



Presupposition, assertion, and definite descriptions

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Accepted: 9 October 2020 / Published online: 20 January 2021

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Abstract

In recent work on the semantics of definite descriptions, some theorists (Elbourne in *Definite descriptions*, Oxford University Press, Oxford, 2013; Schoubye in *Noûs* 47(3):496–533, 2013) have advocated broadly Fregean accounts, whereby a definite description ‘the F ’ introduces a presupposition to the effect that there is exactly one F and refers to it if there is, while other theorists (Abbott, in: Gundel, Hedberg (eds) *Reference: Interdisciplinary perspectives*, Oxford University Press, Oxford, pp. 61–72, 2008; Hawthorne and Manley in *The reference book*, Oxford University Press, Oxford, 2012) have advocated accounts whereby ‘the F ’ introduces a presupposition to the effect that there is exactly one F but otherwise has the semantics of ‘an F ’, introducing existential quantification. It is argued that the latter theories, since they have definite descriptions encode assertoric content to the effect that there is an F , have difficulty accounting for the felicity of ‘The F is G ’ when it is already presupposed that there is an F .

Keywords Definite descriptions · Presupposition · Assertion · Redundancy · Local context

1 Introduction

Recent detailed work on the semantics of definite descriptions has tended to reject the Russellian theory and advocate presuppositional theories (Hawthorne and Manley 2012; Elbourne 2013, 2016, 2018; Schoubye 2013; Coppock and Beaver 2015). By the *Russellian theory* I mean the Russellian theory of definite descriptions as traditionally construed (Russell 1905), whereby a sentence of the form (1a) has the truth conditions in (1b) and these truth conditions are assumed to characterize the assertoric

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content of an utterance of that sentence; the definite description does not encode any presupposition.^{1,2}

(1) *The Russellian Theory*

- a. The F is G .
- b. Assertoric content: There is exactly one F and it is G .
- c. Presupposition: None (unless introduced by F or G).

Broadly speaking, there are two kinds of presuppositional theories to be found in the literature: Fregean and quantificational. By *Fregean presuppositional theories* I mean theories that have definite descriptions be of type e (or, in intensional theories, an intensionalized variant such as type $\langle s,e \rangle$).³

(2) *Fregean Presuppositional Theories*

- a. The F is G .
- b. Assertoric content: a is G (where ‘ a ’ is a referential tag picking out the unique F , if such exists).
- c. Presupposition: There is exactly one F .

Such theories have been advocated recently by Elbourne (2013, 2016, 2018) and Schoubye (2013).^{4,5} In order to handle intensional and other complications, Elbourne (2013, 2016) embeds the basic analysis in (2) in a situation semantics and Schoubye

¹ The only attempt to defend the Russellian theory in recent years, as far as I know, is Pupa (2013); but Pupa in this article advocates a hybrid theory according to which the traditional assertoric truth conditions of (1b) are combined with a condition on felicitous usage, namely that ‘the speaker believe that the audience is *familiar* with the individual satisfying the description’s nominal’ (Pupa 2013: 299). This is not how the Russellian theory has been traditionally understood; and it faces the objections to familiarity theories laid out by Hawthorne and Manley (2012: 164–165). I am not optimistic about its prospects, then; but a more detailed consideration of this theory would be outside the scope of the present article. See Elbourne (2018) for further discussion.

² I will talk about definite descriptions and other expressions encoding or introducing presuppositions. This is not to deny the utility of a theory like Stalnaker’s (1970), whereby presupposition is the propositional attitude of taking a proposition for granted and assuming that others in the context do the same. As Stalnaker himself was at pains to emphasize, this is compatible with believing, as I do, that certain expressions semantically encode presuppositions and serve as vehicles for their introduction into the common ground. As Stalnaker says (1970: 279), ‘In general, any semantic presupposition of a proposition expressed in a given context will be a pragmatic presupposition of the people in that context...’. According to Stalnaker’s theory, which I follow in these broad outlines, it will be convenient to talk about people presupposing things and also about linguistic expressions encoding presuppositions and being used to introduce them into the common ground.

³ See Chapter 3 of Elbourne (2013) for a reconstruction of Frege’s views on definite descriptions.

⁴ In summarizing his theory, Schoubye (2013: 527) says that, while his analysis has definite descriptions presuppose, rather than assert, existence, nevertheless ‘it also retains in spirit the quantificational nature of Russell’s analysis.’ But in spelling out his analysis in formal detail, he annotates definite descriptions with an index i and makes it clear that a variable assignment will map this index to an individual (2013: 521). I class Schoubye’s theory as Fregean, then.

⁵ Coppock and Beaver (2015) also advocate a theory that is broadly Fregean (or ‘weakly Fregean’, as they say (2015: 383)). In argument position, definite descriptions in their theory will refer to individuals and presuppose uniqueness. The main differences between their theory and more conventional Fregean theories are that they make the predicative readings of definite descriptions basic and derive other readings by means of type-shifting and that the basic presupposition attached to a definite description ‘the F ’ is that there are either one or zero F s. Their rich paper deserves a detailed response, but this would be beyond the scope of the current article. For current purposes, however, their theory can be characterized as Fregean.

(2013) embeds it in a modal dynamic semantics; but these details will generally be passed over in the current article. It should be noted, however, that, in spite of what the summary in (2) might suggest, Fregean presuppositional theories do not make definite descriptions into directly referential terms; when combined with a world parameter, for example, Fregean definite descriptions can pick out different objects in different worlds.

Quantificational presuppositional theories, on the other hand, combine a presupposition of existence and uniqueness with assertoric content that contains existential quantification. The most straightforward version is perhaps that given by Abbott (2008):

- (3) *Abbott's (2008) Quantificational Presuppositional Theory*
- a. The F is G .
 - b. Assertoric content: There is an individual that is F and G .
 - c. Presupposition: There is exactly one F .

Note that this makes definites exactly like indefinites (assuming the normal Russellian analysis of those) in terms of their assertoric content; the material characteristic of them is to be found in their presupposition. Karttunen and Peters (1979: 49) had said something rather similar to this, except that they say that the non-assertoric content associated with definite descriptions is a conventional implicature. Their article analyses a wide variety of traditional presupposition triggers as giving rise to conventional implicatures; it has not been widely followed in this. Translating their proposal into presupposition talk (and stripping away some Montagovian technology), we arrive at the following:

- (4) *Karttunen and Peters's (1979) Quantificational Presuppositional Theory*
- a. The F is G .
 - b. Assertoric content: There is exactly one F and it is G .
 - c. Presupposition: There is exactly one F .

Note that the assertoric content, in this theory, is exactly the same as the assertoric content in the Russellian theory. Finally, Hawthorne and Manley's (2012: 160) theory of definite descriptions is like Abbott's, except that they build in a presupposition to the effect that the audience can grasp any tacit restriction there may be on the restrictor F ; they assume that such tacit restrictions are to be posited in order to deal with incomplete definite descriptions. So we arrive at the following, where ' H ' is a tacit restriction:

- (5) *Hawthorne and Manley's (2012) Quantificational Presuppositional Theory*
- a. The $F(H)$ is G .
 - b. Assertoric content: There is an individual that is F and H and G .
 - c. Presupposition:
 - i. There is exactly one individual that is F and H .
 - ii. The audience can grasp that H is the tacit restriction in play.

In what follows I will abstract away from issues surrounding incomplete descriptions and tacit restrictions. This means, in effect, that I will not distinguish Hawthorne and Manley's theory from Abbott's theory.

We can group quantificational presuppositional theories together with the Russellian theory under the rubric *quantificational theories*, since all these theories make definite descriptions quantifiers.⁶

Given this sketch of the theoretical landscape, one might wonder how one might choose between Fregean and quantificational presuppositional theories.⁷ As far as I know, there have been three previous attempts to do this. Rothschild (2007) and Schoubye (2013) have argued against quantificational presuppositional theories and Hawthorne and Manley (2012: 198–201) have argued at greater length against Fregean presuppositional theories. In this article, I begin by discussing the arguments of Rothschild (2007) and Schoubye (2013) (Sect. 2). I then offer a novel argument against quantificational theories (Sect. 3). I reply to some possible objections to it in Sect. 4. In Sect. 5 I attempt to rebut the arguments against Fregean theories made by Hawthorne and Manley (2012). Section 6 concludes.

2 Previous arguments against quantificational presuppositional theories

2.1 Rothschild (2007)

Rothschild (2007: 88) launches two criticisms, without elaborating on them at length.

The first criticism is that the quantificational presuppositional approach ‘leads to a redundancy in our account of definite descriptions since we must now take them to both presuppose and assert existence and uniqueness’. I think I share the unease that occasioned this remark; it seems somehow to be an offence against parsimony to have the same elements figure twice in the semantic contribution of a lexical item, in both asserted content and presupposed content. But it is hard to work this up into a sharp criticism. Let us remind ourselves that in the theories of Abbott (2008) and Hawthorne and Manley (2012) it is not the case that uniqueness is asserted; it is only presupposed. So in these theories it is at most existence that is both asserted and presupposed. And in fact it is not clear that even this is the case. According to Abbott’s (2008) theory, as we just saw, an utterance of ‘The *F* is *G*’ asserts that there is an individual that is *F* and *G* and presupposes that there is exactly one *F*. The content of the assertoric content and the presupposition is different, then; and in neither case is the content straightforwardly paraphrasable as ‘There exists an *F*’. Rather, the most that can be

⁶ Of course Russell (1905) himself did not credit the definite article with any meaning at all; but definite descriptions become quantifiers in the influential recasting of Neale (1990).

⁷ An anonymous reviewer for this journal raises the question of whether it makes sense to distinguish these two theories at all, given that, on a view whereby introducing presuppositions involves a trivalent semantics, ‘The King of France is bald’ will be true, false, and truth-valueless in exactly the same models no matter which theory one chooses. In answer, I would appeal to the view outlined in footnote 2 and assumed in the summaries of theories in this section, whereby lexical items, in their semantic features, can encode both assertoric content and presuppositions. If that is the case, then there is no problem in principle in assuming that the definite article encodes existential quantification of some kind in both its assertoric content and the presupposition it introduces. That would give us a quantificational presuppositional theory. Alternatively, the definite article could include existential quantification only in its presupposition while setting up a referential contribution to assertoric content. That, of course, gives us a Fregean theory. So the two views are distinguishable in principle.

said is that the assertoric content and the content of the presupposition both *entail* that that there exists an F . It is unclear why we should be disturbed by this.⁸

The second consideration offered by Rothschild (2007: 88) is that the quantificational presuppositional account ‘does nothing to explain why definite descriptions trigger the particular presuppositions that they do’. One could respond, however, that the nature of presupposition triggering is obscure. There is no consensus in the literature on why presupposition triggers trigger the presuppositions they do. Arguably, then, it should not count as a serious blow to a theory that deals in presupposition but which is not explicitly about the triggering problem if it cannot explain this.

2.2 Schoubye (2013)

Schoubye (2013) also offers two arguments against quantificational presuppositional theories. The first goes as follows (2013: 514–515). Imagine that it is part of the common ground that there is a unique F . Then Hans utters a sentence with one of the following forms.

- (6) a. I want the F to be G .
- b. I want there to be a unique F and for it to be G .

It is intuitively clear, says Schoubye, that, depending on whether Hans says (6a) or (6b), different desires are expressed. For example, suppose it is common ground that there is exactly one murderer. Hans might say one of the following:

- (7) a. I want the murderer to be convicted.
- b. I want there to be a unique murderer and for him to be convicted.

These two sentences are clearly not equivalent, Schoubye says, even when it is common ground that there is a unique murderer. Only if Hans really does desire that there be a murderer does (7b) seem appropriate; whereas this is not the case with (7a). But the two sentences are just a sentence with a definite description and a paraphrase of its assertoric content according to a version of the quantificational presuppositional theory—the version of Karttunen and Peters (1979), to be exact, summarized above in (4), according to which the assertoric content of a definite description is just what the Russellian theory would claim it is. We have not yet mentioned the fact that quantificational presuppositional theories would posit the existence of a presupposition for (7a), however. Does this not predict that there is more to be done here than writing down (7b) when it comes to providing a suitable comparison for (7a)? Not in this context, says Schoubye: since the presupposition provided by (7a) is common ground, ‘we can basically ignore that aspect of its meaning’ when constructing (7b) (Schoubye 2013: 515). So since (7a) and (7b) are not equivalent, we have evidence against at least one version of the quantificational presuppositional theory; other such pairs could presumably be constructed to argue against other versions.

