence  $\mathfrak{S} (... \Sigma(\iota x \psi) ...)$ ; and
- (2) for any true sentence  $\mathfrak{S} (... \Sigma(\iota x \phi) ...)$  in which  $\Sigma(\iota x \phi)$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$ , if  $\iota x \phi = \alpha$ , then replacing the contained sentence  $\Sigma(\iota x \phi)$  by the sentence  $\Sigma(\alpha)$  in the original sentence  $\mathfrak{S} (... \Sigma(\iota x \phi) ...)$  yields a true sentence  $\mathfrak{S} (... \Sigma(\alpha) ...)$ ; and
- (3) for any true sentence  $\mathfrak{S} (... \Sigma(\alpha) ...)$  in which  $\Sigma(\alpha)$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$ , if  $\alpha = \iota x \phi$ , then replacing the contained sentence  $\Sigma(\alpha)$  by the sentence  $\Sigma(\iota x \phi)$  in the original sentence  $\mathfrak{S} (... \Sigma(\alpha) ...)$  yields a true sentence  $\mathfrak{S} (... \Sigma(\iota x \phi) ...)$ .

And an n-place connective  $\mathfrak{S}$  is + $\iota$ -CONV iff:

- (1) for any true sentence  $\mathfrak{S} (... T[\Sigma(x/\alpha)] ...)$  in which  $T[\Sigma(x/\alpha)]$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$  and containing  $\Sigma(x/\alpha)$ , replacing  $T[\Sigma(x/\alpha)]$  by  $T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))]$  in  $\mathfrak{S} (... T[\Sigma(x/\alpha)] ...)$  produces a true sentence  $\mathfrak{S} (... T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))] ...)$ ; and
- (2) for any true sentence  $\mathfrak{S} (... T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))] ...)$  in which  $T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))]$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$  and containing  $\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))$ , replacing  $T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))]$  by  $T[\Sigma(x/\alpha)]$  in  $\mathfrak{S} (... T[\alpha = \iota x(x=\alpha \ \& \ \Sigma(x))] ...)$  produces a true sentence  $\mathfrak{S} (... T[\Sigma(x/\alpha)] ...)$ .

With the addition of these rules to standard classical predicate calculus, it is easy to show that:

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|-------|-------------------------------|------------------|--|------------------|
| (i)   | $Fa, a \neq b, Gb,$           | $\mathfrak{S}Fa$ |  | $\mathfrak{S}Gb$ |
| (ii)  | $Fa, a = b, Gb,$              | $\mathfrak{S}Fa$ |  | $\mathfrak{S}Gb$ |
| (iii) | $\sim Fa, a \neq b, \sim Gb,$ | $\mathfrak{S}Fa$ |  | $\mathfrak{S}Gb$ |
| (iv)  | $\sim Fa, a = b, \sim Gb,$    | $\mathfrak{S}Fa$ |  | $\mathfrak{S}Gb$ |

Why does Neale suppose that this technical result matters for theories of facts? Consider the fact-identity connective “FIC( $\phi$ ,  $\psi$ )”: “the fact that  $\phi$  = the fact that  $\psi$ ”. If a theory of facts treats this connective as both + $\iota$ -SUBS and + $\iota$ -CONV, then that theory of facts must also treat this connective as extensional. But any theory of facts that takes this connective to be extensional will be a theory of facts according to which there is at most one atomic fact. So—since no acceptable theory of facts can allow that there is at most one atomic fact—any acceptable theory of facts must hold that FIC is either  $\neg\iota$ -SUBS or  $\neg\iota$ -CONV.

## 2

Neale [1995] and Neale [2001] are in close agreement about the significance of the descriptive constraint on non-extensional logics. In both works, we are told that we have learned the following things in the course of the investigation of Gödel’s slingshot, i.e. from the argument presented in Gödel [1944] that yields the descriptive constraint on non-extensional logics:

- (1) Logical equivalence is not the major concern when it comes to the development of constraints on non-extensional logics.
- (2) The power of the descriptive constraint on non-extensional logics lies in the fact that it forces philosophers to say something definite—“if only disjunctively, with precise disjuncts”—about the semantics of definite descriptions as soon as they step outside the realm of extensional logic, and as soon as they posit entities to which sentences are meant to correspond.
- (3) The descriptive constraint on non-extensional logics need not spell trouble for advocates of non-extensional logics and connectives who endorse Russell’s Theory of Descriptions.
- (4) The descriptive constraint on non-extensional logics yields an elegant test for examining the logics of purportedly non-extensional contexts.
- (5) Referential treatments of descriptions have unpleasant consequences that are highlighted by the descriptive constraint on non-extensional logics.
- (6) In view of the descriptive constraint on non-extensional logics, every fact theorist is required to provide a logic for FIC that is not both + $\iota$ -SUBS and + $\iota$ -CONV, that does justice to “the semi-ordinary, semi-philosophical ideas” of what facts are, and that permits facts to do some philosophical work. (In meeting the third of these requirements, the friend of facts must “put together a theory according to which facts are not so fine-grained that they are sentence-like, and not so coarse-grained that they collapse into one”.)

Some of these claims are clearly correct. In particular, it is plainly right to say that logical equivalence is not an issue for the descriptive constraint on non-extensional logics, and that the descriptive constraint on non-extensional logics yields an *elegant* test for examining the logics of purportedly non-extensional contexts. Moreover, it seems to me that Neale is surely right to claim that the descriptive constraint on non-extensional logics need not spell trouble for advocates of non-extensional logics and connectives who endorse Russell’s Theory of Descriptions.

However, there are other claims here that seem to me to be highly contestable. It is, at the very least, worth asking whether Neale adequately supports the claim that the descriptive constraint on non-extensional logics really does highlight unpleasant consequences for *all* referential treatment of descriptions. Moreover, it also worth asking whether the descriptive constraint on non-extensional logics really does *force* philosophers to say something definite about the semantics of definite descriptions.

Finally, it is worth asking what role the descriptive constraint on non-extensional logics has in *demanding* that fact theorists conform to the strictures laid down in (6).

In each of these cases, there is a fairly strong *prima facie* argument in support of the claim that the descriptive constraint on non-extensional logics does not do what Neale explicitly says that it does.

*First*, suppose that one defends a referential treatment of descriptions according to which the only thing that an extensional occurrence of a description contributes to truth conditions is the object—if there is one—which satisfies the description. On such a referential treatment of descriptions, it follows immediately—given the further assumption that the only thing that an extensional occurrence of a genuine singular term contributes to truth conditions is the object, if there is one, that is referred to by the singular term—that  $a=a$  and  $a=\iota x(x=a \& Fx)$  express the same fact in cases in which the description  $\iota x(x=a \& Fx)$  is satisfied by a unique object. Unless one is attracted to a theory of facts according to which the sentences  $Fa$  and  $a=a$  express the same fact (for *every* interpretation of the predicate  $F$ ), then it seems that, regardless of the details of one's referential treatment of descriptions, one will reject the claim that FIC is + $\iota$ -CONV. But—as Neale [2001:132] himself notes—it is hard to imagine *any* friend of facts accepting the claim that  $Fa$  and  $a=a$  express the same fact. Moreover—and this is the important point in the present context—it seems clear that, unless the friend of facts goes back on the insistence that  $Fa$  and  $a=a$  express different facts, then the friend of facts has all the reason that they need to deny that FIC is + $\iota$ -CONV. Whatever further difficulties there may be in the proposal to develop a referential theory of descriptions, it is very hard to see how there could be any other problems that arise as a result of the descriptive constraint on non-extensional logics.

