How to Deny a Presupposition*

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Abstract

This paper deals with the puzzle of sentences like (i.a), which denies (i.b).

(i)   a.   The King of France is not bald, because there is no King of France.

        b.   The King of France is bald.

In previous analyses of such examples two problems are often overlooked: the first is that (i.a) is supposed to express denial of (i.b) specifically on the grounds that the existence of a King of France is its presupposition, but it is not clear how, if at all, (i.a) does so; the second is that (i.a) is not very natural—when speakers wish to deny presuppositions, they usually choose different constructions, e.g. (ii).

(ii)   The King of France can't be bald, because there is no King of France.

I argue that the negation in (i.a) and (ii) is the standard descriptive negation. Sentence (ii) demonstrates that the existence of a French king is a presupposition of (i.b), and rejects (i.b) on these grounds. Sentence (i.a) is entailed by (ii); hence, when the latter is true, so is the former. However, (i.a) is not as good a sentence because it, unlike (ii), does not say that (i.b) is denied because of presupposition failure.

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1   Introduction

Suppose someone says to you:

(1)   The King of France is bald.

Obviously, there is something wrong with (1): it presupposes (2), which is false.

(2)   There is a King of France.

Proponents of semantic theories of presupposition would say that (1) has no truth value, and proponents of pragmatic theories of presupposition would say that it is false (but not assertable), but virtually everyone would agree that (1) is bad and ought to be rejected.[1] So, being better informed about European politics, you wish to correct the speaker who uttered (1). What will you do? Common wisdom has it that one of the plausible things you could say is:

(3)   The King of France isn't bald, because there is no King of France.

The phenomenon of (3) has received considerable interest ever since Russell (1905). Much effort has gone into explaining the projection properties of the negation in (3). It is known that, normally, negation is a hole: it allows presuppositions to project. Thus, (4) is usually just as bad as (1), both presupposing that there is a King of France.

(4)   The King of France isn't bald.

However, (3) appears acceptable (though marked—see below), hence we can conclude that the presupposition is not projected in this case.

I do not believe this is a very hard or interesting problem. Any theory of presupposition projection worth its salt ought to make sure that a presupposition is not projected if it contradicts statements asserted globally. Since (3) asserts that there is no King of France, it is no mystery that the presupposition that there is such a person does not project.

What is more challenging, in my opinion, is to explain how (3) succeeds in its goal. Note that while it does deny (2), the presupposition of (1), it does not deny the presupposition *relation* between (1) and (2): it does not deny that (1) presupposes (2). On the contrary, it is precisely because there is such a presupposition relation that (1) is rejected.

So, in order to succeed, (3) needs to express the following claims:

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[1]Though there are special contexts where such sentences would be judged acceptable and, in fact, true (Cohen 2000).

i. Sentence (1) presupposes the existence of a King of France.

ii. This presupposition is false.

iii. Because of i and ii, sentence (1) is denied.

But does (3) really convey these claims? If so, how? Sentence (3) clearly states that there does not exist a King of France, and, moreover, that this fact results in the denial of (1). But, crucially, does it also say that this is because the existence of a French king is *presupposed* by (1)? And, if so, by what mechanism is this fact expressed? I will call this the problem of *presupposition-based denial*: (3) expresses denial of (1) because of its false presupposition.

To see further the significance of this problem, consider (5), which is a denial of (6).

(5)   The President of France isn't bald, because he's had a hair transplant operation.

(6)   The President of France is bald.

Sentences (3) and (5) have the same form, but are understood very differently: (5) gives a reason why the President of France has hair, whereas (3) gives a reason why (1) is denied. In other words (5) expresses the following claims:[2].

i. Sentence (6) *entails* (rather than presupposes) that the President of France hasn't had a hair transplant operation.

ii. This entailment is false

iii. Because of i and ii, (6) is denied.

The two sentences also differ in their acceptability: while (5) is perfectly good, (3) is, in fact, somewhat odd. Sentences like (3) are ubiquitous in works dealing with presupposition,[3] so readers of this article are probably quite used to them. But when one tries to look at naturally occurring texts, it is very hard to find examples of presupposition-based denial whose form is similar to (3). When speakers wish to deny a sentence because of its false presupposition they typically make stronger statements.

The point is demonstrated clearly by the following attested text:

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[2]Of course, one or more of these claims may be false, in which case (5) will be false

[3]Though this has not always been the case; early work on presupposition (Frege 1892; Strawson 1950) does not even contemplate such sentences.