⁸ Furthermore, when I presented a version of this paper at Arché, Ephraim Glick pointed out that one could make up a variant of the quantificational presuppositional theory whereby the assertoric content of ‘The F is G ’ is ‘At least one F is G ’ and the presupposition is ‘There is at most one F ’. That would avoid even the modest overlap just described between the entailments of the asserted and the presupposed content.

One concern that might arise with this argument is that it is not clear what the presupposition of a sentence should be when it contains a presupposition trigger embedded below an attitude verb. Karttunen (1974) and Heim (1992) have argued that the only presuppositions present in cases like these are things like ‘I believe that there is a unique murderer’ rather than ‘There is a unique murderer’ (to use the current example). But if this is a problem, it is easily fixed: we just emend the example so that the necessary presupposition, whatever it is, is established at the start. It is hard to imagine this making a difference.⁹

A more serious concern, however, is the following. The argument here seems to rely on judgements like the one that Schoubye offers about a close variant of (7b), to the effect that it is appropriate only if Hans wants there to be a unique murderer. The problem with this kind of judgement in this kind of argument, as Kaplan (2005: 985) and Neale (2005: 846) pointed out, is that propositional attitude contexts are not closed under entailment. Just because (8a) entails (8b) does not mean that (8c) entails (8d).

- (8) a. There are honest men.
 b. There are men.
 c. Diogenes wants there to be honest men.
 d. Diogenes wants there to be men.

It would be misguided, then, to claim that the variant of the quantificational presuppositional theory under discussion predicted that (7a) entailed that Hans wanted there to be a unique murderer. But Schoubye’s discussion seems to veer perilously close to this position. It is perhaps easiest to illustrate how by showing what an advocate of quantificational presuppositional theories might say in reply to Schoubye’s point. Such a theorist might claim that, while (7b) does indeed entail that Hans wants there to be a unique murderer, this is just a fact about this particular paraphrase. It should not be taken to be a fact about (7a) itself; to that extent, the paraphrase is inaccurate. And why, in spite of the plausible nature of the paraphrase, would this theorist be justified in claiming that (7a) itself might not have the entailment in question? Precisely because propositional attitude contexts are not closed under entailment. To deny this would be to subscribe to the fallacy against which Kaplan and Neale warned us. So Schoubye’s considerations are inconclusive.

But what of Schoubye’s second argument? He argues as follows (Schoubye 2013: 530, note 23).

Typically, when a speaker *S* repeats the same assertion, the second assertion will seem redundant and infelicitous. And if definite descriptions both presuppose and assert existence, (ii)–(iii) should just be paraphrases of (i). Nevertheless, where (i) sounds perfectly fine, (ii)–(iii) sound infelicitous.

- (i) There is a unique king of France and the king of France is bald.
 (ii) #There is a unique king of France and there is a unique king of France and he’s bald.

⁹ It should be noted also that some authors, such as Geurts (1998), support the idea that ‘There is a unique murderer’ would be the presupposition here.

- (iii) #There is a unique king of France and there is a unique king of France who's bald.

Unfortunately Schoubye gives no further details. Let us begin with a preliminary point. Example (iii) here does not, on the face of it, contain a paraphrase of 'the king of France is bald' as its second conjunct, since the second conjunct, (9a), is equivalent to (9b):

- (9) a. There is a unique king of France who's bald.
 b. There is exactly one bald king of France.
 c. There is a unique king of France and there is a unique king of France, who is bald.

Presumably Schoubye took the relative clause in (9a) to be non-restrictive, a reading which we can make clearer by writing a comma before the relative pronoun, as in (9c). This would make the second conjunct something more like a paraphrase of 'the king of France is bald'. But due to the uncertainty here I will henceforth concentrate on the contrast between (i) and (ii).

The idea, then, is that according to quantificational presuppositional theories (ii) is a paraphrase of (i) but (i) is felicitous whereas (ii) is not; so the paraphrase is inadequate and quantificational presuppositional theories are false. To be more exact, (ii) is a paraphrase of (i) according to Karttunen and Peters's version of the quantificational presuppositional theory, summarized in (4), raising problems for this theory in particular.

It could, of course, be alleged that (ii) is not a precise paraphrase of (i) according to the theory of Karttunen and Peters (1979), since (i), according to this theory, might introduce a presupposition to the effect that there is exactly one King of France whereas (ii) definitely does not. Of course, if (i) introduces a presupposition of this kind it will have to do so in spite of the fact that the content of the presupposition has been explicitly asserted up front in the first conjunct. I assume for the sake of argument that this is possible, that is that (i) does introduce a presupposition of this kind. The worry would then be that example (ii) is a paraphrase only of the alleged assertoric content of (i), not of its presuppositional content. But I do not see why the inclusion of a presupposition to the effect that the multiply asserted content is true should be thought to improve the status of (i). If anything, including the content for yet a third time in this way might be thought to heighten still further the effect of redundancy.

The argument can of course be supplemented in order to deal with theories like those of Abbott (2008) and Hawthorne and Manley (2012). We just need the following pair, closely modelled on the examples above:

- (10) a. There is a King of France and the King of France is bald.
 b. #There is a King of France and there is a King of France and he's bald.

Abbott (2008) and Hawthorne and Manley (2012) predict that in terms of assertoric content (10b) is a good paraphrase of (10a). But (10b) is infelicitous whereas (10a) is not.

So far I have merely laid out and supplemented Schoubye's argument. We should now inquire as to its soundness. One natural suspicion we might have is that Schoubye has not differentiated clearly between repetition of content and repetition of words.

It is notable in his (ii) that there is a repetition of a fairly sizable sequence of words: ‘there is a unique king of France’. Could we say, perhaps, that what is wrong with (ii) is the repetition of the same content *in the same words*? This would not be a fault shared by (i), which looks as if it might repeat the same content in different words. If repetition of the same content in different words does not result in infelicity, we might suspect that Schoubye’s argument leaves quantificational presuppositional theories untouched.

Fortunately for this argument, however, there is evidence that repeating the same content in different words (at least in the syntactic frame used in these examples) is also infelicitous. Let *K* be the set of current Kings of France:

- (11) a. #There is a unique king of France and the cardinality of *K* is one and any king of France is bald.
 b. #There is a unique king of France and there is exactly one male French monarch and he’s bald.

So if there is anything wrong with Schoubye’s argument it is probably not this.

A more serious challenge, however, comes when we ask in what sense, exactly, quantificational presuppositional analyses are committed to the idea that the speaker ‘repeats the same assertion’ in Schoubye’s (i), repeated here:

- (i) There is a unique king of France and the king of France is bald.

On the face of it, (i) is a conjunction. We can assume that someone who asserts a conjunction asserts each of its conjuncts (Stalnaker 1974: 211; Goldstein 1986: 10). This means that a speaker of (i) will assert two things, according to the quantificational presuppositional theories: first, the proposition that there is a unique king of France; and secondly, a proposition that entails, but is not identical to, the first proposition. (Again, with Schoubye, we can take the example of quantificational presuppositional theories like that of Karttunen and Peters (1979), according to which this entailment will go through.)¹⁰ Now Schoubye, of course, sets up (ii) as a comparison to (i), claiming that it is a paraphrase of (i) according to quantificational presuppositional theories:

- (ii) #There is a unique king of France and there is a unique king of France and he’s bald.

But we can see now that when we take into account what is asserted (as Schoubye tells us to), (ii) is not a close paraphrase of (i). Assuming, once more, that someone who asserts a conjunction asserts each of its conjuncts, we see that someone who asserts (ii) will assert twice that there is a unique king of France, whereas someone who asserts (i) will assert that there is a unique king of France only once. Such a person will in addition assert something which entails that there is a unique king of

¹⁰ We might be tempted by thought that at logical form (in the philosophers’ sense) the sentence with the definite description will have a representation which is itself a conjunction and in which something equivalent to ‘there is a unique king of France’ will appear as a constituent. But it is by no means certain that that would be the case, since not all ways of spelling out the semantics of sentences with definite descriptions contain constituents with that meaning; the classic rendering of such sentences into first-order logic is a case in point.

France, according to quantificational presuppositional theories like that of Karttunen and Peters; but this is not the same as asserting this proposition twice. So (ii) is not in fact a good paraphrase of (i) in the terms of quantificational presuppositional theories, contrary to what Schoubye requires for his argument.

It might be objected at this point on Schoubye's behalf that asserting p and then immediately asserting something that entails p will also be infelicitous. But this is not true. Suppose that we do not know how many kings of France there are. (The ancient Spartans had two kings simultaneously at some points in their history.) Suppose we are trying to find out how many kings France has and also what their hairstyles are. After spying a distinguished-looking hairless gentleman through a window of the Palace at Versailles, I say the following as an update on my investigative progress:

(12) There is at least one king of France and at least one king of France is bald.

The proposition that at least one king of France is bald entails that there is at least one king of France, of course; but (12) is just fine. It seems, then, that Schoubye's second argument does not establish its conclusion.

3 Against quantificational theories

The review in the last section leaves us with the thought that none of the previous arguments in the literature against quantificational presuppositional theories have been conclusive. In this section I offer a new argument against these theories. It is loosely based on Schoubye's second argument, in that this latter argument maintained that use of definite descriptions was predicted by quantificational presuppositional theories to be 'redundant and infelicitous' in certain circumstances. In this section, I develop that thought in a different direction.

Suppose that a friend and I are out in the countryside looking into a field. We have been looking at it for several seconds and can see the whole thing clearly. It is obvious to both of us that there is a cow in the field—exactly one cow, in fact. Neither of us have spoken since we began our contemplation of this scene. Now under these circumstances it would be perfectly felicitous for me to say (13), especially if (as we will further suppose) my companion does not know much about cows and is unaware of the breed of this one.

(13) The cow in that field is a Friesian.

How well do Fregean and quantificational theories explain this datum?

To start with Fregean theories, it is evident that they have no trouble here. According to these theories, the definite description introduces a presupposition to the effect that there is exactly one cow in the field in question; this presupposition is clearly satisfied in context; and so the definite description refers to that very cow (or I refer to it by means of the definite description, if you prefer). Call the cow 'Buttercup'. The whole sentence is predicted to have assertoric content to the effect that Buttercup is a Friesian. No snags have arisen and the result seems intuitively satisfying, meaning that Fregean theories have no difficulty explaining the felicity of (13).

Quantificational theories, on the other hand, face difficulties giving an account of (13). For consider the following examples. It would be infelicitous to say any of the things in (14) or (15) in the context described above.

- (14) a. There is a cow in that field and it is a Friesian.
- b. There is an individual that is a cow in that field and a Friesian.
- c. Something is a cow in that field and a Friesian.
- (15) a. There is exactly one cow in that field and it is a Friesian.
- b. There is exactly one cow in that field and any cow in that field is a Friesian.
- c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

To assert any of the sentences in (14) or (15) in the given context would produce the feeling that one was stating the obvious. For now, I intend to leave the notion of stating the obvious largely intuitive. I am reporting native-speaker intuitions and such things, in themselves, are not articulated with theoretical precision. But I will make a couple of weak theoretical assumptions about this notion. One is that, as the term ‘*stating the obvious*’ implies, the phenomenon is indeed grounded in the *assertoric content* of the sentences in question, both in (14)–(15) and more generally. (There is no infelicity involved in presupposing the obvious, for example; indeed that is exactly what one is supposed to do with the obvious.) And the second, which is evident, is that one can in some sense state the obvious by means of a sentence *S* even when the whole content of *S*, as it were, is non-obvious. So in the case of (14b), for example, it is stipulated to be non-obvious in context, at least to the hearer, that the cow in question is a Friesian; and no constituent of (14b) (given its structure) expresses only the proposition that there is an individual that is a cow in that field (which is a likely candidate for the obvious content in question); but still someone saying it in the given context would be felt to be stating the obvious. I do not know and do not, for current purposes, need to know exactly how this works. Perhaps Soames (2005: 366–367) is correct to say that certain easy entailments of asserted propositions do themselves count as being asserted; or perhaps some other mechanism is involved.