*Second*, suppose that one is a fact theorist with little interest in the theory of descriptions. Suppose further—as seems plausible—that one takes the alternatives to be *some* kind of referential theory of the kind described in the previous paragraph or *some* kind of structural theory of the kind exemplified by Russell's theory of descriptions, and that one has no interest in which kind of theory is correct, nor any interest in further details concerning the theories of either kind. Given the argument of the previous paragraph—and given the claims that Neale himself advances on behalf of Russell's Theory of Description—it seems clear that our fact theorist can quite confidently deny that FIC is + $\iota$ -CONV. (On any remotely plausible version of either kind of theory,  $Fa$  and  $a=\iota x(x=a \& Fx)$  express distinct facts: on referential theories, this is because  $a=\iota x(x=a \& Fx)$  expresses the same fact as  $a=a$ ; and on structural theories, this is because  $a=\iota x(x=a \& Fx)$  is a structured fact while  $Fa$  is an atomic fact.) So, contrary to Neale's claim, it seems that the descriptive constraint on non-extensional logics does not force a fact theorist to choose between precisely formulated theories of definite descriptions.

*Third*, if the argument of the previous paragraph is correct, then it is clear that the descriptive constraint on non-extensional logics does not *require* a fact theorist to provide a logic of FIC that satisfies the constraints that Neale provides: one can confidently deny that FIC is + $\iota$ -CONV without knowing anything else about the logical behaviour of FIC. Moreover, it is surely just a mistake to insist that it is the descriptive constraint on non-extensional logics that requires the friends of facts to provide a logic of FIC that does justice to “the semi-ordinary, semi-philosophical ideas” of what facts are, and that permits facts to do some philosophical work. Of course, these *are* genuine constraints on theories of facts: but they are constraints that theories of facts are obliged to meet quite apart from any issues about the descriptive constraint on non-extensional logics.

Here is a different way of making the case that Neale *overstates* the significance of the descriptive constraint on non-extensional logics for reasonable friends of facts. Consider, instead, the friends of beliefs—i.e. those theorists who are prepared to suppose that sentential connectives like “John believes that ()” are viable non-extensional sentential connectives that can be used to do serious philosophical work—and the belief-identity connective “BIC( $\phi$ ,  $\psi$ )”: “the belief that  $\phi$  = the belief that  $\psi$ ”. Whatever consequences the descriptive constraint on non-extensional logics has for friends of facts, it has too for friends of beliefs. But do we really want to say that, *in view of the descriptive constraint on non-extensional logics*, every reasonable belief theorist is required to provide a logic for BIC that is not both + $\iota$ -SUBS and + $\iota$ -CONV, that does justice to “the semi-ordinary, semi-philosophical ideas” of what beliefs are, and that permits beliefs to do some philosophical work? Neale himself rejects this conclusion, allowing that “the constraint is trivially satisfied by practically every theory one might take seriously” (Neale [2001:203]). (One might also consider the case of the necessity operator here. Neale himself accepts that no dire consequences follow for friends of modality from the descriptive constraint on non-extensional logics because “modal logicians are [rightly] antecedently disposed to think that  $\Box$  is – $\iota$ -SUBS” (Neale [2001:174]).) Why, then, is it not sufficient to note that friends of facts are rightly antecedently disposed to think that FIC is – $\iota$ -CONV, and that (arguably) friends of facts are also rightly antecedently disposed to regard FIC as – $\iota$ -SUBS?

### 3

Neale’s response to the question raised at the end of the preceding section is to deny that friends of facts are [rightly] antecedently disposed to think that FIC is – $\iota$ -CONV, and to deny that friends of facts are [rightly] antecedently disposed to regard FIC as – $\iota$ -SUBS. This response brings us to one of the claims from Oppy [1997] that is most strongly criticised by Neale and Dever [1997] and by Neale [2001]. In that paper, I said that “as far as I can tell, it is almost impossible to construct a *prima facie* plausible theory of facts which falls foul of Gödel’s slingshot”.<sup>1</sup>

Neale [2001:205-9] offers three cases that are intended to be counterexamples to the unqualified version of the above claim, i.e. three cases that he supposes to be *prima facie* plausible theories of facts that allow that FIC is both + $\iota$ -CONV and + $\iota$ -SUBS.

*First*, Neale considers “Wittgensteinian” theories of facts that are committed to the following claims: (i) at bedrock, there are only atomic, particular facts; (ii) all facts are truth functions of particular facts; (iii) logical constants do not stand for components of facts; (iv) tautologies do not stand for facts; and (v) universals are not components of facts. And, as particular instances of Wittgensteinian theories of facts, Neale considers the theory of Prior [1948]—in which it is explicitly assumed that logically equivalent sentences stand for the same fact—and the theory of Wittgenstein

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<sup>1</sup> Neale [2001:204/5] reports me as claiming that “no fact theorist could *ever* begin constructing a theory of facts which, upon later examination, was found to entail a treatment of FIC as + $\iota$ -SUBS and + $\iota$ -CONV” (Neale’s italics), and as “trumpeting” that “no one could ever consider putting forward a theory that was later found to violate [the descriptive constraint on non-extensional logics]” (Neale [2001:202n1]). There is nothing in Oppy [1997] to support either of these attributions. Later, Neale [2001:205] gets things more nearly right: [A]ccording to Oppy, every *prima facie* plausible theory of facts will treat FIC as either – $\iota$ -SUBS or – $\iota$ -CONV.” While this is still stronger than the claim that I actually made, it at least picks up on the restriction to *prima facie* plausible theories.

[1921/1961]—which, like the theory of Prior [1948], commits itself to the logical equivalence of  $Fa$  and  $a = \iota x(x=a \& Fx)$  by way of commitment to Russell’s Theory of Descriptions.

On Neale’s account, it can hardly be denied that Prior is committed to the claim that FIC is + $\iota$ -CONV. Moreover, it is very plausible that Wittgenstein, too, was committed to the claim that FIC is + $\iota$ -CONV. However, before we then start to fret about the possibility that either of these theorists is also committed to the claim that FIC is + $\iota$ -SUBS, it is worth pausing to ask whether the elaborated theories are so much as *prima facie* plausible. There are good reasons for claiming that they are not. In particular, we can appeal here to the one independent constraint on theories of facts that is mentioned by Neale [2001:86], viz. that T is a truth-maker for sentence S iff it is necessary that if T exists then S is true. Given this constraint, it is not even *prima facie* plausible to suppose that truth functions of particular facts can serve as truthmakers for quantified sentences. A universal quantification is not any kind of conjunction of atomic sentences, but conjunctions of atomic facts can only suffice to make true conjunctions of atomic sentences. (To deny this, one needs to accept something that is *prima facie* most implausible, e.g. that there are none but necessary existents and necessary truths.)