(7)   The only one who is going to solve my problems is me. God either won't, because he has chosen to remain uninvolved, or can't, because he doesn't exist.[4]

The author of this text says that there are two ways to deny the assumption (8.a). Simply negating it, as in (8.b), does not deny the presupposition that God exists. In order to deny the presupposition, one needs to use the stronger, modalized (8.c).

(8)   a.   God will solve my problems.

        b.   God won't solve my problems, because he has chosen to remain uninvolved.

        c.   God can't solve my problems, because he doesn't exist.

We have seen that sentences like (3) are interpreted quite differently from typical statements of causation like (5). But what, exactly, is the difference between the two? And what is its source?

2   Previous Approaches

As we analyze the problem of presupposition-based denial, it is useful to consider previous views of this issue. It is possible to identify three main approaches.

2.1   Semantically Ambiguous Negation

The first view is that negation is semantically ambiguous.[5] There is the standard type of negation, which does not deny presuppositions, and another type that does. This approach can be stated in one of two ways. According to one version, negation is lexically ambiguous. This idea is usually expressed in terms of theories of semantic presupposition, according to which a case of presupposition failure results in a truth value gap (or a third truth value). In this context, one reading of negation is the standard truth conditional negation: in this case, if (1) doesn't have a truth value, neither does (4). The other reading of negation can be paraphrased as "not true"; a false sentence is not true, but a sentence without a truth value is also not true.

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[4]Found on the Web, at `http://www.herbertwarmstrong.com/state_of_denial.htm`

[5]Horn (1989) traces this view all the way back to Aristotle; in the 20th century it is associated with, among others, Russell (1905), Karttunen and Peters (1979), and proponents of three-valued logics (e.g. Lukasiewicz 1967; Bochvar 1981).

Hence, since (1) has no truth value, it is not true, and so, under the second reading of negation, (4) is true.

The idea that, cross-linguistically, negation is lexically ambiguous is not very plausible, if only because no known language makes a lexical distinction between the two alleged types of negation (Gazdar 1979).

An alternative view is that there is only one negation, but it exhibits scope ambiguities. Thus, Russell (1905) suggests that (4) is ambiguous between (9.a) (which entails the existence of the King of France) and (9.b) (which doesn't).

(9) a. $\exists x(\mathbf{KoF}(x) \wedge \forall y(\mathbf{KoF}(y) \rightarrow y = x) \wedge \neg\mathbf{bald}(x))$

  b. $\neg\exists x(\mathbf{KoF}(x) \wedge \forall y(\mathbf{KoF}(y) \rightarrow y = x) \wedge \mathbf{bald}(x))$

The negation is the same, but in (9.a) it is inside the scope of the existential quantifier, whereas in (9.b) it takes scope over it.

This solution appears to work in the case of existential presupposition. In order to generalize to other cases of presupposition it is necessary, however, to postulate some sort of truth or assertion predicate, which interacts scopally with negation (Bochvar 1981; Kroch 1974; Linebarger 1981). Thus, the two readings of (4) can be paraphrased as:

(10) a. It is true that the King of France is not bald (the presupposition projects).

  b. It is not true that the King of France is bald (the presupposition does not project).

The main problem with this proposal is that the addition of this truth or assertion operator is not well motivated, apart from its intended use to explain presupposition-based denial. In fact, as Horn (1989: 413–419) demonstrates, any reasonable interpretation of this operator yields unsatisfactory results.

Moreover, it should be pointed out that assertion operators for which there *is* independent evidence have different properties. For example, Jacobs (1988) considers the phenomenon of free focus, exemplified by (11).

(11) $[\text{John}]_F$ has read Hamlet.

He proposes that the sentence is inside the scope of an ASSERT operator; this operator entails that the sentence in its scope is true, and presupposes that alternatives to it are under discussion. Thus, (11) presupposes that we are considering various individuals, and discuss which one of them has read Hamlet.

It may be attractive to explain the two interpretations of (4) by hypothesizing that negation may interact scopally with the ASSERT operator. But this would mean that (12) ought to be ambiguous.

(12)   [John]$_F$ hasn't read Hamlet.

Under one reading, negation would be inside the scope of ASSERT, and the sentence would presupposes that the question under discussion is who hasn't read Hamlet; under the other reading, negation would scope over ASSERT, and the sentence ought to presuppose that the question under discussion is who *has* read Hamlet. However, (12) is not ambiguous in this way, and can only have the first interpretation. We conclude that negation must be inside the scope of ASSERT, and this result casts serious doubts on the possibility of explaining (4) in terms of scope.