To resume, to assert any of the sentences in (14) or (15) in the given context would produce the feeling that one was stating the obvious. To assert (13), however, would not produce this feeling. This difference does not bode well for quantificational theories.

Let us start with the Russellian analysis. Note that the sentences in (15) are just Russellian paraphrases of (13). The Russellian theory predicts that (13) and the sentences in (15) will behave identically, then (except in respects that involve details of the syntax, which for the moment I will take to be irrelevant—but see Sects. 4.2 and 4.3 for discussion). But (13) is felicitous in the given context whereas the sentences in (15) are not. So the Russellian analysis has encountered another empirical difficulty.¹¹

One might object at this stage that there is no automatic and direct link between the assertoric content of a sentence and the felicity of an utterance of it in a particular context: it might be the case that other things than assertoric content are involved in determining felicity. And indeed this is plausibly the case. But this, in itself, is not an effective defence of the Russellian analysis at this point. For one thing, objections of

¹¹ This should be added to the ones outlined in Elbourne (2013).

this kind (at least in the absence of further details) leave the Russellian in an unsatisfactory position, that of saying that there must be another source for the pragmatic difference without stating what it is. Furthermore, the intuition reported above was not as vague as a mere allegation of infelicity. It was a contention that the speaker of one of the sentences in (14) or (15), in the given context, is felt to be stating the obvious. And to state the obvious is, as I said, to assert a *content* that is in some sense obvious, however this notion is ultimately analysed. A connection with the assertoric content of the relevant sentences is worked into the current objection from the very beginning, then.

The quantificational presuppositional theories predict that in asserting (13), which is felicitous, we are in fact asserting something truth-conditionally equivalent to the sentences in (14) (in the case of Abbott's theory and Hawthorne and Manley's theory) or (15) (in the case of Karttunen and Peters's theory). But asserting any of these things is infelicitous in the given context whereas asserting (13) is fine. So quantificational presuppositional theories face an empirical problem in accounting for the felicity of (13).

Of course quantificational presuppositional theories do not claim that in uttering (13) the only thing we are doing is asserting something like the propositions in (14) and (15). They claim that we are also presupposing that there is exactly one cow in the field in question. Could this help them?

On the face of it, it does not look as if it could. Intuitively, the reason the assertions in (14) and (15) are infelicitous in the given context is that they involve asserting that there is a cow in the field in question (or that there is exactly one cow there) when this is already quite obvious. So the fact that a presupposition along these lines is also built into the definite article, according to quantificational presuppositional theories, would not be expected to remove the infelicity. If anything, it might be expected to make things worse: the obtrusive bovine presence that is made manifest through the sense of sight, and which renders (14) and (15) infelicitous, would presumably only loom larger when further attention is called to it by the presupposition of the definite article. I dismiss this line of defence for the moment, then; but I come back to a sophisticated version of it in Sect. 4.4.

Another sceptical thought that might occur to one at this stage is that the examples in (14) and (15) are not equivalent to (13) because of considerations similar to those that ultimately proved fatal (if I am correct) to Schoubye's second argument; it might be the case, in other words, that the examples differ relevantly in what a speaker asserting them would assert. In asserting (14a), for example, a speaker would be asserting that there was a cow in the field in question, if I am right in supposing that to assert a conjunction is to assert its conjuncts; but in asserting (13), it might be alleged, a speaker would not be asserting that there was a cow in the field in question (according to the relevant theories) but would only be asserting something that entailed this. The same might be said about (15a) and (15b). Fair enough. But inspection of examples (14b), (14c), and (15c) shows that they do not offer room for the same kind of doubt, since they are not overall conjunctions in logical form; instead they merely express propositions that entail that there is a cow in the field in question. In this respect, they are precisely parallel to (13), according to the current line of thinking. This kind of

argumentation, then, cannot drive a wedge between (13) and all the examples in (14) and (15), although it might succeed with some of them.

The upshot is that Fregean theories do not face problems with (13) whereas quantificational theories do. So Fregean theories (other things being equal) should be preferred.

This completes the basic argument and the discussion of a couple of obvious immediate responses to it. I will now go on to survey more possible objections.

4 Possible objections

4.1 Consequences for other determiners

An anonymous reviewer for this journal wonders, in effect, whether the above reasoning might not prove too much. This reviewer raises the treatment of ‘both’. Suppose we are looking into a field that plainly contains exactly two cows, and one of us says (16):

(16) Both cows in that field are Friesians.

This, says the reviewer, is perfectly felicitous but we would not, on these grounds, want to abandon a quantificational treatment of ‘both’, according to which (16) would mean ‘There are exactly two cows in that field and any cows in that field are Friesians’. In response, I would say that abandoning a quantificational treatment of ‘both’ is very much on the table: I see no reason why ‘both cows’ should not be a referential phrase referring to the individual sum of the cows in question, in Link’s (1983) terms. Indeed, the datum adduced by the reviewer might be used as evidence for this conclusion. But spelling out and defending such a view is beyond the scope of the current article.

4.2 Prolixity and related issues

It might be urged that the relative prolixity of the examples in (14) and (15) might have some kind of interfering influence.¹² The risk, in other words, is that these examples might seem awkward because of their relative prolixity and stiltedness and that this is what makes them infelicitous, rather than the factor of ‘stating the obvious’ that was appealed to earlier; if that was so, an advocate of quantificational theories could distinguish between (13), on the one hand, and the examples in (14) and (15), on the other, because (13) is less prolix and stilted than these other sentences.

I do not think that this suggestion is enough to remove our credence that the above examples differ in the way suggested in Sect. 3. For a start, the following examples from (14) and (15) are not particularly prolix and sound quite natural.

- (14) a. There is a cow in that field and it is a Friesian.
 c. Something is a cow in that field and a Friesian.
- (15) a. There is exactly one cow in that field and it is a Friesian.

Although these examples sound entirely natural out of context, they still have the ‘stating the obvious’ feel to them when imagined as uttered in the context outlined

¹² A suggestion along these lines was made by Derek Ball when I gave a version of this paper at Arché.

in Sect. 3. So the awkwardness thus occasioned is not due to any prolixity in the examples.

Of course some of the above examples are admittedly more prolix and stilted:

- (14) b. There is an individual that is a cow in that field and a Friesian.
- (15) b. There is exactly one cow in that field and any cow in that field is a Friesian.
 - c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

But even in the case of these sentences, it is still possible to distinguish, phenomenologically, between their prolixity and the fact that they state the obvious when asserted in the context in question. First, imagine them stated in a context in which it is not common ground that there are any cows in the field. In this circumstance they are still prolix but they do not state the obvious. Now imagine them stated in our original context. In addition to their prolixity they have now acquired another vice: that of stating the obvious. So it is evident that these two characteristics can be distinguished. In short, the vice of prolixity can be distinguished phenomenologically from the vice of stating the obvious; and it is the latter and not the former that I am alleging in Sect. 3 to be troublesome for quantificational theories.

An anonymous reviewer for *Linguistics and Philosophy* points out that one can produce examples that ring the changes on the ones just discussed:

- (17) The female bovine in that grassy meadow is a Friesian.

Imagine this said in the same context as the others. Then it is clearly prolix but it does not produce the feeling of stating the obvious. Again one sees that these two properties can be distinguished and that the one does not evidently lead to the other.

A closely related suggestion is that a violation of the Gricean sub-maxim ‘Be brief’ (Grice 1975) might be involved.¹³ This might be thought to blunt the force of the first observation made above, that (14a) and some other examples sound natural and not particularly prolix out of context; for ‘Be brief’ has often been thought to involve a comparative judgement, to the effect that the wording chosen is prolix *compared to some available alternative*. Grice’s (1975) example ‘produced a series of sounds that corresponded closely with the score of’ is a case in point: the hearer is supposed to realize, at some level, that the speaker could have uttered the synonym or near-synonym ‘sing’, and is supposed to deduce, from the fact that this straightforward and common word is not used, that there was some striking and possibly grating difference between the performance being described and those to which the word ‘sing’ is normally applied. Similarly, Katz (1972) claimed that if someone chooses to say ‘caused the sheriff to die’ their listeners will compare this phrase with the briefer ‘killed the sheriff’ and will conclude that the manner of causing death was different from that which would normally or stereotypically be described by ‘kill’.¹⁴ The upshot, it might be claimed, is that, even though (14a) and some of the other examples above do not seem to be particularly prolix in themselves, they would seem so when compared with the briefer and (more or less) synonymous (13); and this kind

¹³ I am grateful to Paul Dekker, my editor at *Linguistics and Philosophy*, for raising this possibility.

¹⁴ I assume, for the sake of this example, that the meanings of ‘kill’ and ‘cause to die’ are close enough for the relevant effect to obtain.

of comparison is a part of our normal language processing, as shown by the existence of implicatures arising from violations of the Maxim of Manner.

It is unclear, however, how we would even be capable of obtaining the judgement that (14a) and the others are quite normal and felicitous in themselves if all this was going on and if these sentences were indeed sufficiently close paraphrases of (13). For the comparison between them and (13) that is supposed to be part of our normal language processing would presumably kick in and make these examples awkward even out of context. This detracts from the plausibility of this explanation and its alleged superiority over simply citing prolixity.

Furthermore, the considerations just explored leave untouched the second objection made above to postulating prolixity in this context. This is, recall, that prolixity and stating the obvious are phenomenologically distinguishable. And it is stating the obvious that is being alleged to be a problem for quantificational theories in the current article, not prolixity.

I suppose it might possibly be proposed, as a last resort, that the sensation of stating the obvious is the content of an implicature produced by the violation of ‘Be brief’: the idea would be that the relative prolixity signals that a maxim is being violated; hence, by Gricean mechanisms, an implicature is generated; and the content, or part of the content, of the implicature is that the speaker is stating the obvious. But it is a stretch to say that the content of a Manner implicature of this kind could be that the speaker is stating the obvious. As we saw in the examples above, the content of implicatures arising from violations of ‘Be brief’ tends to be that the object or event described in a prolix way is of an unusual and possibly marginal kind (Rett 2020): the singing is unusually bad and the killing is indirect or otherwise atypical. This is a far cry from a feeling that the speaker (who need not even be mentioned in the utterance) is stating the obvious.

I conclude that considerations of the current type cannot save quantificational theories from the objection given in Sect. 3.

4.3 Theories of redundancy

4.3.1 Introduction to theories of redundancy

So far I have kept talk of redundancy at an informal level, whether that term itself was used or whether the claim was that certain sentences (those in (14) and (15)) seemed to be ‘stating the obvious’ in the given context. But there have, of course, been a number of explicit theories of redundancy, which seem, on the face of it, to cover the notion in play here or closely related notions. It might be objected that, for all we have seen so far, one or more of these theories might differentiate between (13), on the one hand, and the sentences in (14) and (15), on the other, in such a way that (13) is predicted to be felicitous in context while the sentences in (14) and (15) are predicted to be redundant, even assuming a quantificational theory of the definite article. The purpose of this sub-section is to address this issue.

4.3.2 Global theories

Modern theories of redundancy are based ultimately on Stalnaker's (1978: 325) first principle of rational communication, which is given in (18).¹⁵

(18) *Stalnaker's First Principle*

A proposition asserted is always true in some but not all of the possible worlds in the context set.