*Second*, Neale considers the theory of Wilson [1959, 1974] who holds that: (i) the world is the totality of facts; (ii) a true sentence corresponds to a fact; (iii) facts are true propositions; (iv) there are only atomic particular propositions; (v) there are only atomic particular facts; (vi) FIC is + $\iota$ -SUBS; (vii) FIC is +PSST<sup>2</sup>; (viii) propositions contain individuals, properties and times as components; (ix) FIC (the teacher of Plato is wise, something is wise and identical to all and only those things that are teachers of Plato).

In this case, Neale himself notes that we hardly need to have recourse to the descriptive constraint on non-extensional logics to suspect that we have not been offered a coherent theory. In particular, it is worth noting that it follows from (ii)-(v) that true quantificational sentences—and true sentences involving complex iterations of operators of any kind—correspond to atomic particular facts. But it is not even *prima facie* plausible to suppose that true quantificational sentences are made true by *individual* atomic particular facts, particularly if one supposes—as Wilson does—that atomic facts have individuals, properties and times as components. (Example. At time  $t$ , there are two blue cups, C1 and C2, on my desk, D. So we have the following true atomic facts: C1 is a cup at  $t$ ; C1 is blue at  $t$ ; C1 is on D at  $t$ ; C2 is a cup at  $t$ ; C2 is blue at  $t$ ; C2 is on D at  $t$ . But which *single* atomic fact makes true the true sentence ‘There are exactly two blue cups on my desk at  $t$ ’?)

*Third*, Neale considers “Austinian” theories of facts, according to which: (i) facts are truthmakers; (ii) there need be no structural correspondence between the words used to make a (true) statement and a fact; (iii) it is in order to ask questions about “whether the statement that S squares with or ‘does justice to’ the fact that F” and hence it is in order to introduce the connective SQ( $\phi$ ,  $\psi$ ): “the statement that  $\phi$  squares with the fact that  $\psi$ ”.

It is hard to suppose that this suffices to describe something that deserves to be called a “theory” of facts. Moreover, it is worth asking what Austin himself was

<sup>2</sup> An  $n$ -place connective  $\Phi$  is +PSST iff: for any true sentence  $\Phi (... \Sigma(\alpha) ...)$  in which  $\Sigma(\alpha)$  is an extensional sentence occurring as an operand of  $\Phi$ , and in which  $\alpha$  has at least one occurrence, if  $\alpha$  and  $\beta$  are co-extensional singular terms (i.e. if  $\alpha = \beta$ ), then  $\Phi (... \Sigma(\beta) ...)$  is also true, where  $\Sigma(\beta)$  is the result of replacing at least one occurrence of  $\alpha$  in  $\Sigma(\alpha)$  by  $\beta$ , and in which  $\Phi (... \Sigma(\beta) ...)$  results from  $\Phi (... \Sigma(\alpha) ...)$  by the replacement of at least one occurrence of  $\Sigma(\alpha)$  by an occurrence of  $\Sigma(\beta)$ .

allowing when he countenanced questions about whether the statement that S squares with or does justice to the fact that F. It is clear from the context of Austin’s remark that he would not have accepted *any* instance of  $SQ(\varphi, \varphi)$ , but would rather have dismissed all instances of  $SQ(\varphi, \varphi)$  as “nonsense”.<sup>3</sup> But, before we can make any assessment of Austin’s “theory”, we need to know what kinds of instances of  $SQ(\varphi, \psi)$  would *not* have been rejected by Austin as “nonsense”. Given that Austin is making an *ordinary language* point—about the ordinary use of expression of the form “the statement that S squares with the fact that F”—it would be *very* surprising if Austin supposed that his point somehow supported the claim that SQ is both + $\iota$ -SUBS and + $\iota$ -CONV.<sup>4</sup>

Despite these misgivings, it is, of course, also clear that there are “Austinian” theories of facts that fall foul of the descriptive constraint on non-extensional logics. For instance, we need only add the assumptions (iv) SQ is + $\iota$ -SUBS and (v) SQ is + $\iota$ -CONV to the assumptions already made. However, even setting aside the descriptive constraint on non-extensional logics, I can’t see any reason for claiming that (i)-(v) constitutes a *prima facie* plausible theory of facts. Certainly (i)-(iii) alone do not constitute a *prima facie* plausible theory of facts; and, moreover, it is not clear that there is any good reason to think that (i)-(iii) could be made into a *prima facie* plausible theory of facts by the addition of further clauses.

Apart from the three cases that I have considered, Neale also claims to find support in Taylor [1985] for the claim that “there are legitimate philosophical pressures driving the fact-theorist towards acceptance of the inference principles  $\iota$ -SUBS and  $\iota$ -CONV in connection with FIC. ... Taylor is here suggesting that according to common views of the role and nature of facts, FIC is both + $\iota$ -SUBS and + $\iota$ -CONV.”

I fail to see that there is a conflict between the *first* claim attributed to Taylor and the claim that I have defended. On the one hand, there are things to be said on behalf of extensionality: if we could get by without non-extensional connectives, life would be easier. So, of course, there *is* legitimate philosophical pressure driving the fact-theorist towards acceptance of the inference principles  $\iota$ -SUBS and  $\iota$ -CONV in connection with FIC. On the other hand, I have yet to find any reason to think that there are *prima facie* plausible theories of facts in which FIC is both + $\iota$ -SUBS and + $\iota$ -CONV.<sup>5</sup> (Perhaps it is worth noting that there is just the same kind of legitimate

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<sup>3</sup> This last point surely establishes that Austin’s own “theory” of facts is not vulnerable to a collapsing proof that begins with an instance of  $SQ(\varphi, \varphi)$ , whether or not we suppose that SQ is + $\iota$ -SUBS and SQ is + $\iota$ -CONV. If we are to get a collapse using  $SQ(\varphi, \psi)$ , the strategy will be different from the obvious strategy that Neale mentions in connection with FIC ( $\varphi, \psi$ ).

<sup>4</sup> The descriptive constraint on non-extensional logics tells us that, if he holds that there are some instances of  $SQ(\varphi, \psi)$  that are not “nonsense”, for atomic  $\varphi$  and  $\psi$ , then SQ cannot be both + $\iota$ -SUBS and + $\iota$ -CONV. Given the plausibility of the suggestion that Austin had not given any explicit consideration to the question whether SQ is both + $\iota$ -SUBS and + $\iota$ -CONV, the fact that he holds that there are instances of  $SQ(\varphi, \psi)$  that are not “nonsense” makes it most reasonable to draw the conclusion that Austin was *implicitly* committed to the claim that SQ is not both + $\iota$ -SUBS and + $\iota$ -CONV. Or—if that is overstating matters—at any rate, it seems clearly wrong to think that there is good reason to hold that Austin was *committed* to the claim that SQ is both + $\iota$ -SUBS and + $\iota$ -CONV.