2.2   Pragmatically Ambiguous Negation

Another possibility is that negation is ambiguous, but pragmatically, rather than semantically (Horn 1989). According to this view there is, in addition to the usual, descriptive use of negation, a *metalinguistic* use. Metalinguistic negation applies to utterances, rather than sentences, and rejects them, for any grounds whatever, including their form, register, falsity of conversational implicature, etc. For example:

(13)   a.   I didn't manage to trap two monGEESE—I managed to trap two monGOOSES.

      b.   Phydeaux didn't SHIT the rug, he had an accident on the carpet.

Sentence (13.a) expresses rejection of (14.a) because of its form—incorrect pluralization of *mongoose*. And (13.b) rejects (14.b) because of its inappropriate register.

(14)   a.   You managed to trap two mongeese.

      b.   Phydeaux shat the rug.

Horn proposes that presupposition-based denial, as in (3), is a case of metalinguistic negation. According to this view, a speaker who utters (3) says, in effect, something like: "I reject the utterance of (1), on some unspecified grounds." This idea is quite widely accepted; it is endorsed by scholars who have such different views on the nature of presupposition as Burton-Roberts (1989) and Carston (1998). This view therefore merits careful consideration.

Horn espouses a pragmatic view of presupposition. According to him, a sentence like (1) is literally false; in addition to its falsity, it is not assertable,

because its presupposition is not satisfied. It follows that, if a sentence presupposes false information, its descriptive negation must be true. Why, then, do we need metalinguistic negation in this case? Because, while true, the descriptive negation of a sentence like (1) is not assertable (Horn 1990). Truth, of course, does not guarantee assertability: (14.b), for example, may very well be true, and still considered unassertable.

Note that, in this regard, the application of metalinguistic negation to perform presupposition-based denial is very different from the application of negation to deny a sentence on other grounds: in the case of presupposition-based denial, both the metalinguistic and descriptive negations are true (though they differ in acceptability), but in all other cases, the truth values may differ. For example, taking negation to be descriptive, (13.a) is probably true, though (13.b) is probably false.

This difference manifests itself in the fact that the form of presupposition-based denial is different from other uses of metalinguistic negation. Note a difference between (3) and (13): in the former, we reject a sentence and provide an *explanation*; in the latter, we reject a sentence and provide an *alternative*. It is as if in (3) we mean: "Don't say X, for the following reason: X presupposes Y, which is false." But in (13), instead, we mean something like "Don't say X, say Z instead!"

Thus, if presupposition-based denial were the same as the cases of metalinguistic negation, denying (1) would result in something like (15), rather than (3).

(15)   The KING of France isn't bald—the PRESIDENT is!

In (15), the utterance (1) is rejected, and stress indicates that the cause of the rejection is the use of the word *King*. An alternative (*President*) is then proposed. Crucially, (15) doesn't explain why (1) is bad: it *could* be because there is no King of France, but it also could be because of other reasons, say simply because the King does exist, but he sports a magnificent mane.

If we could use metalinguistic negation in (13) in a way analogous to (3), we would get:

(16)   a.   *I didn't manage to trap two monGEESE, because 'mongoose' forms a regular plural.

      b.   *Phydeaux didn't shit the rug, because this is not a ladylike way to talk.

The sentences in (16) are rather bad, much worse than (3). Adding a *because* clause to the sentences in (13), then, is impossible; but this is not a problem, since the reason for rejecting the sentence can be indicated by stress.

However, no way of placing stress on the negation of (1) could make it clear where the problem lies; the *because* clause (or something like it) in (3) is necessary, and without it the sentence would be rather bad.

Burton-Roberts (1989) is aware of this difficulty, and he proposes that (3) involves, in addition to metalinguistic negation, also a metalinguistic use of *because*. He claims that the use of *because* in (3) is the same as its use in sentences like the following:

(17) a.   John is going out because he has his hat on.

     b.   Max is in because I can see smoke coming out of his chimney.

In these examples, *because* is not used to state the cause of the truth of a certain proposition, but the reason for the speaker's saying it.

However, Horn (1990) argues persuasively against this view. He points out that if we make it clear that we express real causality, the sentences in (17) become odd, but (3) remains good:

(18) a.   *John is going out, and that's because he has his hat on.

     b.   The King of France isn't bald, and that's because there is no King of France.

(19) a.   *Max is in, and do you know why? For the simple reason that I can see smoke coming out of his chimney.

     b.   The King of France isn't bald, and do you know why? For the simple reason that there is no King of France.

Sentence (18.a) can only be understood as saying that John's wearing a hat caused him to leave, and (19.a) only has the ridiculous reading where the cause of Max's staying in was the fact that the speaker saw the smoke coming out of the chimney. Consequently, it appears that *because* in (3) expresses ordinary causality, just like it does in (5). We are therefore back to the problem exemplified by the sentences in (16).