The *context set*, according to Stalnaker (1978), is intimately tied to the notion of *presupposition*. In Stalnaker's usage, 'the presuppositions of a speaker are the propositions whose truth he takes for granted as part of the background of the conversation' (Stalnaker 1978: 321); and propositions are either functions from possible worlds to truth values or (equivalently) sets of possible worlds. The context set is the set of possible worlds compatible with what is presupposed; in set-theoretic terms, it would be the intersection of all the relevant propositions. All speakers have their own context set; but it is part of the notion of presupposition, Stalnaker says, that speakers assume that their interlocutors presuppose everything they presuppose. In a certain sense, then, participants in a conversation are in charge of maintaining a communal context set. In particular, an effect of an assertion is to remove from the context set those possible worlds that are incompatible with the proposition asserted; the new context set is the intersection of the old one and the newly asserted proposition. The idea behind rational communication, Stalnaker says, is to steadily reduce the context set in this manner, gradually zeroing in, as it were, on the actual world.

Against this background, we can now see the point of the principle in (18). As Stalnaker (1978: 325) says, it is an instruction not to assert what is presupposed to be false or presupposed to be true. If a proposition asserted were presupposed to be false, it would be true in none of the worlds in the context set. In the regular process of intersection to produce an updated context set, it would wipe out the context set, which would be counterproductive: the idea is to narrow down the context set but not to eliminate it altogether. And if a speaker were to assert something that was presupposed to be true at the time of utterance, there would be no effect on the context set whatsoever: what is presupposed to be true (or just presupposed) is true, by definition, in all the worlds of the context set, and so such an assertion would leave the context set exactly as it was. The utterance would be pointless. It would also, I might add, give rise to the impression of 'stating the obvious' noted above in connection with (14) and (15).

Now can Stalnaker's principle be used by the advocate of quantificational theories to rescue these theories in the face of the difficulty they have with example (13)? In order to do this, it would be necessary to show that (14)–(15) were predicted by this principle to be redundant in the given context while (13) was not, even though (13) had the same assertoric content as the examples in (14) or the examples in (15). And it is evident that it will not be possible to show any such thing. For Stalnaker's theory proceeds precisely on the basis of the assertoric content of whole uttered sentences. This is what yields the propositions that are tested by means of the principle in (18).

¹⁵ Close variants of this principle have been posited by van Rooy (2004) and Kölbel (2011).

And since, by hypothesis, (13) has the same assertoric content as the examples in (14) or the examples in (15), it will not be possible to use Stalnaker's principle to predict that these examples will behave differently.

I call Stalnaker's theory *global* because it assesses the redundancy of whole sentences, based on the truth conditions of those sentences in context. It does not assess redundancy in such a way that constituents in a sentence can render later constituents in the same sentence redundant, unlike some theories that we will examine shortly. Global theories were also proposed by Meyer (2013) and Katzir and Singh (2014). As summarized by Mayr and Romoli (2016: 5), the basic idea behind these theories is that a sentence *S* can be ruled out by a competitor sentence *S'* on economy grounds if *S* and *S'* are truth-conditionally equivalent in context and *S'* is a simplification of *S*, where *S'* is a simplification of *S* if and only if *S'* is the result of replacing a constituent *C* in *S* with a subconstituent of *C*. For example, (19a) seems to suffer from redundancy.

- (19) a. Mary is expecting a daughter and she is pregnant.
 b. Mary is expecting a daughter.

Let us call the theories in question *replacement theories*. The redundancy of (19a) is explained by replacement theories by observing that (19b) is truth-conditionally equivalent to (19a) and is a simplification of it in the required sense (where in this case the constituent *C* is the whole sentence (19a) and the subconstituent is (19b) itself).

Could replacement theories be used to help quantificational theories of the definite article? In order for replacement theories to help, it would presumably have to be the case that the examples in (14) and (15), repeated here, felt redundant because they had simplifications that were equivalent in context, whereas (13) did not have a simplification that was equivalent in context.

- (14) a. There is a cow in that field and it is a Friesian.
 b. There is an individual that is a cow in that field and a Friesian.
 c. Something is a cow in that field and a Friesian.
 (15) a. There is exactly one cow in that field and it is a Friesian.
 b. There is exactly one cow in that field and any cow in that field is a Friesian.
 c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

But it is not the case that any of the examples in (14) and (15), with the possible exception of (15c), have simplifications that are equivalent in context. In the case of (15c), it is possible that [a cow in that field and unique in being a cow in that field and a Friesian] could be replaced by [unique in being a cow in that field and a Friesian] in accordance with replacement theories. But even here this is not clear, due to uncertainties about the exact structure of this tripartite conjunction: it is not certain that 'unique in being a cow in that field and a Friesian' would be a constituent, since it is possible that [a cow in that field and unique in being a cow in that field] is a constituent. At any rate, (15c) is the only example in (14) and (15) where it looks like replacement theories might apply; and this leaves unexplained the contrast between (13) and the other examples in (14) and (15). So replacement theories cannot help quantificational theories.

4.3.3 Schlenker (2009)

Apart from global theories, the other major subdivision of theories of redundancy is constituted by theories of local context. In this area, Schlenker's (2009) theory is arguably the most prominent and influential. So I will now move on to consider whether Schlenker's theory can explain the difference between (13), on the one hand, and the sentences in (14) and (15), on the other, assuming a quantificational theory of definite descriptions. The proposal under investigation will be that the sentences in (14) and (15) contain constituents that are redundant according to this theory whereas (13) does not.

Schlenker's (2009: 34) theory of redundancy is as follows: 'an expression E is locally trivial if it is entailed by its local context'. The local context of an expression E , in Schlenker's theory, is the minimal domain of objects that the interpreter needs to consider when computing the propositional contribution, in context, of E (Schlenker 2009: 9). For example, suppose an interpreter is trying to make sense of (20) in a context C , where context is modelled as a Stalnakerian context set:

(20) Roses are red and violets are violet.

After the first conjunct has been processed, the interpreter could in principle work out whether the second conjunct is true in all the worlds of the original context C . But Schlenker says there is no need to do this, since worlds where the first conjunct is false are by this stage irrelevant, in the sense that they will make the whole sentence false no matter what the second conjunct turns out to be (Schlenker 2009: 11). So, the theory goes, what actually happens is that in working out the truth value of the whole conjunction the interpreter calculates the truth value of the second conjunct only for those worlds in C in which the first conjunct is true. This set of worlds, the intersection of C and the denotation of the first conjunct, is the local context for the second conjunct.

An expression restricted by its local context will generally be interpreted as the intersection of the local context and the denotation of the expression (Schlenker 2009: 15). Since expressions that have local contexts have to denote things, only constituents can have local contexts; thus only constituents can be predicted to be redundant by this theory.

Recall that an expression E is locally trivial if it is *entailed* by its local context. Entailment, as usual, will be taken to be the subset relation. We can illustrate the general idea by means of some of the examples in (14) and (15), thus at the same time illustrating the objection being investigated. Take (14a), for example, repeated here:

(14) a. There is a cow in that field and it is a Friesian.

The local context for the first conjunct is just the initial context C , which was described above. Given that my friend and I have been contemplating the scene for several seconds, all the worlds in C are such that in them there is a cow in the field in question. C will, of course, place other restrictions on these worlds too, such as the restriction that in them my friend and I are looking into the field. This means that C is a subset of the set of worlds in which there is a cow in the field in question. So the first conjunct of (14a) is entailed by its local context and is thus trivial.

The worry under investigation involves one more claim and that is that our original sentence (13), repeated here, does not contain a constituent that is entailed by its local context, even if we interpret the definite description by means of the quantificational presuppositional theory.

(13) The cow in that field is a Friesian.

I will simply grant this claim for the sake of argument.

The current objection, then, is that, while (13) does not contain any constituents entailed by their local contexts, the sentences in (14) and (15) do; this fact is supposed to explain the difference between (13) and the sentences in (14) and (15). As well as (14a) we can acknowledge that it also looks competent to remove the force of (15a) and (15b), repeated here:

- (15) a. There is exactly one cow in that field and it is a Friesian.
b. There is exactly one cow in that field and any cow in that field is a Friesian.

For these examples both have first conjuncts that plausibly express a proposition that was already in the common ground, just as with (14a).

But what about (14b), (14c), and (15c), repeated here?

- (14) b. There is an individual that is a cow in that field and a Friesian.
c. Something is a cow in that field and a Friesian.
(15) c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

Are there constituents in these examples that are entailed by their local contexts? I see a problem for the current objection here. Let us start with (14b). At first sight, it might seem as if ‘there is an individual that is a cow in that field’ would be such a constituent: it would be exactly like ‘there is a cow in that field’ in (14a). But in fact the string ‘there is an individual that is a cow in that field’ is not a constituent of (14b) at all. The gross syntactic structure of this sentence is given in (21):

(21) [there [is [an [individual [that is [[a cow in that field] and [a Friesian]]]]]]]]

Note that ‘a cow in that field’ forms a larger constituent, in the first instance, with ‘a Friesian’, the two combining by means of the word ‘and’ to form a conjunction of noun phrases. This means that the smallest constituent that includes the string ‘there is an individual that is a cow in that field’ is in fact the whole sentence. But this cannot be entailed by its local context (which is just the global context *C*) since, by stipulation, it was not common ground at the start of the utterance of (13) that the cow in question was a Friesian. The same point prevents the conjunction ‘a cow in that field and a Friesian’ being entailed by its local context. It looks, in fact, as if the only possible candidate for a constituent that might be entailed by its local context in this example is ‘a cow in that field’ (or perhaps just ‘cow in that field’); but it is by no means clear how this would work.

The same considerations apply, *mutatis mutandis*, to (14c) and (15c), whose gross syntactic structures are as follows:

(22) [something is [a cow in that field and a Friesian]]

- (23) [there is [an [individual [that is [a cow in that field and unique in being a cow in that field and a Friesian]]]]]]

In these examples too the only possible candidate for being entailed by its local context is ‘a cow in that field’ (or perhaps just ‘cow in that field’); but, again, it is by no means clear how this would work.

It is possible, in fact, to demonstrate rigorously that ‘(a) cow in that field’ is not entailed by its local context in (14b) or (15c), contrary to what the current objection requires. But since that would involve delving deep into the technicalities of Schlenker’s theory, I relegate this demonstration to an appendix. Meanwhile, it might be possible to produce an intuitive appreciation of this fact by recalling that some sentences containing ‘(a) cow in that field’ are perfectly felicitous, even when it would seem that there are enough cows around to render the phrase not unexpected:

- (13) The cow in that field is a Friesian.
 (24) (*Same context as above, but with several cows of different breeds.*) A cow in that field is a Friesian.

If this phrase, by itself, does not produce redundancy in these examples, why should it, one might wonder, in (14b) or (15c)? But the appendix should be consulted for a rigorous demonstration.

Overall, then, we can see that, contrary to the current objection, Schlenker’s (2009) theory of redundancy cannot distinguish between (13) and the examples in (14) and (15).

4.3.4 Mayr and Romoli (2016)

Mayr and Romoli (2016) advocate a variant of Schlenker’s (2009) system whereby it is assumed, when calculating local contexts, that the meaning of the sentence is a conjunction of its basic meaning and any scalar implicatures that it may generate. Scalar implicatures are calculated, for this purpose, by means of an exhaustification procedure (Groenendijk and Stokhof 1984; van Rooij and Schulz 2004; Spector 2007; Fox 2007). In order for this theory to be helpful to quantificational theories, it would have to be the case, once more, that it predicted that the sentences in (14) and (15) were redundant while (13) was not, despite the fact that Schlenker’s theory, on which it is based, does not do this.

In order for there to be a difference between what the current theory predicts and what Schlenker’s theory predicts, it will presumably be necessary for the examples in (13)–(15) to trigger scalar implicatures. For if no scalar implicatures are in play, Mayr and Romoli’s theory presumably collapses into Schlenker’s theory, which has already been shown not to give the advocates of quantificational theories what they need. An inspection of the crucial examples shows, however, that we do not have the pattern of scalar implicatures that quantificational theories would require:

- (13) The cow in that field is a Friesian.
 (14) a. There is a cow in that field and it is a Friesian.
 b. There is an individual that is a cow in that field and a Friesian.
 c. Something is a cow in that field and a Friesian.