<sup>5</sup> It is also worth asking whether Taylor really is suggesting that, according to common views of the role and nature of facts, FIC is both + $\iota$ -SUBS and + $\iota$ -CONV; and, even more importantly, it is worth asking whether it is really true that there is a widespread opinion amongst those who have thought seriously about facts that FIC is both + $\iota$ -SUBS and + $\iota$ -CONV. Of course, even if it turns out that there is a widespread opinion amongst those who have thought seriously about facts that FIC is both + $\iota$ -SUBS and + $\iota$ -CONV, there is still the question whether this belief is so much as *prima facie* plausible:

philosophical pressure driving the belief-theorist towards acceptance of the inference principles  $\iota$ -SUBS and  $\iota$ -CONV in connection with BIC.)

I take it that the upshot of this investigation is that Neale has not managed to provide good reasons to deny that *reasonable* friends of facts are [rightly] antecedently disposed to think that FIC is  $\neg\iota$ -CONV, and to deny that *reasonable* friends of facts are [rightly] antecedently disposed to regard FIC as  $\neg\iota$ -SUBS. Given the discussion of the previous section—in which I provided what I take to be good reasons to allow that *reasonable* friends of facts are [rightly] antecedently disposed to think that FIC is  $\neg\iota$ -CONV, and good reason to allow that *reasonable* friends of facts are [rightly] antecedently disposed to regard FIC as  $\neg\iota$ -SUBS—I conclude that the *main* point of Oppy [1997] still stands.

#### 4

The presentation of Oppy [1997] is flawed in various ways. In particular, as Neale and Dever (1997) pointed out—at least *inter alia*—I used the term “Gödel’s Slingshot” to refer both to the derivation of the descriptive constraint on non-extensional logics, and to arguments that seek to make use of the descriptive constraint in connection with the connective FIC in order to draw substantive conclusions about theories of facts.<sup>6</sup> This flaw enables Neale and Dever [1997] and Neale [2001] to discern various “errors” in Oppy [1997] that I do not think are really errors at all.

Neale [2001:131n5] notes that Bernays [1946] seems to have mistakenly supposed that the derivation of the descriptive constraint on non-extensional logics somehow relies upon a failure to distinguish between the sense and references of sentences, and then adds that “Bernays’s mistake is repeated by Oppy [1997]”.<sup>7</sup> I think now—and I thought then—that there is no doubt that the *derivation* of the descriptive constraint on non-extensional logics does not involve a failure to distinguish between the sense and reference of sentences, and nor does *it* rely upon assumptions about direct reference and semantic innocence. So my careless use of terms like “Gödel’s slingshot” and “slingshot arguments” certainly invites the scorn that Neale (and Dever) direct at my apparent mistake. However, there *is* a point in the neighbourhood that seems to me to be much less deserving of contempt.

Neale [2001:221] repeats the claim of Neale [1995:815] that “*no* fact-theorist who intends to get some metaphysical work out of facts wants to deny that FIC is +PSST. So the fact theorist who wants to maintain that descriptions are singular terms has some work to do to avoid Gödel’s slingshot.” However, it seems to me that some

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sadly, it is possible for beliefs that are not even *prima facie* plausible to become widespread, even amongst philosophers.

<sup>6</sup> See Neale and Dever [1997:146], Section 2 “Interpretative problems”. Neale and Dever [1997:146] also complain that it is hard to tell whether I am arguing that there is something wrong with the derivation of the descriptive constraint on non-extensional logics, or that the descriptive constraint on non-extensional logics has no philosophical significance. In fact, I took myself only to be arguing that the descriptive constraint on non-extensional logics has *much* less significance for theories of facts that Neale [1995] seems to be claiming (and, in particular, as noted in the previous sections of this paper, that it is exceedingly hard to find otherwise *prima facie* plausible theories of facts that fall foul of the descriptive constraint on non-extensional logics). I agree that the presentation of Oppy [1997] is much less clear about these matters than is desirable.

<sup>7</sup> Neale and Dever [1997:149] write: “One pervasive and bizarre feature of Oppy’s paper is his insistence that ‘the assumption of semantic innocence (or direct reference, or both) is implicitly built into the construction of slingshot argument’”, and then go on to demolish the idea that the derivation of the descriptive constraint on non-extensional logics makes any assumptions about semantic innocence or direct reference.

kind of *substantive* assumption is required in order to reach the conclusion that *no* fact theorist who intends to get some metaphysical work out of facts wants to deny that FIC is +PSST.

Neale [1995:783/4; 2001:152/3] provides a list which he provisionally supposes to comprise the entire class of singular terms: ordinary proper names, the simple demonstratives ‘this’ and ‘that’, complex demonstratives such as ‘this man’ and ‘that man’, first- and second-person singular pronouns ‘I’, ‘me’ and ‘you’, and at least some occurrences of third-person singular pronouns ‘he’, ‘him’, ‘she’, ‘her’ and ‘it’ (including those occurrences that function as variables hooked up to noun phrases). And, of course, it surely *is* plausible to claim that FIC is +PSST for all of these singular terms. (Moreover, it is also surely plausible to claim that modal operators are +PSST for all of these singular terms: if  $\alpha$  and  $\beta$  are substitutable *s.v.* in extensional contexts for terms chosen from the class, then  $\Box(\alpha=\beta)$ .)

But, now, suppose that we entertain the hypothesis that definite descriptions are singular terms. Under this hypothesis, it is plainly not plausible to suppose that *modal* operators are +PSST: *nobody* wants to be committed to the claim that, if  $\Box\phi$  and  $\Box\psi$  are substitutable *s.v.* in extensional contexts, then  $\Box(\Box\phi = \Box\psi)$ , even though we all do want to allow that  $\Sigma(y/\Box\phi)$  and  $\Sigma(y/\Box\psi)$  have the same truth value if  $\Sigma(y)$  is extensional and contains at least one occurrence of  $y$ . Moreover, if we hang on to the idea that identities are necessary—which I shall suppose that we must, though it will become clear that nothing of importance for the overall argument turns on this assumption<sup>8</sup>—then we need not accept that  $\Box\phi = \Box\psi$  even though  $\Box\phi$  and  $\Box\psi$  are substitutable *s.v.* in extensional contexts.

If we do go this way, what will be the consequences for the FIC operator? Well, surely, if we deny that  $\Box(\Box\phi = \Box\psi)$ , we shall also want to deny that  $\Box$  (the fact that  $\Sigma(y/\Box\phi) =$  the fact that  $\Sigma(y/\Box\psi)$ ). But, if that’s right, then we shall deny that the fact that  $\Sigma(y/\Box\phi) =$  the fact that  $\Sigma(y/\Box\psi)$ , even though we accept that  $\Sigma(y/\Box\phi)$  and  $\Sigma(y/\Box\psi)$  are inter-substitutable *s.v.* in extensional contexts. And, if that’s right, then it does turn out that FIC is  $\neg$ -SUBS, which allows the friend of facts who embraces a referential treatment of definite descriptions to avoid any entanglement with the descriptive constraint on non-extensional logics in their treatment of FIC.

In order to block this line of reasoning, one route that we might take is to make some kind of *substantive* assumption about the semantics of singular terms. We might assume that singular terms must be *rigid*; but that seems to rule out referential treatments of definite descriptions by *fiat*: surely any referential treatment of definite descriptions will have to suppose that definite descriptions are non-rigid singular terms. We might assume *both* direct reference and semantic innocence: if the only thing that a singular term ever contributes to semantic content is the object to which it actually refers, then singular terms are guaranteed to be rigid. But, again, this seems to rule out any referential treatment of definite descriptions by *fiat*. Moreover, assuming both direct reference and semantic innocence has consequences for the treatment of, say, BIC that we might well not wish to accept.