In addition to these considerations, there are a number of tests proposed by Horn to distinguish metalinguistic negation from descriptive negation. It is instructive to apply these tests to presupposition-based denial. One test uses the fact that metalinguistic negation cannot take the form of a prefix like *un-*. For example, (20.a) is fine, expressing metalinguistic negation (in this case, on the grounds of falsity of implicature). However, when the negation is expressed with an *un*-word, as in (20.b), the sentence is unacceptable.

(20) a.   It's not possible for you to leave now—it's necessary!

b. *It's impossible for you to leave now—it's necessary!

Let us see how well this test applies to presupposition-based denial. At first, it appears to indicate that, indeed, *un*-words are impossible:

(21) *The King of France is unhappy, because there is no King of France.

However, Geurts (1998) presents cases of presupposition-based denial where *un*-words appear to be acceptable:

(22) It is impossible that you met the King of France, because there is no King of France.

Searching the Web, I managed to find a naturally occurring example of presupposition-based denial with the word *unable*:

(23) An interesting sidelight is that this new technology of DNA tracing has led scientists to the hypothesis that all humans descend from a single woman, who they call 'Eve'. They are busily searching for Adam—who they say is harder to find because genetic variabilities are harder to trace in the male line. It hasn't occurred to them that they might be unable to find him, because he doesn't exist.[6]

I will return to these examples below, but for now all we can say is that the test is inconclusive.

Another test proposed by Horn employs the fact that metalinguistic negation, unlike descriptive negation, does not license negative polarity items:

(24) a. Chlamydia is not sometimes misdiagnosed, it is frequently misdiagnosed.

b. *Chlamydia is not ever misdiagnosed, it is frequently misdiagnosed.

Sentence (24.a) successfully uses metalinguistic negation to reject a sentence whose implicature is false. The negation scopes over the word *sometimes*; if the word is replaced with its negative polarity counterpart, as in (24.b), the sentence becomes bad.

What about presupposition-based denial? Here, it appears that negative polarity items *are* licensed, indeed required:

(25) The King of France doesn't have $\left\{ \begin{array}{c} \text{any} \\ \text{*some} \end{array} \right\}$ hair, because there is no King of France.

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[6] http://parthenogenesis.tripod.com/Parthenogenesis_2001.html

Geurts (1998) makes the same point, and presents the following examples:

(26)   a.   Walter didn't give his ukulele to $\left\{ \begin{array}{l} \text{anybody} \\ \text{*somebody} \end{array} \right\}$: he never owned a ukulele.

       b.   Walter didn't $\left\{ \begin{array}{l} \text{regret at any time} \\ \text{*sometimes regret} \end{array} \right\}$ that he betrayed his wife: he has always been faithful to her.

With respect to this test, then, presupposition-based denial is quite unlike metalinguistic negation, but instead is like descriptive negation.

It might be objected that this claim ought to be further tested with expressions that are even more clearly negative polarity items, such as *contribute one red cent* or *lift a finger*. In fact, Linebarger (1981) claims the following example is ruled out:

(27)   The King of France didn't contribute one red cent, because there is no King of France.

If this judgment is granted, this would support Horn's proposal that presuppositions are denied by metalinguistic negation. I am not sure, however, that (27) is indeed so bad. Imagine that, shortly after the execution of Louis XVI, the French National Assembly approves a sum of money to be contributed to some needy citizen. The recipient, unaware of the King's fate, believes that Louis is the source of the gift, and praises him profusely. I think we can well imagine Robespierre uttering (27) in anger.

Indeed, I have managed to find an attested example of a similar negative polarity item in the scope of presupposition-based denial. The following story appeared in the August 1993 issue of *Guideposts Magazine*.

> This guy is talking to a priest and says, "Father, you got it all wrong about this God stuff. He doesn't exist. I oughta know."
>
> "Why's that, my son?"
>
> "Well, when I was ice-fishing in the Arctic far from the nearest village, a blizzard blew up with wind and blinding snow. I was a goner. So I got down on my knees and prayed real hard, begging God for help."
>
> "Did He help you?"
>
> "Nope, God didn't lift a finger. Some Eskimo appeared out of nowhere and showed me the way."

In the context of this story, it would be perfectly acceptable for the protagonist to say:

(28)   God didn't lift a finger to help me because He doesn't exist.

The third diagnostic involves concessive vs. contrastive *but*. In languages that make a lexical distinction between the two, metalinguistic negation allows only contrastive *but*, never concessive. The following examples are from Spanish:

(29) a.   No es cierto, pero es probable.