- (15) a. There is exactly one cow in that field and it is a Friesian.
 b. There is exactly one cow in that field and any cow in that field is a Friesian.
 c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

I submit that (13) does not trigger any scalar implicatures. (The ‘a’ in predicate position is probably semantically vacuous (Heim and Kratzer 1998: 61–62); it would certainly be absurd to claim an implicature to the effect that it is not the case that the cow in that field is many Friesians or all Friesians...) In (15a) and (15b), the quantifier phrase ‘exactly one cow’ does not trigger scalar implicatures since it is already precise; and the word ‘and’, although it is a member of the classic Horn scale (‘or’, ‘and’), is the stronger member of that scale and hence does not trigger scalar implicatures either.¹⁶ Since none of (13), (15a), and (15b) trigger scalar implicatures, Mayr and Romoli’s theory cannot help the Russellian theory or the theory of Karttunen and Peters (1979), whose prediction for the assertoric content of (13) is represented by (15a) and (15b). Now what of the examples in (14)? Here, I suggest we concentrate on (14b). Taken as a whole, this example has exactly the same assertoric content as (13), according to the relevant quantificational presuppositional theories; and so these theories cannot claim that (14b) and (13), taken as a whole, differ in the scalar implicatures they generate. But there is no other way of taking (14b) or (13) when it comes to the generation of scalar implicatures, since no sub-constituent of these examples expresses a proposition by itself. (Recall the discussion of the structure of (14b) around (21) above.) So there is no way that the advocate of quantificational presuppositional theories can claim that (13) and (14b) differ in their scalar implicatures, contrary to what would be required by the current objection. The contrast between (13) and (14b), in other words, remains mysterious if we are to be guided by quantificational presuppositional theories; which means, once more, that these theories have difficulty accounting for the acceptability of (13) in the given context.

4.3.5 Conclusion on theories of redundancy

In examining the theories of Stalnaker (1978), Meyer (2013), Katzir and Singh (2014), Schlenker (2009) and Mayr and Romoli (2016), I take it that I have surveyed the main lines that theories of redundancy have taken. None has been helpful to the advocate of quantificational theories. I cannot, of course, foresee what further developments there may be in this field of enquiry. But I would like to close my discussion of the current objection by recapitulating a couple of central points: since the examples in (14) and (15) have the same overall assertoric content as (13) according to quantificational theories, it is unlikely that global theories of redundancy will be helpful to them; and, as pointed out in connection with Schlenker’s theory, any theory of redundancy based on local contexts will presumably have to show that ‘cow in that field’ is redundant in (14) and (15) but not in (13), which seems like a tall order. I think it unlikely, then, that quantificational theorists will be able to find succour in contemporary theories of redundancy or any work based closely on them.

¹⁶ That this standard assumption is maintained by Mayr and Romoli (2016) is confirmed by their discussion, on page 30, of their example (81), which contains ‘and’ and is claimed to be without any effect on exhaustification.

4.4 Maximize presupposition

In Sect. 3, I dismissed the possibility of saving quantificational presuppositional theories by means of an appeal to their presuppositional aspect. But one sophisticated variant of this objection remains to be explored. The idea, in brief, is that a pragmatic principle posited on other grounds favours sentences with presuppositions (like (13), according to quantificational presuppositional theories) over sentences without presuppositions that in some sense say the same thing (like those, it might be argued, in (14) and (15)).

Heim's principle *Maximize Presupposition* is widely used in contemporary semantics and pragmatics (Heim 1991; Percus 2006; Chemla 2007, 2008; Sauerland 2008; Singh 2011; Schlenker 2012; Coppock and Beaver 2015). The original formulation of the principle is in (25) (Heim 1991: 515).¹⁷

(25) *Maximize Presupposition (Original Version)*

In your contribution, presuppose as much as possible.

The idea, in informal terms, is that certain possible ways of expressing the same thing would be in competition with each other and that formulations that made stronger presuppositions would be preferred; the others would be infelicitous. Heim went into detail about only one case, which she expressed in the following corollary of her general principle (Heim 1991: 515):

(26) In an utterance situation in which it is known that the presuppositions of 'the ζ ξ ' are fulfilled, it is forbidden to utter 'a ζ ξ '.

This is used to explain why it is infelicitous to utter sentences like (27):

(27) A weight of our tent is two kilograms.

(28) The weight of our tent is two kilograms.

(28) presupposes more than (27) (assuming a presuppositional analysis of the definite article) and in any situation in which gravitational acceleration remains constant, the presupposition attached to 'the weight of our tent' (that there is only one weight of our tent) will be fulfilled. So (27) and (28) come into competition under the auspices of (26); and (27) is dispreferred. (Another example of Maximize Presupposition in action will be given in the discussion surrounding (37).) I will henceforth call sentences that come into competition for the purposes of Maximize Presupposition *MP-competitors*.

The idea behind the current objection is that Maximize Presupposition could be used by an advocate of quantificational presuppositional theories to explain why the sentences in (14) and (15) are infelicitous in a way that would avoid predicting (13) to be infelicitous at the same time. Consider, by way of comparison, the following sentence, to be understood as uttered in the same context as the previous examples:

¹⁷ This is my translation from the original German, which is as follows: 'Präsupponiere in deinem Beitrag so viel wie möglich.' An anonymous reviewer points out that a similar principle was posited by Grice (1981); work related to Grice's version of this idea has been carried out by Schlenker (2007).

(29) A cow in that field is a Friesian.

This example (it might be urged) has very much the same feel as the examples in (14) and (15), given that it is plain that there is in fact just one cow in the field. This awkwardness can plausibly be explained as following from (26): the presuppositions of (13) are fulfilled in context; and (13) is identical to (29) except for the substitution of the definite article; the possibility of (13), then, rules out (29). The idea would now be that Maximize Presupposition could explain the data in (14) and (15) in the same way if a quantificational presuppositional analysis is adopted: these sentences do not presuppose anything (with the possible exception of some presuppositions arising from ‘that field’, depending on how one analyses complex demonstratives), and so they are ruled out by the possibility of saying (13), which does presuppose something and which in some sense says the same thing.

Two issues arise at this point. First, we will want to know how the account, which has so far been presented in informal terms, can be made more precise. And secondly, we will want to know whether a more precise version is indeed capable of accounting for the infelicity of (14) and (15) without predicting that (13) should be infelicitous too. In particular, we will want to know if the sentences in (14) and (15) become MP-competitors of (13) and are thus capable of being ruled out by it.

Here, then, is a formally precise version of Maximize Presupposition and related concepts laid out by Singh (2011: 151–152), based on previous work by Sauerland (2008) and Schlenker (in an earlier version of his (2012) article). We start with a precise notion of saying the same thing in context:

(30) *Contextual Equivalence*

LFs ϕ and ψ are contextually equivalent with respect to a context c iff
 $\{w \in c : \llbracket \phi \rrbracket(w) = 1\} = \{w \in c : \llbracket \psi \rrbracket(w) = 1\}$.

In this definition, an ‘LF’ is a Logical Form in the syntactician’s sense: a syntactic tree that is an input to the interpretational component of the grammar. The definition also assumes that the semantic value of an LF is a function from possible worlds to truth values; a context is modelled as a set of possible worlds, like Stalnaker’s (1978) context set. We now need to spell out the notion of *alternatives* for Maximize Presupposition, a concept which will determine what sentences become MP-competitors. Singh (2011: 152) (like almost everyone else in the literature, as we will see) assumes that alternatives are provided by lexical scales, which have to be stipulated. In each scale, one member introduces stronger presuppositions than the other.¹⁸ Examples, with the weaker members on the left, include ⟨‘a’, ‘the’⟩, ⟨‘all’, ‘both’⟩, and ⟨‘believe’, ‘know’⟩. We are now ready to define the alternatives that will be used in the formulation of Maximize Presupposition (Singh 2011: 152):

(31) *Alternatives for Maximize Presupposition*

If $\langle \alpha, \beta \rangle$ is a lexical scale, and ϕ is an LF containing lexical item α , and ψ is

¹⁸ The notion of one presupposition, or set of presuppositions, being stronger than another is not spelled out formally by Singh, but could presumably be explicated in terms of the number of possible worlds that the rival presuppositions are true in. For current purposes, the scale we are interested in is ⟨‘a’, ‘the’⟩, where the first member, according to the standard Russellian analysis, does not introduce any presuppositions, and the second member, according to the analyses of definite descriptions in which we are interested, does introduce a presupposition. The issue is clear in this case, then.

an LF identical to ϕ except that at some terminal node it contains β where ϕ contains α , then ϕ and ψ are alternatives.

Maximize Presupposition can now be defined as follows (Singh 2011: 152).¹⁹

(32) *Maximize Presupposition (New Version)*

If ϕ and ψ are contextually equivalent alternatives, and the presuppositions of ψ are stronger than those of ϕ and are met in the context of utterance, then one must use ψ .

MP-competitors are contextually equivalent alternatives, in other words. To review our previous example, (13) and (29) are contextually equivalent alternatives in any context in which it is presupposed that there is exactly one cow in the field in question (and assuming a quantificational presuppositional account of definite descriptions). They are alternatives, since they differ only in the substitution of ‘a’ for ‘the’, and these lexical items are members of a relevant scale. And they are contextually equivalent in context, since the context is already one in which all possible worlds contain exactly one cow in the field in question. The presupposition of (13) is fulfilled, and it ends up stating that there is a cow in the field in the question that is a Friesian, according to Abbott; but this is exactly what (29) states; so the two sentences are true in the same worlds in the context set. According to Karttunen and Peters, of course, (13) states that there is exactly one thing that is a cow in the field in question and that this thing is a Friesian; but since the worlds we started with are all such that, in them, there is exactly one cow in the field in question, the worlds among them in which (13) is true according to Karttunen and Peters are the same as those in which it is true according to Abbott. And this is the same set picked out by (29). Given all this, Maximize Presupposition compares the two sentences and rules that (13) is preferred and (29) is infelicitous.

The question now arises whether the quantificational presuppositional theory can explain the examples in (14) and (15) with this more exact statement of Maximize Presupposition and related notions. The reader will doubtless have noted that the use of lexical scales to trigger Maximize Presupposition forms a seemingly insuperable barrier to this. The sentences in (14) and (15) do not differ from (13) merely in one lexical item on a scale, as demanded by (31) and (32); their whole structure is very different. And it is worth noting that very nearly all the literature on Maximize Presupposition posits lexical scales of this exact kind (Percus 2006; Chemla 2008; Sauerland 2008; Singh 2011; Schlenker 2012).²⁰ The one exception to this trend is Chemla (2007), which points out that something like the scale ⟨‘all’, ‘both’⟩ seems to be operative in French, even though French does not have a one-word translation of ‘both’; but the solutions suggested for this problem, namely adopting scales that include either short phrases or concepts, are conservative extensions of the normal procedure and are not sufficient to deal with the wide variation that obtains between (13), on the one hand, and (14) and (15), on the other.

¹⁹ Singh (2011) ultimately argues that this definition has to be modified in order to allow the principle to operate locally over embedded sentences, but I here ignore this complication.

²⁰ Heim (1991) herself does not devote any explicit theoretical discussion to the nature of MP-competitors; but the only case she examines in detail, as noted above, is the lexically specified one involving ‘a’ and ‘the’.

However, Chemla (2008: 144–145), although he uses lexical scales, speculates briefly that they may not be necessary; and he suggests a means of testing whether two sentences are MP-competitors at the sentence-level, namely that ‘in a context where the presupposition of the sentence with the stronger presupposition is satisfied (i.e. common belief), the sentence with the weaker presupposition should be infelicitous.’ Now this cannot be adequate in itself. It seems to be saying that, for any pair of sentences S and S' such that S presupposes more than S' in context, S makes S' infelicitous in context. Large numbers of perfectly innocuous sentences would be ruled out like this; think especially of cases where S and S' are wholly unrelated. We will have to find a way of restricting the sentence-level comparison postulated by Chemla to sentences that in some sense say the same thing.