There is also another route that one might take to try to block the above line of reasoning. If we agree that *identities* are necessary, then we need some other vocabulary to describe the case in which, speaking loosely, there is “contingent identity”, i.e. where there are terms that agree in extension but disagree in intension.

<sup>8</sup> If we reject the assumption that identities are necessary—and hold, instead, that there can be contingent identities—then the ultimate point will be that fact theorists can tolerate the conclusion that any atomic fact is contingently identical to any other atomic fact provided that they can also deny the conclusion that any atomic fact is necessarily identical to any other atomic fact.



So, let us say that  $\alpha$  is coincident with  $\beta$  just in case  $\alpha$  and  $\beta$  are substitutable *s.v.* in extensional contexts, and write  $\alpha C\beta$  when this is the case. Now introduce a new connective FCC ( $\phi, \psi$ ) which is to be read: the fact that  $\phi$  is coincident with the fact that  $\psi$ . Suppose that we could show that, under the assumptions that we have made, FCC runs afoul of the descriptive constraint on non-extensional logics. Wouldn't it then follow that friends of facts who embrace referential treatments of definite descriptions are in trouble after all? I don't think so: there is no reason at all to think that *this* kind of 'collapse' would pose any threat to the idea that facts can do genuine philosophical work. If there are many distinct but coincident facts, it is clearly possible that different facts be involved in different causal explanations, etc. What needs to be shown, in order to threaten friends of facts, is that FIC runs foul of the descriptive constraint on non-extensional logics; but we now have an argument that, *at worst*, FCC will run foul of that descriptive constraint, on the assumption that definite descriptions are singular terms.<sup>9</sup>

There is a significant conclusion that can now be drawn: we do need an argument for the claim that singular terms are +PSST *if* we further suppose that definite descriptions belong to the class of singular terms. Neale provides no such argument, and in consequence, at the very least, there is a hole in his case for the claim that the fact theorist who wants to maintain that definite descriptions are singular terms has some work to do to avoid Gödel's slingshot.<sup>10</sup> Of course, if the argument of the present section is correct, then it adds weight to the case that was argued in earlier sections of the present paper. If the only *prima facie* plausible treatments of definite descriptions are structural theories like Russell's and theories that treat definite descriptions as non-rigid singular terms, then there are no *prima facie* plausible theories of facts that fall foul of the descriptive constraint on non-extensional logics. Moreover, if theories that treat definite descriptions as non-rigid singular terms are not *prima facie* plausible, then we are left with just Russellian theories—and, in that case, we can be quite sure that the descriptive constraint on non-extensional logics has no serious implications for *reasonable* friends of facts.<sup>11</sup>

## 5

<sup>9</sup> Perhaps we might even be tempted to say that "the great fact" is *constituted* by the various distinct facts with which it is coincident—cf. the view that a statue is *distinct* from the lump of clay from which it is constituted.

<sup>10</sup> Consider a slightly fuller version of the quotation from Neale [1995:815] mentioned above: "I take it that no fact theorist wants to deny that FIC is +PSST. So the fact theorist who wants to maintain that descriptions are singular terms has some work to do to avoid Gödel's slingshot. ... Denying that FIC is + $\iota$ -CONV means taking a definite position on the semantics of descriptions. The fact theorist who is a Russellian about descriptions has an easier task, for he or she has the option of denying that FIC is + $\iota$ -SUBS." These sentences are repeated in Neale [2001:221], with the qualification that the "definite position" might be disjunctive "with precise disjuncts". This extract surely makes it clear that Neale just takes it for granted that FIC is + $\iota$ -SUBS even on referential treatments of descriptions.

<sup>11</sup> Neale and Dever [1997:151] claim that there is methodological muddle in the predecessor to the argument of the present section in Oppy [1997]. There I claimed that it seemed obvious that those who treat definite descriptions as singular terms will deny that FIC is +PSST, and I went on to note that everyone denies that modal operators are +PSST. In response, Neale and Dever [1997:151] say: "There is no reason to think that every fact theorist is going to treat FIC and  $\square$  as having the same logic. ... None of this guarantees that every fact theorist is going to treat FIC as  $\neg\iota$ -SUBS, let alone treat it as  $\neg\iota$ -SUBS because  $\square$  is  $\neg\iota$ -SUBS." Now, of course, there is no guarantee that *every* fact theorist will do these things; but the key question is whether there are any *prima facie* plausible theories of facts that do not have the relevant features. If, for instance, one is attached to the idea that any *prima facie* plausible theory will insist that identities are necessary, then one will have reason to suppose that any *prima facie* plausible theory will treat FIC as  $\neg\iota$ -SUBS because  $\square$  is  $\neg\iota$ -SUBS.

Neale and Dever [1997:162] note explicitly that they had a lot of trouble discerning the main line of argument in Oppy [1997], and in seeing the relevance of various points made in Oppy [1997]. Since what I take to be the major weaknesses of Neale [1995] are repeated in Neale [2001], it will be worth trying to clear up some of the difficulties that Neale and Dever [1997] had in making out the intended objections.

In order to give a framework to my argument for the conclusion that the descriptive constraint on non-extensional logics does not have interesting and important philosophical consequences for reasonable friends of facts or for reasonable friends of referential treatments of definite descriptions, it will be useful to establish a criterion for determining whether the descriptive constraint does have interesting and important philosophical consequences for reasonable friends of facts or for reasonable friends of referential treatments of definite descriptions. I think that a plausible such criterion is *something* like the following: the descriptive constraint must impose a constraint that filters out at least some *prima facie* plausible theories, i.e. filters out at least some theories that would not otherwise be filtered out by relatively superficial considerations of simplicity, completeness, fit with data, etc., and that would not otherwise be filtered out by considerations of consistency, where the inconsistency in question is both relatively superficial and independent of the descriptive constraint on non-extensional logics. (For instance, if a theory says that there are no general facts, and also says that there are general facts, then it is not a *prima facie* plausible theory, whether or not it holds that FIC is both + $\iota$ -SUBS and + $\iota$ -CONV. On the other hand, if a theory of facts is subject only to an inconsistency that is at least as subtle as the inconsistency that is generated if the theory holds that FIC is both + $\iota$ -SUBS and + $\iota$ -CONV and yet also holds that there is more than one atomic fact, then this consideration alone is insufficient to rule out the claim that the theory is *prima facie* plausible.)

In Oppy [1997], the spelling out of what is required in order for the descriptive constraint on non-extensional logics to impose a constraint that filters out at least some *prima facie* plausible theories includes a statement to the effect that it must filter out some theories that would not be filtered out by considerations of consistency, completeness, fit with data, simplicity, and so forth. The mention of ‘consistency’ here provided an opening on which both Neale and Dever [1997] and Neale [2001] pounce. According to the former: ‘Gödel’s Slingshot is not a magical way of imposing utterly novel constraints on a philosophical position: it’s a deductive argument meant to draw out inconsistencies already lurking in a position. The mere constraint of consistency already entails any constraints unearthed by Gödel’s slingshot. ... Gödel’s slingshot is a way of showing that [a] theory is inconsistent. Of course it cannot establish anything that wasn’t already lurking, how could it?’ And, according to the latter: “This, of course, is precisely what the proof is supposed to do: force the fact-theorist to articulate his or her theory with sufficient precision that it can be evaluated for consistency given that a definite barrier to consistency has been established. The point is not to eradicate talk of facts but to filter out theories of facts that are inconsistent. [This is something Oppy [1997] fails to appreciate.]”