         'It isn't certain, but (concessive) probable.'

      b.   No es probable, $\left\{ \begin{array}{l} \text{*pero} \\ \text{sino} \end{array} \right\}$ es cierto.

         'It isn't probable, but (contrastive) certain.'

Sentence (29.a), which expresses descriptive negation, uses the concessive *pero*; in contrast, (29.b), which expresses metalinguistic negation, must use the contrastive *sino*.

What about presupposition-based denial? It seems that *but*, under either reading, is ruled out:

(30)   *The King of France isn't bald, but there is no King of France.

This holds also in a language that make a lexical distinction between the two *but*s. Hebrew distinguishes between the concessive *aval* and the contrastive *ela*, yet both are equally bad in the translation of (30):

(31)
*melek	tsorfat	lo	kereax,	aval/ela	ein	melex
the-king-of	France	not	bald	but	no	king

      le-tsorfat.
      to France

      '*The King of France isn't bald, but France doesn't have a king.'

Therefore, the third test is inapplicable to the case of presupposition-based denial.

To summarize, the results of the three tests are as follows: the third is inapplicable, the first is inconclusive, and the second test actually fails. I conclude, therefore, that presupposition-based denial uses descriptive, rather than metalinguistic negation.

2.3 No Ambiguity

We appear to be left with the third option: negation is not ambiguous, either semantically or pragmatically. Geurts (1998) takes such a view. According to him there is no difference at all between (3) and (5): in both we have run-of-the-mill descriptive negation, and the same meaning of *because*. The only difference is that the presupposition of (5) projects, but that of (3) does not, because projecting it would result in inconsistency.

This view, however, does not really address the question we are trying to answer. It explains why the presupposition doesn't project, but not why (3) succeeds in making the point that the existence of a French king is falsely presupposed by (1). The causality in (3) does do something important, a fact that distinguishes (3) from other cases where presuppositions fail to project.

The distinction is not merely theoretical, but has empirical consequences. Note the difference in acceptability between (3) and the following examples:

(32) a. *There is no King of France, and the King of France isn't bald.

b. *The King of France isn't bald, and there is no King of France.

c. *There is no King of France, and if the King of France is bald, his barber is idle.

All these examples ought to be just as good as (3), according to Geurts's theory; in all of them, the presupposition that there is a King of France ought to be accommodated locally, rather than project, and the sentences ought to be fine. However, the examples in (32) are clearly nonsense. The difference between them and (3) is that only the latter expresses the claim that the failure of the presupposition is the cause of the denial of (1).

We can conclude that none of the available approaches explains how presupposition-based denial operates. What, then, is the explanation?

3 Demonstrating a Presupposition Relation

A common problem with all previous approaches to presupposition-based denial is that they do not provide any account of how (3) expresses the fact that (1) presupposes something (which is false). But, after all, this is precisely the reason why we want to reject (1): it presupposes (2), which is false. Suppose we wanted to demonstrate this fact to the speaker of (1). How would we do this?

Let us go back to the way presupposition is normally taught in introductory semantics/pragmatics courses. How is the notion of presupposition first demonstrated? Well, usually some standard tests are used.

3.1 Negation Test

One such test is negation; it uses the fact that descriptive negation is usually a hole, and lets presuppositions project. So, if B follows from both A and its negation, then A presupposes B. Indeed, there is a clear pretheoretical sense in which (2) follows from both (1) and its negation. Of course, there are marked cases (such as (3)) where the presupposition does not follow; but in the unmarked case, there is no question that it does. Different theories of presupposition have different things to say on what exactly it means to say that a presupposition follows from a sentence (e.g. an entailment, or a prerequisite for assertability); but there is no argument that it does.

So, if we want to tell our friend that (1) presupposes (2) we could say something like

(33)   If The King of France is bald then there is a King of France, and if the King of France is not bald then there is a King of France.

From (33) it follows that

(34)   If the King of France is bald or the King of France is not bald then there is a King of France.

Applying contraposition, we get:

(35)   If there is no King of France then the King of France is neither bald nor not bald.

To conclude our argument that (1) ought to be rejected, we must conjoin (35) with the proposition that there is no King of France:

(36)   There is no King of France, and if there is no King of France then the King of France is neither bald nor not bald.

Sentence (36) is a mouthful, and might be too technical to be understood by our ignorant friend. We can make it easier to utter and understand if we

replace "p, and if p then q" with "q because p".[7] Of course, saying that p is the cause of q is saying more than simply that p is a sufficient condition for q, though the question of what this "more" consists of has been under debate for centuries. This simplification, however, will do for our purposes here. We can thus turn (36) into (37).