Given the theoretical background we have so far established, perhaps the simplest way of achieving this would be to jettison the notion of alternatives as defined in (31). As well as dropping (31) from our theory, this would involve excising the mention of alternatives from Maximize Presupposition:

(33) *Maximize Presupposition (Experimental Version I)*

If ϕ and ψ are contextually equivalent, and the presuppositions of ψ are stronger than those of ϕ and are met in the context of utterance, then one must use ψ .

MP-competitors are contextually equivalent sentences, in other words. This, if it worked, would be an attractive simplification of our theory. And it would presumably also make the sentences in (14) and (15) MP-competitors of (13), meaning that they would be ruled out of court. This, of course, would be of great benefit to quantificational presuppositional theories.

But problems quickly emerge. Suppose it is common ground that the sun is shining. Then according to this theory (34) and (35) become MP-competitors, since they are true in the same worlds in the context set.

(34) John loves Mary.

(35) John loves Mary and the sun is shining.

Moreover, (35) is predicted to be preferred and to rule out (34), since it presupposes something that (34) does not.

At this point, we might start to wonder why we need to restrict the notion of equivalence in our theory to being contextual equivalence. Since (34) and (35) are true in different sets of possible worlds overall (ignoring any restriction to the context set), why not differentiate between them that way? This would mean that we could drop (30) from our theory as well as (31) and rely solely on a revised version of Maximize Presupposition, along the following lines:

(36) *Maximize Presupposition (Experimental Version II)*

If ϕ and ψ are true in the same possible worlds, and the presuppositions of ψ are stronger than those of ϕ and are met in the context of utterance, then one must use ψ .

MP-competitors are sentences true in the same set of possible worlds, in other words. This would prevent (34) and (35) from being MP-competitors. And it would presumably make (13) (‘The cow in that field is a Friesian’) and (15a) (‘There is exactly one

cow in that field and it is a Friesian') MP-competitors, given, say, Abbott's analysis of (13): (13) would be true in worlds in which there is exactly one cow in that field and it is a Friesian (because of the presupposition that there is exactly one cow in that field), and so would (15a); and (13) has a presupposition while (15a) does not. We would predict, then, that (13) is preferred and (15a) is infelicitous, which is exactly the result we have. What is not to like?

Quite a lot, actually. This proposal would prevent some sentences from being MP-competitors that we need to be. Consider the following example, which uses the scale ⟨'all', 'both'⟩ (Singh 2011: 150):

- (37) a. All of John's eyes are open.
b. Both of John's eyes are open.

Assuming that John is anatomically normal, (37a) raises eyebrows, as it were, but (37b) is just fine. This easily follows from (32) if we assume, as is commonly done in this literature, that 'both ζ ξ ' presupposes that there are exactly two ζ s. But it does not follow from (36), since (37a) and (37b) are not true in the same possible worlds.

One might be tempted at this point to say that MP-competitors can be sentences that are true in the same possible worlds overall *or* sentences that are true in the same possible worlds in the context set, in order to accommodate examples like (37), but this opens one's theory up once more to the kind of problem we noted in connection with (33).

We must conclude, then, that the version of Maximize Presupposition in (32) is the most adequate one with respect to the dimension that we have been exploring. This means that quantificational presuppositional theories cannot appeal to Maximize Presupposition in order to relieve themselves of the problem they face in connection with (13), (14), and (15).

5 Arguments against Fregean theories

Apart from the work of Rothschild (2007) and Schoubye (2013) discussed earlier, I am aware of only one other place where the rivalry between Fregean and quantificational presuppositional theories is addressed, and that is Hawthorne and Manley (2012). In this section, then, I reply to the four arguments that Hawthorne and Manley make against Fregean presuppositional theories. It should be noted that these authors describe five such arguments but explicitly argue against the efficacy of the first (Hawthorne and Manley 2012: 196–198). (I agree with their diagnosis.) I will refer to their subsequent arguments with their numbering, for ease of reference.

5.1 The second argument

Hawthorne and Manley's second argument begins with the following example (2012: 198):

- (38) Either the king at t or the regent at t was in charge.

Assuming that the kingdom is well regulated, Hawthorne and Manley say that this will presumably come out true relative to an assignment of a time to ‘*t*’, even if one of the disjuncts suffers from presupposition failure. Perhaps, they say, Fregean theorists could utilize something like the strong Kleene truth table for disjunction, which would map True and the third truth value to True. However, ‘[a]ssuming this result can be achieved, it conflicts with classical model theory, since the latter explains quantification in a setting where open sentences are bivalent relative to an assignment, and where the possibility of true disjunctions with some truth-valueless disjuncts is not entertained’ (Hawthorne and Manley 2012: 198). A similar point is made with the aid of another open sentence.

Two points should be made about this argument. First, it is not immediately clear how it differentiates between quantificational presuppositional theories and Fregean presuppositional theories. For it to have this effect, one would have to argue that Fregean presuppositional theories were committed to rejecting bivalence whereas quantificational presuppositional theories were not. I am not aware of any such argument having been made. But perhaps the thought is that a presupposition failure in the case of a Fregean definite description, since a unique referent is required as the semantic value of the whole thing, has the drastic consequence that one node in the syntactic tree can contribute nothing at all to the semantics (in a place where something is required—in subject position, for example), whereas a presupposition failure in the case of a quantificational presuppositional definite description would still leave the truth-conditional contribution of the definite description—existential quantification—able to be made. The quantificational presuppositional theory could then be allied with a theory of presupposition that maintains bivalence—by mapping presupposition failures to falsehood, presumably.²¹

Secondly, I maintain, in response to the argument, that there is no good reason to expect classical model theory to be an adequate model of the semantics of natural language in all respects (or even in many respects). Indeed, as far as bivalence is concerned, a clear majority of speakers (in my experience) have Strawsonian intuitions with regard to classic examples like (39): the question of their truth or falsity ‘simply doesn’t arise’ (Strawson 1950: 330) and so the examples are felt to be neither true nor false.

(39) The king of France is wise.

This includes a large number of philosophers and linguists. Such theorists have come up with detailed and subtle bodies of description and theory mapping out the systematic interactions that such judgements display in response to various tweaks to the examples (Strawson 1954, 1964; Lasnik 1993; von Stechow 2004; Yablo 2006, 2009; Schoubye 2009; Elbourne 2013; Felka 2015). The evidence for the reality of Strawsonian intuitions is overwhelming. A minority of speakers, it is true, get purely

²¹ At various places in their book (on page 106, for example), Hawthorne and Manley are studiously neutral between what they call ‘gap-happy’ and ‘gap-hostile’ approaches to presupposition. But it seems that they need to cast in their lot with the gap-hostile theorists if the present argument is not to count against their own theory of definite descriptions too.

Russellian judgments ('false' for (39)). But Strawsonian theorists can explain this by making a distinction between the outputs of the language faculty (which can be partly unconscious) and the intuitions that are felt and reported by speakers: those who obtain Russellian judgements would be mapping any kind of untruth to an intuitive feeling of 'false' (von Fintel 2004: 321, footnote 11).²² But those who wish to maintain bivalence would seem to be stymied when it comes to mapping the expected 'true' and 'false' to the tripartite range of reactions that speakers actually evince; in fact I know of no attempt to do this, which means that, as far as I know, no theorists who maintain bivalence in their accounts of natural language have actually attempted to account for the relevant data thrown up by natural language.²³

5.2 The third argument

Hawthorne and Manley's (2012: 200–201) third argument alleges that the Fregean presuppositional theory needs definite descriptions to be paired with world variables in the syntax in order to deal with the kind of interpretation they display in modal contexts, as in (40):

(40) Possibly, the inventor of the zip was Jason Stanley.

The idea here, of course, is that this means something like (41):

(41) There is some accessible possible world w such that the inventor of the zip in w is Jason Stanley.

The underlined portion would be the contribution of the definite description plus an associated world variable. Hawthorne and Manley allege that without a world variable, 'the inventor of the zip' would presumably just be directly referential according to a Fregean theory; it would not be able to contribute to the kind of truth conditions we see in (41). They then point out that it is not certain that world variables are really to be found in the syntax: 'If it turns out that the treatment of the deep structure of ordinary modal language based on world variables is incorrect, then this may indeed be a good reason for rejecting the hypothesis that ordinary definite descriptions are neo-Fregean' (Hawthorne and Manley 2012: 201).

This is obviously very tentative.²⁴ A perfectly good reply would be to point out that quite possibly there *are* world variables in the syntax. But we can do better. In a result that has, in my opinion, been rather neglected, Cresswell demonstrated that natural languages have the power of 'explicit quantification over worlds' (Cresswell 1990: x); in other words, he demonstrated that apparent quantification over worlds in natural language semantics cannot be dealt with merely by the binding of world

²² There is now experimental confirmation that judgements of 'false' for examples like (39) take longer to make than judgements of 'false' for sentences like 'There is exactly one king of France and he is wise' (Schwarz 2016). Schwarz argues that the longer response times are indicative of more complex processing.

²³ It should be noted that Hawthorne and Manley say on page 199 of their book that they 'do not wish to endorse the attitude of the classical diehard.' Their attitude towards the current argument seems to be ambivalent at best, then.

²⁴ Hawthorne and Manley's (2012: 201) verdict on the argument is 'Without passing final judgment, we do think that this argument has some *prima facie* appeal.'

variables in the metalanguage in lexical entries.²⁵ Cresswell saw two ways of dealing with the data that he adduced: sentences could contain bound world variables in the syntax or could be evaluated at a sequence of worlds rather than just one world (1990: 45). He eventually opted for the latter analysis. Strictly speaking, then, we should reject Hawthorne and Manley's insistence that Fregean definite descriptions need to be paired with world variables in order to have the kind of interpretation they display in modal contexts; they could also be integrated into a system like Cresswell's. But since Cresswell showed that the modal semantics of natural languages was as powerful as that which would be achieved by quantification over object-language world variables, it is hardly an unjustified step to posit them.²⁶ We might add that Percus (2000) and Keshet (2010) subsequently discovered subtle restrictions on the kinds of modal interpretations that are available to natural language sentences that they explained by constraints on object-language world or situation variables that are reminiscent of the constraints placed on overt pronouns by Chomskyan Binding Theory (Chomsky 1981); it is by no means evident that their theories could be implemented in any other way.

5.3 The fourth argument

Hawthorne and Manley's fourth argument (2012: 201) asks us to bear in mind the quantificational possible-worlds semantics associated with Fregean definite descriptions in the last argument and attempts to show that it runs into trouble elsewhere. Suppose, they say, that there could have been objects that do not actually exist. They proceed as follows (Hawthorne and Manley 2012: 201), using 'Etese' as a name for the Fregean presuppositional approach:

Suppose, for example, that there could have been talking donkeys, but that nothing in reality—nothing that is in the range of our quantifiers—could have been a talking donkey. Now the Etese lover would want the sentence 'There might have been talking donkeys' to come out true under his favored regimentation. But consider ' $\exists w \exists x (x \text{ is a talking donkey at } w)$ '. For this to be true, there must be an assignment to ' w ' such that ' $x \text{ is a talking donkey at } w$ ' has at least one true instance with respect to that assignment. This in turn requires there to be some object quantified over in our semantical metalanguage that satisfies the predicate ' $x \text{ is a talking donkey at } w$ ' relative to some assignment to ' w '. But if reality is devoid of possible talking donkeys, how can there be any such object? The upshot is that the Etese approach does not sit well with the picture that the domain of all objects is modally non-constant.

²⁵ See Elbourne (2013: 143–144) for this way of putting it. And see Kratzer (2010: Section 5) for important related work.

²⁶ Unfortunately Cresswell's examples and argumentation are too complex to discuss here without making the treatment of the current argument grossly disproportional. For a gentle introduction to this whole set of issues, see Chapter 7 of Elbourne (2013). It should also be pointed out in this context that the particular example that Hawthorne and Manley give does not need either world variables in the syntax or a system like Cresswell's to be analysed by the Fregean theory. Elbourne (2005: 103–104), for example, shows how a Fregean theory can deal with simple examples of definite descriptions picking out different objects in different worlds solely by means of metalanguage world variables being bound within lexical entries. The examples of Cresswell's that necessitate more powerful systems are more elaborate.