It seems to me to be natural to read Oppy [1997] to be committed to the suggestion that what the descriptive constraint on non-extensional logics is required to do in order to have important and interesting consequences for friends of facts is to filter out some theories that would not *otherwise* be filtered out by considerations of consistency, completeness, fit with data, simplicity, and so forth. Amongst inconsistent theories of facts, not all of the inconsistencies can be traced back to

violations of the descriptive constraint on non-extensional logics: there are plenty of inconsistent theories of facts that do not directly violate this constraint. (Consider the theory that consists of the following two claims: (i) there are no general facts; (ii) there are some general facts. This theory is inconsistent; but it does not directly violate the descriptive constraint on non-extensional logics.)<sup>12</sup> Given this—perhaps charitable—understanding of the suggestion made in Oppy [1997], there is no justification for the complaints made about it by Neale and Dever [1997] and Neale [2001].

## 6

Another provocative claim in Oppy [1997] involved the suggestion that the constraint imposed on theories of facts by the descriptive constraint on non-extensional logics is no more philosophically interesting than the constraint imposed by Oppy's Cheapshot, i.e. by the constraint that no theory of facts should allow that it is a fact that the moon is made of green cheese, or by the constraint that no theory of facts should allow that it is a fact that the greatest prime number is less than 200. Neale [2001:209n7]—following Neale and Dever [1997:159n13]—remarks: “Oppy has simply missed the real point of the proof based on Gödel's slingshot: it imposes a *structural* constraint on theories of facts, a constraint about the logic of facts as manifested in the connective FIC, a constraint on fact identity”.

I think that Neale (and Dever) have just missed the (rhetorical) point of my Cheapshot. No one can dispute that it is a constraint on theories of facts that they should not allow that it is a fact that the moon is made of green cheese: any theory of facts that endorses this claim is ruled out on the grounds that it fails to fit with the pre-theoretical datum that false sentences do not express facts. Likewise, no one can dispute that it is a constraint on theories of facts that they should not allow that it is a fact that the greatest prime number is less than 200: there is no possible world in which a theory of facts that endorses this claim can be correct. Consequently, in the space of possible (constructible) theories of facts, there certainly *are* theories of facts that are filtered out by both of these constraints. But, of course, no one could suppose that either of these constraints has any genuine philosophical significance, e.g. because they filter out *prima facie* plausible theories that reasonable friends of facts have exhibited some tendency to endorse. The point of my Cheapshot—whether or not it is justified—is to suggest that there is no more reason to suppose that the descriptive constraint on non-extensional logics filters out (otherwise) *prima facie* plausible theories that reasonable friends of facts have exhibited some tendency to endorse. Granted, some friends of facts have exhibited some tendency towards endorsing theories of facts that are filtered out by the descriptive constraint on non-extensional logic: but no case has yet been made that those theories are (otherwise) *prima facie* plausible. And, when we look at the theories of facts that have been endorsed by what I would call serious friends of facts, we find that none of these theories are filtered out by the constraint: see, for example, van Fraassen [1969], Taylor [1976], Skyrms [1981], Fine [1982], Barwise and Perry [1983], Pollock [1984], Barwise and Etchemendy [1989], Armstrong [1997], and Mellor [1995]. That my Cheapshot differs from the descriptive constraint on non-extensional logics in not

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<sup>12</sup> Of course, given *ex falso quodlibet*, there is a sense in which even this simple theory does violate the descriptive constraint on non-extensional logics; but it would be silly to claim that we *need* the descriptive constraint on non-extensional logics in order to identify the inconsistency in the theory, or to claim that the *primary* logical flaw in the theory is that it violates this constraint.

imposing a *structural* constraint on theories of facts is neither here nor there, given the rhetorical point that the Cheapshot is intended to make.<sup>13</sup>

## 7

Neale [1995:764] claims to “answer *all* technical questions raised by slingshot arguments”, whereas Neale [2001:12] only promises to “answer *most* questions of a technical nature raised by slingshot arguments” (my italics). In Oppy [1997] I raised some questions of a technical nature, though these questions were incidental to the purposes of that paper. It may not be entirely without interest to recall some of these questions here.

First, I remarked that “it isn’t obvious that Gödel’s slingshot can be successfully reformulated in (all versions of) free logics”. Neale and Dever [1997:146n3] responded with the claim that “This looks like a complaint about the slingshot proof of [the descriptive constraint on non-extensional logics]. It’s not a very good complaint ... An inspection reveals that the argument goes through unaltered when the background logic is taken to be free”. However, Neale [2001:180n4] notes that “Mark Sainsbury has pointed out to me that certain forms of so-called free logic must deny that extensional contexts are  $\iota$ -CONV.” So, in fact, Neale has come around to the view that some free logicians will be *required* to reject the descriptive constraint on non-extensional logics. (Plainly enough, the descriptive constraint on non-extensional logics does *not* pose the question whether it is possible to have a useful ontology of facts to such a free logician. On the other hand, it might be that the position in question is not even *prima facie* plausible. Certainly, Neale himself is happy to ignore the position in subsequent discussion.)

Second, I suggested that it might be possible to avoid the descriptive constraint on non-extensional logics by adopting a language that eschewed both singular terms and definite descriptions in canonical notation or—“relatedly”—by supposing that there are only general facts, and not particular facts. I made the mistake of tying the first part of this suggestion to Quine’s suggestion about how to eliminate singular terms—and Neale and Dever [1997:147] and Neale [2001:174] rightly take me to task for this. Moreover, the first part of this suggestion is, in any case, misformulated: the key idea is that canonical notation should wear its commitments on its face, and that there could be a notation that made it clear that it had no truck with particular facts. If your language does not allow you to formulate the claims that *a* is *F* and that *b* is *G*, then it is hard to see how you could be vulnerable to Gödel’s slingshot argument. But it is not so clear what such a canonical notation will look like: perhaps the kind of ‘feature-placing language’ required by ontological nihilists would do the trick.

Third, I noted—or, perhaps better, tried to note<sup>14</sup>—that, if one supposes that not all sentences can be brought into subject-predicate form, one can still get collapse for all sentences—and not merely for atomic sentences—if one is prepared to countenance a rule of inference which allows the intersubstitution of *S* with *S* & (*a*=*a*) in the circumstances envisaged in  $\iota$ -CONV and  $\iota$ -SUBS. It is an interesting question whether this rule should be any more objectionable to reasonable friends of facts than

<sup>13</sup> Of course, we can make up Cheapshots that involve structural constraints, if we wish. Consider, for example, the constraint that no theory of facts should allow that there are descriptive facts that are not self-identical. This *is* a constraint on fact identity, albeit an entirely trivial one.