(37)   The King of France is neither bald nor not bald, because there is no King of France.

Note that (37) is a very natural response to (1); much better, in fact, than (3). Moreover, exactly this type of presupposition-based denial is attested in the works of no other than Strawson, who is usually thought to have ignored any possibility of presupposition-based denial:

(38)   Q: Does he care about it?
        A: He neither cares nor doesn't care; he's dead (Strawson 1952:18).

Strawson makes clear that this is, indeed, a case of presupposition-based denial: "The answer shows that that the question is inappropriate to the circumstances, that some assumption which the questioner is making is untrue." Caring presupposes being alive; if the person under discussion is dead, the presupposition is false, a point made clearly by (38).[8]

This type of presupposition-based denial can also be found in non-linguistic texts. Here is a quote from *Pierrette*, by Honoré de Balzac (translated by K. P. Wormeley):

(39)   He reasoned neither ill nor well; he was simply incapable of reasoning at all.

To say of someone that he reasons well—or poorly—presupposes tat he reasons in *some* fashion; but Balzac denies this presupposition quite naturally.

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[7]Compare Strawson (1952), who writes:

> Let us say, when the step from one statement to another would, if made, be a correct step in reasoning. . . that the first statement is a *ground* for the second. . . . If one statement is a ground for another and we believe the first statement to be true, we are justified in saying something of the form 'p, so q' (p. 37. original emphasis).

[8]The semicolon in (38) appears to mean something like *because*; cf. (i), which means the same as (5).

(i)   The President of France isn't bald; he's had a hair transplant operation.

3.2   "Possibly" Test

Another standard presupposition test is the "possibly" test. Like negation, the possibility modal is also a hole, so that if B follows from "Possibly A", then A presupposes B. Thus, we could point out to our friend that

(40)   If the King of France can be bald, then there is a King of France.

Again, applying contraposition, we get:

(41)   If there is no King of France, the King of France can't be bald.

We add the fact that there is no French King, and get:

(42)   There is no King of France, and if there is no King of France, the King of France can't be bald.

Again, we can make (42) easier to utter and understand:

(43)   The King of France can't be bald, because there is no King of France.

Once more, this sentence is a very natural responses to (1), much more so than (3).

   Attested examples of presupposition-based denial usually take this form. We have already seen this strikingly demonstrated by (7), repeated below.

(44)   The only one who is going to solve my problems is me. God either won't, because he has chosen to remain uninvolved, or can't, because he doesn't exist.

   Turning to literary texts, here is a quote from *Alice in Wonderland*:

(45)   'Take some more tea,' the March Hare said to Alice, very earnestly. 'I've had nothing yet,' Alice replied in an offended tone, 'so I can't take more.'

Alice says that, since she hasn't had anything yet, she can't take more. Of course, taking more tea presupposes having taken some tea before, and Alice's response to the March Hare makes this point rather clearly.

   Lewis Carroll's books are full of paradoxes and strange puns; one might claim that, consequently, the naturalness of (45) is suspect. Consider, then, the following quote from Shakespeare's *The Taming of the Shrew* (Act V, scene I):

(46)   **Vincentio:** Come hither, you rogue. What, have you forgot me?

      Biondello: Forgot you! no, sir: I could not forget you, for I never saw you before in all my life.

Forgetting someone presupposes having seen them before. In this exchange, Biondello, who pretends never to have met Vincentio before, makes this point clearly and naturally, and his sentence has the same form as (43).

This, then, is the way to perform a presupposition-based denial: demonstrate, using some standard test for presupposition, that a certain statement is presupposed by the speaker, and point out that this statement is false. And while there probably are metalinguistic uses of negation, and metalinguistic uses of *because*, the task of presupposition-based denial requires nothing more than descriptive negation, and the usual meaning of *because* (or similar devices).

3.3   Denial by Simple Negation

This is not, however, quite what (3) does. We have explained how sentences like (37) and (43) deny (1) on the grounds of its false presupposition. But what about (3)? How does *this* sentence succeed in denying (1)? And why is it not as good as (37) or (43)?

To answer this question, consider (37) again. The sentence says that, because there is no King of France, he is neither bald nor not bald. Note that if the King of France is neither bald nor not bald, he is not bald: $\neg(p \vee q)$ entails $\neg p$. Therefore, (37) entails (3).

Now consider (43). This sentence says that because there is no King of France, he can't be bald. Now, if the King of France can't be bald, he is not bald. Hence, (43) also entails (3).