As Hawthorne and Manley say, the extent to which one is impressed by this argument will depend on how keen one is on maintaining a modally non-constant domain. But for the sake of argument I will grant that it is indeed desirable to have this.

I would maintain that it is not at all clear that this argument does indeed distinguish between Fregean and quantificational presuppositional theories. In order to do this, it would be necessary, at the very least, to set out a system of intensional semantics that avoids the result they present and show that quantificational presuppositional definite descriptions can be incorporated into it while Fregean definite descriptions cannot. But Hawthorne and Manley do not attempt this project. So, given that advocates of quantificational presuppositional theories will require *some* way of dealing with modal phenomena, it is unclear where the argument gets us.

The argument can also be faulted, in my opinion, in that Hawthorne and Manley provide no reason why we should suppose that (43) should be the Fregean theorist's 'favored regimentation' of (42).

(42) There might have been talking donkeys.

(43) $\exists w \exists x (x \text{ is a talking donkey at } w)$

To show that there are other options open, I will now provide a compositional analysis of (44), a closely related sentence that would also be translated into simple intensional logic as (43).²⁷

(44) Possibly, there are talking donkeys.

I will provide the analysis in the semantic system of Elbourne (2013), a recent Fregean presuppositional treatment of definite descriptions.

As might be expected, given the above remarks about Cresswell's (1990) results, Elbourne (2013) uses situation variables in the syntax. Situations are parts of possible worlds, with the parthood relation being understood reflexively, so that possible worlds count as big situations. Situation variables only occur inside complex noun phrases, however; and in the example below, none are necessary at all (or predicted to be present by the system as a whole). We can analyse (44) adequately if we assume the following lexical entries and the composition rule in (49), all of which are consistent with the formal system of Elbourne (2013).²⁸

(45) $\llbracket \text{'possibly'} \rrbracket = \lambda p_{(s,t)}. \lambda s. \text{there is a possible world } w \text{ accessible from } s \text{ such that } p(w) = 1$

²⁷ I will not attempt to analyse (42) itself, because it involves tricky complications that are orthogonal to the issues at hand. In particular, what is the meaning of 'have' in this context and how does it relate scopally to the meaning of 'might'? von Stechow and Gillies (2008: 87) claim about a structurally similar sentence that 'have' outscopes 'might', despite the surface word order; and it is not clear how to achieve this state of affairs, if it is applicable here, by means of any principled theory of the syntax-semantics interface.

²⁸ The lexical entry for 'possibly', which is taken from page 59 of Elbourne (2013), is obviously a simplification, tailored for the purposes at hand; a more adequate treatment would incorporate more of the insights of Kratzer (1981) and related work. For bare plurals ('talking donkeys') as predicates, see Chierchia (1998) and Zweig (2009), among others. There is remarkably little work on the word-by-word semantics of 'there'-expletive constructions, so the lexical entry for 'are' as it appears here is my own invention; it is based, however, on the standard assumption that 'there' is semantically vacuous (Chomsky 1986: 90), meaning that the existential assertoric content in these constructions presumably comes from the verb 'be'. The formulation of Functional Application comes from Heim and Kratzer (1998).

(46) ‘there’ is semantically vacuous.

(47) $\llbracket \text{‘are’} \rrbracket = \lambda f_{(e, st)} . \lambda s . \text{there exists in } s \text{ an individual } x \text{ such that } f(x)(s) = 1$

(48) $\llbracket \text{‘talking donkeys’} \rrbracket = \lambda x . \lambda s . x \text{ is a talking donkey in } s$

(49) *Functional Application*

If α is a branching node and $\{\beta, \gamma\}$ the set of its daughters, then, for any assignment g , α is in the domain of $\llbracket \]^g$ if both β and γ are, and $\llbracket \beta \rrbracket^g$ is a function whose domain contains $\llbracket \gamma \rrbracket^g$. In that case, $\llbracket \alpha \rrbracket^g = \llbracket \beta \rrbracket^g(\llbracket \gamma \rrbracket^g)$.

These assumptions, which are largely standard (see note 28), yield the result in (50):

(50) $\llbracket \llbracket \text{[possibly [there [are [talking donkeys]]]]} \rrbracket \rrbracket = \lambda s . \text{there is a possible world } w \text{ accessible from } s \text{ such that there exists in } w \text{ an individual } x \text{ such that } x \text{ is a talking donkey in } w$

As can be intuitively appreciated, these truth conditions allow for the domain of all objects to be modally non-constant (‘such that there exists in w an individual x ’), as desired by Hawthorne and Manley. But this result is quite consistent with a Fregean presuppositional approach to definite descriptions, as can be seen from the fact that it was achieved in the formal system of Elbourne (2013).

5.4 The fifth argument

This leaves Hawthorne and Manley’s fifth argument. This is simply that ‘For those of us who adopt an existential approach to indefinites, existentialism about definites promises an enviable level of uniformity’ (Hawthorne and Manley 2012: 201). No further details are given.

As Hawthorne and Manley (2012: 201) themselves admit, this is not decisive. For a start, there is no compelling reason to maintain that definites and indefinites should have a semantics that is similar, which seems to be the guiding idea here.²⁹ They are, after all, plainly opposed to each other, one involving definiteness and the other not. Furthermore, if we concentrate on the syntactic distribution of the definite and indefinite articles in English, which is semantically relevant because of the constraints imposed on the lexical semantics of a word by the necessity of composing with its sisters in syntactic structure, we see that these two determiners diverge widely, as

²⁹ An anonymous reviewer for this journal disputes this interpretation of Hawthorne and Manley and maintains, instead, that the comment quoted above has to do with how contextual restriction is handled across different determiners. He or she says, ‘Now, one nice thing about treating descriptions quantificationally is that incompleteness is dealt with, at the level of content, in a uniform manner. In general, “Det + F is/are G” asserts a contextual completion of the form “Det + F-and-H is/are G”. So, if one adopts a singular term approach, this uniformity is lost.’ I do not believe, personally, that the text can bear this interpretation. But, be that as it may, I do not see why this uniformity is lost if we adopt a singular term approach. The treatment of incompleteness envisioned by the reviewer, like that of Hawthorne and Manley, is reliant on a property F being able to be converted into a more restrictive property that we might informally write ‘ F and H ’. It is hard to see how this process might be impeded by the type of the determiner that combines with the property in question: the resulting more restrictive property can be taken as argument by a determiner of type $\langle \text{et}, \text{e} \rangle$ just as easily as by a determiner of type $\langle \text{et}, \text{ett} \rangle$. It should also be noted that combination of properties is not the only game in town anyway when it comes to handling incomplete definite descriptions. For my own view, see Elbourne (2013, 2016).

Heim (1991, 2011) points out: definite articles occur before singular and plural count nouns and before mass nouns; but indefinite articles have a much more restricted distribution, occurring only before singular count nouns. On the other hand, if we concentrate on definite and indefinite descriptions as a whole, we see that indefinite descriptions can appear in at least one environment (as the post-copular noun phrase in ‘there’-sentences) in which definite descriptions cannot appear (Milsark 1977), a difference that is widely assumed to be semantic in nature. The *prima facie* case for some kind of semantic unity is not impressive.

There is, of course, a tradition, which in its modern form dates from Heim’s (1982) dissertation, which does take it that definites and indefinites should be semantically similar and provides arguments for this position. But, again, these arguments are not compelling. Possibly the best one is that put forward by Heim (1982: 229) herself. She points out that many languages have neither overt definite articles nor overt indefinite articles and yet have bare (i.e. determinerless) noun phrases that can be appropriately translated by English definite and indefinite descriptions. (Examples include Russian and Latin.) She acknowledges that it is possible that bare noun phrases in these languages are ambiguous between quantified noun phrases of a certain sort and non-quantified noun phrases of a certain sort.³⁰ But she maintains that ‘a more plausible hypothesis is that indefinites and their definite counterparts are alike in every respect except for the feature [\pm definite]’ (Heim 1982: 229). She does not tell us exactly why this hypothesis is more plausible. But the thought is presumably that some kind of theoretical parsimony applies: we should avoid multiplying unpronounced items in the syntax or special type-shifting rules beyond necessity. However, if one admits that definiteness and indefiniteness are different things, it is not clear that there is *not* some necessity here to make definites and indefinites different in their quantificational power. What if the feature [+ definite], for example, which Heim allows will characterize only definites, involves being referential? And what if the feature [– definite] involves being quantificational? The way to find out is evidently to conduct empirical enquiry into the nature of these properties without assuming that convergence is a theoretically necessary end point.

Other arguments for this position also strike me as unconvincing. Schoubye (2013: 13–16), for example, who is perhaps the most recent advocate of this position, maintains that a unified analysis of definite and indefinite descriptions is necessary because the Russellian analyses of these constructions face similar problems when faced with relevant data involving propositional attitude ascription. But, as Elbourne (2013: 165) points out in this connection, this is to give the Russellian analyses a canonical position whose justification is unclear. (Certainly Schoubye himself ends up rejecting them.) And, in general, pointing out that two analyses of two phenomena are similarly flawed does not in itself establish any interesting similarity between the phenomena under analysis: the two analyses might both have relied on the existence of some entity that turns out not to exist, for example; or they might have made formally similar mistakes in argumentation. Exposing such mistakes leaves the original phenomena untouched.

³⁰ In the development of Heim’s argumentation at this stage of her dissertation, the non-quantified noun-phrase interpretations she had in mind were those for indefinite descriptions, given the semantics for these that she had developed, and the quantified noun-phrase interpretations were those for definite descriptions, given the precedent of the Russellian theory. In the current article, of course, the attributions are reversed.

I maintain that there are no compelling reasons to posit similarity or ‘uniformity’ between the semantic values of definite and indefinite descriptions, then. But even if, for the sake of argument, we grant that this is desirable, we still have not seen any reason why this could not be achieved by means of a Fregean theory of definite descriptions. Schoubye (2013), having advocated this similarity, claims that indefinites are sometimes accompanied by presuppositions to the effect that the class of things picked out by their restrictor is not empty and that this is the crucial factor that is similar between definites and indefinites; but this leaves it quite possible that definite descriptions are of type *e*, as Schoubye himself claims. Another interesting avenue to explore in this area is the relatively recent theory that indefinite articles are in fact choice function variables and that the existential quantification that previous theorists have perceived here in fact comes from a phonologically null operator elsewhere in the syntax (Reinhart 1997; Winter 1997): choice functions, of course, are of type $\langle e, e \rangle$, just like definite articles are according to extensional Fregean theories of definite descriptions.

Finally, these very theoretical considerations of uniformity and parsimony have to give way, in any case, to empirical considerations of the kind set out in Sect. 3 of this paper.

6 Conclusion

Quantificational theories, including quantificational presuppositional theories, face a new problem. We have not, however, encountered any successful arguments against Fregean presuppositional theories. Therefore Fregean presuppositional theories should be preferred.

Acknowledgements I am very grateful to Paul Dekker and three anonymous reviewers for *Linguistics and Philosophy* for valuable comments that have considerably improved this paper. I thank David Manley for discussion of some of his and John Hawthorne’s arguments. I have given versions of this paper as talks at Arché (University of St Andrews) in March 2017 and at the Philosophy of Language and Linguistics conference at the Inter-University Centre of Dubrovnik in September 2017. I am grateful to the audiences on these occasions and especially, for their comments and questions, to Derek Ball, Chris Barker, Miguel Egler, Michael Glanzberg, Ephraim Glick, Kathryn Glüwer, Valentine Hacquard, Jeff King, Stephen Neale, Paolo Santorio, Ravi Thakral, and Malte Willer. I am also grateful to Lukas Lewerentz for valuable comments on a late draft.

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Appendix

In this appendix, I will demonstrate that ‘(a) cow in that field’ is not, in fact, entailed by its local context in (14b) or (15c), according to Schlenker’s (2009) theory, as claimed in Sect. 4.3.3.