<sup>14</sup> The point got garbled during a final revision of the paper. Neale and Dever [1997:148n5] do a fine job of criticising the point as it is actually stated in Oppy [1997].

either  $\iota$ -CONV or  $\iota$ -SUBS, and hence an interesting point whether it is worth reworking the formal derivation so that it does get collapse for all sentences, and not merely for atomic sentences. (Since this point is not noted by Neale [2001]—despite the fact that he encouraged me to include it in Oppy [1997] during our correspondence about Neale [1995]—it may be that he now has some objection to it; or perhaps it’s just that he no longer thinks that it is an interesting technical point.)

It seems to me to be plausible to suppose that Neale [2001] does answer *most* questions of a technical nature about the derivation of the descriptive constraint on non-extensional logics, at least if we ignore issues raised by non-classical logics. (Neale [2001:177n2] makes it clear that he has no sympathy for intuitionistic logics: “Some logicians have claimed that double negation does not preserve truth. In my view, these people are simply not discussing what the rest of us are discussing when we discuss negation.” There is at least some reason to think that a full *technical* discussion of slingshot arguments should consider how these arguments fare in intuitionistic, relevant, paraconsistent and substructural logics, regardless of the views that one has about the *philosophical* significance of these logics. Moreover, one might think that, if we are going to strain so mightily about slingshot arguments, then surely we should not be so abruptly dismissive of these alternatives to classical logic.) At any rate, I have nothing further to add to the discussion of this derivation. However, it is not clear that this exhausts the technical discussion of slingshot arguments, since there may also be technical questions about the application of the descriptive constraint on non-extensional logics to the *identity* connectives—such as FIC—that loom large when Neale argues for the significance of the constraint for particular kinds of theories. And—as noted above—there are surely technical questions about, for example, the analysis of singular terms that have to be addressed in more detail before we can hope to draw confident conclusions about theories that treat definite descriptions as singular terms.

## 8

Neale [2001:12]—following Neale [1995:764f.]—claims that his book will “persuade philosophers of the need to face the genuine philosophical questions that Godel’s [Slingshot] poses: (i) Which rules of inference that can be applied validly to sentences occurring in extensional contexts can also be applied validly to sentences occurring within, say, modal, causal and ... factual contexts? (ii) Is it possible to have useful ontologies of propositions, states of affairs, situations, or facts, and if so what conditions must theories of such entities satisfy? (iii) What are the consequences for theories of facts, states, situations, propositions and modalities of accepting or rejecting Russell’s Theory of Descriptions? (iv) What are the prospects for “representational” philosophy?”<sup>15</sup>

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<sup>15</sup> Neale [1990:x] writes: “The second route to definite descriptions was a graduate seminar on events ... It seemed to me that some important metaphysical issues were turning on delicate semantical matters concerning the interpretation of various modal operators and definite descriptions of actions and events. ... It would be easy enough, I thought, to spell out and defend Russell’s theory in a single chapter using the material on descriptions from the earlier project. I could then move on to descriptions of actions and events, and finally to the metaphysical issues that had bothered me in the first place. I never got past stage one.” It seems to me that if friends of facts gave themselves over to agonising about molehills like the descriptive constraint on non-extensional logics, then no one would ever get around to the development of theories of facts. Real friends of facts are interested in theories of *facts*, and—even if they happen not to be fond of Russell’s Theory of Descriptions—it seems to me *most unlikely* that philosophers encouraged to put serious effort into the development of theories of facts will

If what I have argued is correct, then there is a clear sense in which some of *these* claims that Neale makes for his book are mistaken. There is no reason for serious friends of facts—or serious friends of states, or situations, or propositions, or modalities—to regard slingshot arguments—and, in particular, the descriptive constraint on non-extensional logics—as genuine causes for alarm. Serious friends of facts, etc. can get on with doing what it is that they are passionately interested in doing—namely, developing theories of facts, etc.—secure in the belief that, even if they are tempted by referential theories of definite descriptions, they are *most unlikely* to end up committed to a theory that collapses under the impact of the descriptive constraint on non-extensional logics. The descriptive constraint on non-extensional logics gives *no* reason to take seriously the thought that it is impossible to have a useful ontology of propositions, states of affairs, situations, or facts. The descriptive constraint on non-extensional logics gives *no* reason to worry about whether definite descriptions are or are not singular terms. The descriptive constraint on non-extensional logics provides *no* reason to suppose that “representational” philosophy is imperilled.<sup>16</sup>

Neale and Dever [1997:143f. and 164f.] protest that, in effect, Neale agrees with the claims just made. On their account, Neale [1995] contains arguments for two negative theses: first, that if one adopts Russell’s Theory of Descriptions, then the various slingshots are incapable of producing collapses; and second, that if one treats descriptions as singular terms, then implausible properties must be attributed to these slingshots if one is to use them to generate collapse. However, they add, Neale [1995] does describe a definite constraint on the logic of non-truth-functional connectives, and moreover one that has philosophical consequences, e.g. in “narrowing down the range of plausible theories of facts”. But surely *this* account of the significance of the argument of Neale [1995] is inconsistent with the rhetoric of Neale [1995] that is repeated in unaltered form in Neale [2001]. A constraint that filters out *some* theories of facts—whose standing as *prima facie* plausible theories of facts is *actually* in serious question—is a far cry from a constraint that “poses questions” about the viability of “representational” philosophy and the very *possibility* of useful ontologies of facts.

Neale and Dever [1997:165] also argue that, because *some* potential referential treatments of descriptions either fail to permit PSLE<sup>17</sup> and ι-CONV in extensional contexts “or else fail in some other way to provide an intuitively plausible semantics for definite descriptions in natural language”, it is correct to claim that “referential treatments of descriptions have unpleasant consequences that are *highlighted* by Gödel’s slingshot” (their italics). And, in response to my claim that Gödel’s slingshot plainly does no such thing, they say that “Oppy seems to have overlooked the point

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end up running afoul of the descriptive constraint on non-extensional logics. Moreover, this seems to me to be the proper light in which to see the “philosophical significance” of slingshot arguments in general.

<sup>16</sup> Of course, Neale *agrees* that theorists who accept Russell’s Theory of Descriptions—and perhaps also Russell’s structural conception of facts—need find nothing in the descriptive constraint on non-extensional logics to support worries about “representational” philosophy and the possibility of useful ontologies of facts, etc. However, he certainly seems to suppose that matters are otherwise for those theorists who fail to accept Russell’s Theory of Descriptions.

<sup>17</sup> An n-place connective  $\mathfrak{S}$  is +PSLE iff: for any true sentence  $\mathfrak{S} (... \Sigma (\varphi) ...)$  in which  $\Sigma (\varphi)$  is an extensional sentence occurring as an operand of  $\mathfrak{S}$ , if  $\varphi$  and  $\psi$  are logically equivalent sentences, then replacing the contained sentence  $\Sigma (\varphi)$  by  $\Sigma (\psi)$  in the original sentence  $\mathfrak{S} (... \Sigma (\varphi) ...)$  yields a true sentence  $\mathfrak{S} (... \Sigma (\psi) ...)$ .

that in order to be taken seriously, a theory of descriptions must at least validate  $\iota$ -CONV in truth-functional contexts”.