Therefore, if either (37) or (43) is true, so is (3). But (3) can also be true in circumstances where (37) or (43) are not. Specifically, (3) says that the existence of a French king follows from (1), but does not require it to follow by way of presupposition; it may be an entailment. Indeed, if (5) is true, this would be because baldness entails, rather than presupposes, failure to undergo a hair transplant operation. Hence, (3) is not sufficiently informative—it violates Grice's (1975) Quantity maxim.

In general, an utterance that violates a maxim can be judged odd, or misleading, but would not normally be so bad as to be unassertable; it may be assertable, though odd. This is why (3) is true and assertable, but it is not as good as (37) or (43).

Perhaps the point can be made clearer by looking at Strawson's (1952) example, repeated below:

(47)   Q: Does he care about it?
        A: He neither cares nor doesn't care; he's dead.

In this exchange, the answer is perfectly natural and appropriate. But suppose the answer were (48) instead.

(48)   He doesn't care about it because he's dead.

I think it is fair to say that (48) is a bit odd; unlike (47), it is not easily interpreted as denying the presupposition that the person in question exists. Instead, (48) seems to imply that the presupposition *is* satisfied, and the dead man still enjoys some sort of (presumably carefree) existence.

This judgment is strengthened by the following passage from Robert Graves's *Claudius the God and His Wife Messalina*. Claudius is looking for a certain witness to testify, but the man is not in court. The Emperor then asks the court-official whether he is ill, and the following dialog ensues:

> "No, the witness is not ill now. He has been very ill, I understand. But that is all over."
>
> "What was wrong with him?"
>
> "He was mauled by a lion, I am informed, and afterwards gangrene set in."
>
> "It's a wonder he recovered," I said.
>
> "He didn't," sniggered the fellow. "He's dead. I think that death can stand as an excuse for non-attendance." Everyone laughed (pp. 111–112 of the Vintage International edition).

Saying that the witness is not ill would normally be taken to indicate that he is alive and has recovered, not that he is dead. Indeed, this is precisely the way Claudius interprets the response. When the court-official then adds that the witness is, in fact, dead, it is hard to interpret this as presupposition-based denial, hence the cognitive dissonance and the audience's laughter.

Had the court-oficial said (49) instead, I think it would be much easier for the readers (as well as Claudius) to realize that the witness is no longer alive.

(49)   He is neither ill nor not ill.

We can now go back and explain the conflicting results of the test for metalinguistic negation involving *un*-words. The relevant examples are repeated below:

(50) a. *The King of France is unhappy, because there is no King of France.

b. It is impossible that you met the King of France, because there is no King of France.

c. It hasn't occurred to them that they might be unable to find him [Adam], because he doesn't exist.

Examples (50.b) and (50.c) are fine for the same reason that (43) is fine: (50.b) says that meeting the King of France presupposes his existence, and since he does not exist, such a meeting could not have taken place; and (50.c) says that finding Adam presupposes his existence, and since he does not exist, finding him is impossible. Sentence (50.a), in contrast, is bad. The reason is that the natural way to deny (51.a) is (51.b) or (51.c). Since both entail (51.d), this is also an acceptable, though less informative, way to deny (51.a).

(51) a. The King of France is happy.

b. The King of France is neither happy nor unhappy, because there is no King of France.

c. The King of France can't be happy, because there is no King of France.

d. The King of France is not happy, because there is no King of France.

In contrast, *unhappy* is not the negation of *happy*, hence (50.a) is not equivalent to (51.d). More to the point, it follows from neither (51.b) nor (51.c), and, consequently, it is not an acceptable way to deny (51.a).

4 The Nature of Presupposition

If the account proposed in the previous section is on the right track, it has interesting consequences for theories of presupposition. This account relies on the following two claims:

1. Presupposition-based denial involves descriptive negation only.

2. If there is no King of France, the following sentences are both true:

(52) a. The King of France is neither bald nor not bald.
b. The King of France can't be bald.

If these claims are correct, which theories of presupposition can account for them?

Let us start with (52.a). This sentence predicates the negation of the property *bald or not bald* of the King of France. If we assume the standard semantic theory of presupposition, then, since there is no King of France, the sentence ought to lack a truth value. We could try to avoid this consequence by using supervaluation. This will not help, however: the sentence will then come out false, rather than true.

Things are more complicated if we follow a pragmatic theory of presupposition. What is the logical form of (52.a)? We might straightforwardly suggest that it is (53).

(53) $\neg(\mathbf{bald}(\iota x\mathbf{KoF}(x)) \vee \neg\mathbf{bald}(\iota x\mathbf{KoF}(x)))$

This is the negation of a tautology, so it is a contradiction, hence false, and again we fail to get the desired result.