First, some more details of the theory. Schlenker introduces a notation to talk about local contexts that will be used in this discussion. An expression E restricted by means of its local context c' is written as follows:

$$(51) \quad c'E$$

Local contexts have to be of the same semantic type as the expression they restrict. They are interpreted by means of generalized conjunction (Schlenker 2009: 15):

(52) *Generalized Conjunction*

If x and x' are two objects of a type τ that ‘ends in t ’ and can take at most n arguments, of types τ_1, \dots, τ_n respectively, then:

$$x \wedge x' = \lambda y_1, \tau_1 \dots \lambda y_n, \tau_n . x(y_1) \dots (y_n) = x'(y_1) \dots (y_n) = 1$$

Quite generally, $c'E$ is interpreted as the generalized conjunction of c' and E . The cases in which we will be chiefly interested are propositions (type $\langle s,t \rangle$) and predicates (type $\langle s,et \rangle$).

Two things need to be noted about this theory before we go on to present a general version of it: first, it is based on a certain, perhaps rather idealized, notion of sentence processing, and so the way in which local contexts are worked out is based on the left-to-right ordering of words in a sentence; and secondly, as a consequence of the first point, the local context of an expression must be computed in ignorance, as it were, of what comes after that expression.

This latter point will influence the general definition of local contexts, which proceeds as follows (Schlenker 2009: 16–17). We first define the set of truth-conditionally innocuous (or *transparent*) restrictions of an expression d , where, roughly speaking, a restriction is truth-conditionally innocuous if imposing it does not affect the truth conditions of d or a larger sentence including d . (The model, of course, is the restriction to the intersection of C and \llbracket roses are red \rrbracket in the processing of the second conjunct of (20).) More precisely, Schlenker establishes the definition in (53) which can be translated into something more closely resembling English as in (54):

(53) *Transparent Restrictions*

$$tr(C, d, a _ b) = \{x : x \text{ is an object of the type specified by } d \text{ and for every constituent } d' \text{ of the same type as } d, \text{ for every good final } b', C \models^{c' \rightarrow x} a \ c' d' b' \Leftrightarrow a d' b'\}$$

(54) The set of transparent restrictions of an expression d as uttered in a context C in a sentence frame $a _ b$ is as follows: the set of objects x such that x is an object of the type specified by d and for every constituent d' of the same type as d , for every possible sentence completion b' , every world in C makes the following true (using the expression c' to stand for x): an expression consisting of a followed by d' -restricted-by- c' followed by b' is precisely equivalent, in semantic terms, to the same expression without the restriction by c' .

As Schlenker observes, it is appropriate, given the shape of the theory, that b does not occur on the right-hand side of (53), since local contexts have to be calculated without knowing what expressions are going to crop up later; this is the point of talking about the possible sentence completions b' .

Now (53) just gives us the set of all transparent restrictions of an expression; the local context of an expression is the smallest such restriction. An appropriately general notion of smallness in this context is given by a definition of generalized entailment (Schlenker 2009: 14):

(55) *Generalized Entailment*

If x and x' are two objects of a type τ that ‘ends in t ’ and can take at most n arguments, $x \leq x'$ just in case whenever y_1, \dots, y_n are objects of the appropriate type, if $x(y_1) \dots (y_n) = 1$ then $x'(y_1) \dots (y_n) = 1$.

One object is smaller than another in the requisite sense just in case it entails (‘ \leq ’) the other according to the terms of this definition.

Unfortunately, even given these definitions, there is no general algorithm for working out the local context of an expression. One just has to form a hunch and then attempt to prove it. Schlenker’s proofs tend to be in two parts, first showing that the candidate object is transparent and then showing that it is the smallest such object. For example, take the case of the second conjunct of (20), repeated here:

(20) Roses are red and violets are violet.

The reasoning in Sect. 4.3.3 below this example establishes that the intersection of C and \llbracket roses are red \rrbracket is a transparent restriction for that constituent. We now have to show that it is the smallest such restriction, which we do as follows (Schlenker 2009: 16). Construing propositions in possible worlds terms, we note that the definition of generalized entailment given above has the familiar consequence that for p to entail q is just for p to be a subset of q . In the case of (20), then, we need to establish that the intersection of C and \llbracket roses are red \rrbracket is a subset of every transparent restriction. So we suppose, for reductio, that the local context of the second conjunct (call this c') is a proper subset of the intersection of C and \llbracket roses are red \rrbracket ; we suppose, that is, that there is a world w that is not a member of c' but which is a member of the intersection of C and \llbracket roses are red \rrbracket . Now (with an eye to the constituents d' mentioned in (53)) suppose that the sentence turns out to be ‘Roses are red and S ’, where S is a declarative sentence that is true at w . This would mean that w would make ‘Roses are red and S ’ true but it would not make ‘Roses are red and $c'S$ ’ true, since w is not a member of c' and it turns out that the semantic value of ‘ $c'S$ ’ (by (52)) is the intersection of c' and $\llbracket S \rrbracket$. Thus, by (53), c' turns out not to be transparent after all and thus cannot be the local context, contrary to our initial assumption. So the local context is the intersection of C and \llbracket roses are red \rrbracket .

Thus Schlenker’s theory of local contexts. I will now demonstrate that, according to this theory, ‘(a) cow in that field’ is not, in fact, entailed by its local context in (14b) or (15c), repeated here:

(14) b. There is an individual that is a cow in that field and a Friesian.

(15) c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

Before we progress any further, I propose to simplify things by proposing that when we are faced with an apparent choice between ‘a cow in that field’ and ‘cow in that field’ we should in fact deal with the latter. There is excellent reason to think that the word ‘a’ in post-copular occurrences of indefinite descriptions, such as the ones we are dealing with, is semantically vacuous (Heim and Kratzer 1998: 61–62): the indefinite article does not seem to denote a quantifier in this position and ‘a cow in that field’ just seems to have the predicative semantics of ‘cow in that field’. Given this, we can now argue against the current objection by showing that ‘cow in that field’ is not, in fact, entailed by its local context in (14b) or (15c), contrary to what the objection requires.³¹

My hypothesis is that the local context for ‘cow in that field’ in (14b) and (15c) is just some kind of anodyne property based on the global context C , the equivalent for predicative cases of just having the local context be C . What could such a property be? Let us try the following:

$$(56) \ c' = [\lambda w.\lambda x.C(w) = 1]$$

According to the definition of generalized conjunction in (52), the generalized conjunction of this and $\llbracket\text{cow}\rrbracket$, that is to say the interpretation of ‘cow’ under this local context, will be (58), which reduces down to (59), assuming that we start out, as is standard, with (57):

- (57) $\llbracket\text{cow}\rrbracket = \lambda w.\lambda x.x$ is a cow in w
- (58) $\lambda w.\lambda x.c'(w)(x) = 1$ and $\llbracket\text{cow}\rrbracket(w)(x) = 1$
- (59) $\lambda w.\lambda x.C(w) = 1$ and x is a cow in w

As can be seen, (56) leaves properties alone except that it restricts the worlds considered to the ones in the global context C .

Let us begin with (14b). What is the local context of ‘cow in that field’ in this example? I hypothesize that it is c' in (56). Is c' transparent? As we have seen, to say that a restriction c' on a constituent d is transparent is just to say (by (53)) that every world in the context set C guarantees that $a^c d' b' \Leftrightarrow a d' b'$ for every constituent d' of the same type as d and every good final b' . So in this case it is to say that every world in the context set C guarantees that

$$\begin{aligned} &\text{there is an individual that is a } \lambda w.\lambda x.C(w)=1 d' b' \\ &\Leftrightarrow \\ &\text{there is an individual that is a } d' b' \end{aligned}$$

for every constituent d' of the same type as ‘cow in that field’ and every good final b' . As we see in (58) and (59), this is just to say that every world in C guarantees that

$$\begin{aligned} &\text{there is an individual that is a } [\lambda w.\lambda x.C(w) = 1 \text{ and } d'(w)(x) = 1] b' \\ &\Leftrightarrow \\ &\text{there is an individual that is a } d' b' \end{aligned}$$

³¹ I am sure that a corresponding demonstration could be given for (14c) too but I will not attempt to do this here.

for every constituent d' of the same type as ‘cow in that field’ and every good final b' . And this is obviously true: since worlds in C are the only ones that we require to guarantee the equivalence, the restriction to worlds in C on the left-hand side (which is the only difference between the left-hand side and the right-hand side) cannot make any difference. So c' is transparent.

We now need to show that the restriction

$$c' = [\lambda w.\lambda x.C(w) = 1]$$

is the smallest transparent restriction for ‘cow in that field’ in (14b). Suppose, for reductio, that there is a smaller transparent restriction c'' . Let w^* be a world and x^* an individual such that $c'(w^*)(x^*) = 1$ but $c''(w^*)(x^*) = 0$. The restriction c'' being transparent means that every world in the context set C guarantees that

$$\begin{aligned} &\text{there is an individual that is a } c''d'b' \\ &\Leftrightarrow \\ &\text{there is an individual that is a } d'b' \end{aligned}$$

for every constituent d' of the same type as ‘cow in that field’ and every good final b' . Take the case where d' is a predicate such that, at w^* , x^* is d' and nothing else is d' and, furthermore, x^* is not d' at any other world.³² And let b' be ‘and b'' ’, where b'' is a predicate that x^* satisfies at w^* . Then the right-hand side of the above equivalence will be true at w^* . But the left-hand side will not be true at w^* . For here instead of d' we have d' restricted with c'' ; and by stipulation $c''(w^*)(x^*) = 0$, meaning that, since x^* is the only individual that is d' at w^* and x^* is excluded from consideration by c'' , the left-hand side will be false at w^* . So there can be no transparent restrictor smaller than c' , which means that c' is the local context for ‘cow in that field’ in (14b).

We now need to show that

$$c' = [\lambda w.\lambda x.C(w) = 1]$$

is the smallest transparent restriction for ‘cow in that field’ in (15c), repeated here:

- (15) c. There is an individual that is a cow in that field and unique in being a cow in that field and a Friesian.

Our proof of this can be very brief: since, in (15c), the string before the constituent ‘cow in that field’ is the same as the string before that constituent in (14b), the proof just given for the case of (14b) is also a proof for this case, given that these proofs do not look at any specific content to the right of the constituent in question.

We have established that the local context for ‘cow in that field’ in (14b) and (15c) is just the anodyne

$$c' = [\lambda w.\lambda x.C(w) = 1].$$

³² The predicate d' might have to be rather *recherché*, but, given that different possible worlds are at least numerically different from each other, it is clear that it would in principle be possible to construct such a predicate. If necessary, in order to capture the condition about x^* not being d' at any other world, one could incorporate reference to w^* itself in the predicate.

We now have to show that this expression is not entailed by this local context. Recall the definition of generalized entailment that we are working with:

(55) *Generalized Entailment*

If x and x' are two objects of a type τ that ‘ends in t ’ and can take at most n arguments, $x \leq x'$ just in case whenever y_1, \dots, y_n are objects of the appropriate type, if $x(y_1) \dots (y_n) = 1$ then $x'(y_1) \dots (y_n) = 1$.

We can tell that c' does not entail this expression, according to this definition, because there is a world w^* and an individual x^* such that $c'(w^*)(x^*) = 1$ but $\llbracket \text{cow in that field} \rrbracket(w^*)(x^*) = 0$. For example, let w^* be any cat-containing world in the global context C and let x^* be a cat in w^* .

So the expression ‘cow in that field’, which was chosen as being the only plausible redundant expression in (14b) and (15c), is not in fact redundant in those examples according to Schlenker’s (2009) theory of redundancy.³³ Overall, then, we can see that, contrary to the current objection, Schlenker’s (2009) theory of redundancy cannot distinguish between (13) and the examples in (14) and (15).

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³³ Since the sentences in question are in fact redundant, these data and this result might be thought to be problematic for Schlenker’s theory and similar ones—any that calculate redundancy only for constituents, presumably. I will not attempt to investigate this issue any further here, however.

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