The issues at this point are quite complex. Neale’s claim about some potential referential treatments of descriptions is based on his discussion of referential treatments of improper descriptions (Neale [1995:795-804]; Neale [2001:190-201]). The views that Neale examines are those of Hilbert and Bernays [1934], Frege [1892, 1893], Carnap [1947], Scott [1967], Grandy [1972], Olson [1987] and Strawson [1964, 1972, 1986]. One point upon which Neale insists at several places is that views that do not permit  $\iota$ -CONV in extensional contexts are thereby very plausibly rendered inadequate as treatments of descriptions in natural languages. But why should we believe this?

We have already noted that Neale provides no systematic investigation of empty—or otherwise “improper”—singular terms.<sup>18</sup> Consequently, it is hard to see why we should be so confident that improper descriptions raise problems that are not raised by other improper singular terms *given* the assumption that descriptions are also singular terms. If there can be improper singular terms other than improper descriptions, then those are problems for everyone: and there is no reason to suppose that we shall need a *different* treatment for improper descriptions than we need for other improper singular terms, *given* the assumption that descriptions are also singular terms. Of course, there are theorists who are sceptical that there are any improper singular terms other than improper descriptions—but it would surely be a *considerable* theoretical cost to simply assume that there are no improper singular terms that are not improper descriptions in natural languages. Moreover, if we can assume that there are no improper singular terms that are not improper descriptions in natural language, what is there to stop us from assuming that there are no improper definite descriptions in natural language, *given* the assumption that descriptions are singular terms? If “Santa Claus” refers to something, why doesn’t “the fat man with the toy factory at the North Pole” also refer to that same thing, given the assumption that descriptions are singular terms? More generally, if we introduce a proper name with the stipulation that its reference is fixed by some improper description—about whose descriptive matrix a Russellian theorist of descriptions would say either that it is satisfied by no object or that it is satisfied by more than one object—and if we insist that this proper name must refer to something (on the grounds that there cannot be empty names), then why can’t we insist that the reference-fixing descriptions refer to that very same thing, given the assumption that descriptions are singular terms? (I can introduce the name “Primo” to refer to the greatest prime number. I can introduce the name “Primos” to refer to the prime number between 30 and 40. And so on. It is *not* obvious that we should deny that an adequate semantics for natural languages ought to be able to handle these introduced names.)

Since the important question is *really* whether the descriptive constraint on non-extensional logics highlights problems of otherwise *prima facie* plausible referential treatments of definite descriptions, I think that the considerations adduced in the previous paragraph present Neale with a genuine problem. If the theories that

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<sup>18</sup> Neale [2001:56n37]: “I shall assume until stated otherwise that we are dealing with classical logic. Various forms of so-called free logic have been constructed in order to permit singular terms that fail to refer. ... For discussion of free logics, see Ch.9.” The entire discussion of free logics in Neale [2001] is confined to footnotes 4 and 6 of Chapter 9 (discussed in an earlier section of the present paper). Neale [1995:780] states that “the extension of singular term is simply its referent: for ease of exposition, let us agree to exile terms that fail to refer, if there are such expressions” and—I believe—goes on to make no further mention of the possibility that there might be singular terms that fail to refer.

Neale mentions fail so dismally as theories of the semantics for improper descriptions, then they also fail dismally as theories of the semantics for other improper singular terms. But, rather than conclude that this tells against referential theories of descriptions, surely we ought rather to conclude that we may well need to put more work into developing semantic theories for other improper singular terms.

## 9

In correspondence with Neale just after the appearance of Oppy [1997] and Neale and Dever [1997], I gave the following assessment of the descriptive constraint on non-extensional logics:

Consider the space of possible theories of facts. Amongst these theories, there are some that are inconsistent, some that are incoherent, and so on. Also, amongst these theories, there are some that have been defended or entertained by theorists, and some that have never even been considered. Godel's Slingshot puts a sieve over this space — it winnows out those theories that are inconsistent in a certain way. The sieve is non-empty — since, for example, it is easy to construct theories (or partial theories) which explicitly violate Godel's Slingshot — so, in this sense, Godel's Slingshot is clearly a constraint on theories of facts. The contents of this sieve include some theories that have been defended by philosophers — cf. some of the work of Wittgenstein, Prior, and Wilson — so, in this sense, too, Godel's Slingshot clearly is a constraint on theories of facts. What kinds of theories escape the sieve? Who knows! However, it seems to me that there is currently no reason at all to think that no theory that treats definite descriptions as singular terms will escape the sieve. Moreover, this remains true even if we restrict our search to those theories that we are prepared to allow are at least *prima facie* plausible. Of course, it might be that there are independent reasons why definite descriptions are not singular terms — indeed, one well might think that the case for this conclusion is pretty well made by Neale [1990]. But, if so, it won't be the Godel Slingshot sieve which tells us this. And if we only sift theories that do not treat definite descriptions as singular terms, then we can hardly claim that our sifting helps to show that descriptions are not singular terms. Moreover, since there are independent arguments that there are regions in the space of possible theories of facts — in particular, the region inhabited by structural (“Russellian”) theories, and the region inhabited by the kind of theory sketched in #4 of Oppy [1997] — in which there are theories which treat definite descriptions as singular terms, and yet in which Godel's Slingshot can get no grip, there is no justification at all for the sweeping universal claims made in #16 of Neale [1995]. Godel's Slingshot does some work — arguably more the slaying of pygmies than of giants! — but nothing like the work which Neale (1995) claimed that it can do.

I do not think that there is anything in Neale [2001] that should lead me to change my mind about this assessment (though I would now add the insistence that there are plenty of *independent* reasons to be unimpressed by the theories of Wittgenstein, Prior and Wilson). In consequence, I think that there is no reason to step back from the judgment that the descriptive constraint on non-extensional logics has very little importance for philosophers who seek to develop theories of facts or referential



treatments of definite descriptions. To this extent—but only to this extent<sup>19</sup>—the project of Neale [2001] and Neale [1995] fails to live up to its own billing.<sup>20</sup>

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<sup>19</sup> As one of the referees for this paper pointed out to me—at least *inter alia*—this qualification is an exaggeration. In particular, Restall (ms.) provides very strong, independent reasons for thinking that friends of facts have sufficient resources to be untroubled by slingshot arguments quite independently of the stance that they take on the semantics for definite descriptions. Rather than rehearse Restall's argument here, I simply commend it to all interested in this topic. (I am grateful to the referee for drawing this article to my attention, and to Greg Restall for sending a copy to me. More generally, I received considerable benefit from the two referee's reports that were provided by the *Australasian Journal of Philosophy*, and the article has been improved accordingly.)

<sup>20</sup> I take it that this conclusion is enough to justify the title of Oppy [1997]: in comparison with the claims that Neale [1995][2001] makes for it, the descriptive constraint on non-extensional logics is comparatively insignificant. The working title for Oppy [1997] was "Slingshot Off". Maybe I should have stuck with that working title. At least, it wouldn't have invited confusion between the suggestion that the descriptive constraint on non-extensional logics has little significance and the suggestion that the descriptive constraint on non-extensional logics has *no* significance whatsoever—cf. Neale and Dever [1997:153].

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