There is, however, an alternative logical form of (52.a), which would give us what we want. According to Horn's (1989) *Extended Term Logic*, root sentences have a subject-predicate form. The predicate may be either affirmed or denied of the subject. Affirmation of a predicate is true iff the denotation of the subject exists, and has the property denoted by the predicated. Otherwise, i.e. if the denotation of the subject does not exist, or does not have the property denoted by the predicate, a denial of the predicate is true. The predicate itself may, of course, be complex, and may involve logical connectives and negative terms. According to this view, (52.a) denies the predicate *bald or not bald* of The King of France; it is therefore true, since there is no King of France.

What, then, would the logical form of (52.a) be under this theory? An attractive way to formalize the idea is to use structured propositions (Cresswell 1985). A full formalization lies outside the scope of this paper, but I will provide a sketch here.

The structured proposition $\langle A, B\rangle$ predicates A of B, and is interpreted as follows: if the predication fails, e.g. because the denotation of B is undefined,[9] the sentence is false; otherwise, the sentence is true iff the denotation of B is a member of the denotation of A.

For example, the representation of (54.a) will then be (54.b).

(54) a.   The King of France is bald.

     b. $\langle\mathbf{bald}, \iota x\mathbf{KoF}(x)\rangle$

This sentence will be true iff there is a King of France and he is bald.

The representation of (55.a) will be (55.b).

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[9]But there could be other reasons why the predication fails; this would be a natural way to incorporate into the framework other types of presupposition, not just existential presupposition.

(55) a.   The King of France isn't bald.

    b. $\neg\langle \mathbf{bald}, \iota x\mathbf{KoF}(x)\rangle$

This will be true just in case (54) is false. In particular, if there is no King of France, (55) will be true.

    Now let us consider (52.a). Its logical form would be

(56) $\neg(\langle \mathbf{bald}, \iota x\mathbf{KoF}(x)\rangle \vee \langle \lambda y.\neg\mathbf{bald}(y), \iota x\mathbf{KoF}(x)\rangle)$

Now, this is not a negation of a tautology; it is a negation of a disjunction that may be true or false. Since the term $\iota x\mathbf{KoF}(x)$ fails to denote, both disjuncts are false, hence the negation of the disjunction is true, as desired.

    Let us now consider (52.b). An account of its truth can be proposed along the following lines. Modal statements are about accessible possible worlds. To say that ϕ can't be true is to say that in all accessible worlds, ϕ is false. How is the accessibility relation determined? Here it is useful to follow Stalnaker's (1974; 1998; 2002) suggestion that presupposition is a propositional attitude. Hence, it should be represented as an accessibility relation. That is to say, in all accessible worlds, all the presuppositions of the interlocutors, i.e. the propositions in the common ground, are true. Then we get exactly the interpretation we want: if it is part of the common ground that there is no King of France, then there are no accessible worlds where there is a King of France; hence, in all such worlds, (52.b), the affirmation of baldness of the King of France, is false.

    More formally, the logical form of (52.b) is:

(57) $\neg\exists x\mathbf{KoF}(x) \wedge (\neg\exists x\mathbf{KoF}(x) \rightarrow \neg\Diamond\langle \mathbf{bald}, \iota x\mathbf{KoF}(x)\rangle)$

This logical form says that there is no King of France, and that this fact is a sufficient condition for the impossibility of affirming baldness of the King of France (i.e. in all accessible worlds, being bald is denied of the King of France). Given our assumptions this is, of course, true, hence the truth of (52.b).

    And what about the original (3), repeated below?

(58)   The King of France isn't bald, because there is no King of France.

Its logical form would be:

(59) $\neg\exists x\mathbf{KoF}(x) \wedge (\neg\exists x\mathbf{KoF}(x) \rightarrow \neg\langle \mathbf{bald}, \iota x\mathbf{KoF}(x)\rangle)$

This says that there is no King of France, and this fact is a sufficient condition for the denial of being bald of the King of France. Given our assumptions

this is, like the previous logical forms, quite true, though less informative and, consequently, not as natural.

To conclude, what, then, is the difference between (3) and (5)? Both use the same type of negation (predicate denial in Extended Term Logic), and the usual *because*. The difference is in their informational content. In sentence (5), the cause is directly related to the effect. Not so in (3), where, instead of the full effect of the cause, we only have something that is entailed by the effect. For this reason, (3) has a different *feel* from (5), as if the causal relation is different, when in fact it is exactly the same in both.

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