Biscuit conditionals: Quantification over potential literal acts

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ABSTRACT. In biscuit conditionals (BCs) such as *If you're hungry, there's pizza in the fridge*, the *if* clause appears to apply to the illocutionary act performed in uttering the main clause, rather than to its propositional content. Accordingly, previous analyses of BCs have focused on illocutionary acts, and, this, I argue, leads them to yield incorrect paraphrases. I propose, instead, that BCs involve existential quantification over potential literal acts such as assertions, questions, commands, and exclamations, the semantic objects associated with declarative, interrogative, imperative, and exclamative sentences, respectively. Such an existential interpretation of BCs requires only that we add potential literal acts to our inventory of individuals, and it produces reasonable paraphrases in which *if* has its normal meaning: *If you're hungry,* [there's a (relevant/ salient) assertion that] *there's pizza in the fridge*. These potential literal act variables are introduced into semantic interpretations and then undergo Existential Closure. Hence, we would expect to see similar interpretations in contexts other than BCs, that is, with other *if* constructions, with connectives other than i*f*, with potential literal acts other than assertion, and in root sentences. This prediction is borne out, along with the parallel prediction that we cannot quantify over purely illocutionary acts like offers, but only over potential literal acts, those conventionally associated with a particular morphosyntactic shape.

1. INTRODUCTION

For at least 40 years now, linguists and philosophers have discussed a puzzling class of exceptional *if*-clauses. These *if* -clauses do not seem to act as antecedents for the consequents expressed by their main clauses, as they would in an ordinary conditional

like (1). Instead, these *if*-clauses are often described as expressing conditions applying to the speech act performed in uttering their main clauses. We can see this in Austin's classic example in (2) (Austin 1961, p. 158), as well as in the more contemporary (3) and (4), which was uttered by a waiter.

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(1) There are biscuits on the sideboard if no one has eaten them.

(2) There are biscuits on the sideboard if you want them.

(3) If you're hungry, there's pizza in the fridge.

(4) If you need anything else later, my name is James.

In (3), for instance, the presence of the pizza in the fridge is in no way conditional upon the addressee's being hungry. Similarly, in (4), the speaker's name being James is not conditional upon his customer's needing anything else. Rather, each *if* clause seems at first to be a condition for uttering the main clause, not for its truth. A speaker of (3), for instance, seems to be telling the addressee about the pizza on the condition that she's hungry.

Examples like (2) – (4) are known by a great many different names, including Austin conditionals, biscuit conditionals, illocutionary conditionals, metalinguistic conditionals, non-conditional conditionals, relevance conditionals, and speech act conditionals. I have chosen to use the term **biscuit conditionals** (BCs) for these conditionals that seem to involve an extra, more or less illocutionary layer in their interpretation because "biscuit" is a suitably interpretation-neutral description for them. In fact, my analysis will suggest that many of the other terms are not wholly accurate. Unfortunately, there is no rigorous, independent diagnostic for members of this class of constructions; they are simply surface conditionals whose antecedent and consequent are not related in the usual way, so, whatever their differences, they are unified in posing a similar interpretive problem, and a unified theory would be desirable.

Even though many scholars have noticed the phenomenon of biscuit conditionals, most accounts of BCs still fall into one of two categories.[1] The first group, which includes to some degree Ross (1970), Lakoff (1972), Sadock (1974), Comrie (1986),Van der Auwera (1986), Sweetser (1990), and Iatridou (1991), along with Austin, invokes some version of Ross's (1970) Performative Hypothesis. They claim that BCs constitute evidence for underlying lexical performative clauses. According to this theory, the relevant part of the full form of (3) is something like (5).

(5) If you're hungry, I say to you there's pizza in the fridge.

The second kind of approach to these constructions, exemplified in various ways by Grice (1967), Dummet (1973), Bach and Harnish (1979), Horn (1989), Wakker (1992), Geis (1995), and Bach (1999) suggests that the *if* clauses apply to *assertions* of the consequent, where the assertions may be modeled with abstract illocutionary force operators or conceived of as the actual speech acts performed in uttering the sentences. On this second view, (3) would look more like (6), where ASSERT may be seen as either a formal operator or just an indication of an actual assertion taking place.

(6) If you're hungry, ASSERT (There's pizza in the fridge).

I am going to argue, however, that neither of these approaches yields the right results. A better account, I think, would involve existential quantification over assertions, which are represented as objects in the model. Assertions belong to a class of semantic

[1] There is, in addition, a third category of analyses of these exceptional conditionals which holds that no special account of BCs is necessary, as they are not really grammatical. Cresswell (1973) and Mittwoch (1977) take this approach. On such a view, BCs seem to be interpretable only because cooperative hearers do what they can with ungrammatical sentences. Along these lines, I include evidence in Section 4. that BC interpretations do surface only when ordinary conditional interpretation presents difficulties. However, I agree with most subsequent writers on the subject that BCs are interpreted much too systematically and used and experienced as grammatical much too regularly for them to be ungrammatical sentences that are rendered interpretable only by general pragmatic strategies. Moreover, I show in Section 5. that the mechanism responsible for BC readings can also operate in ordinary, grammatical root sentences.

objects which is usually taken to include questions and commands along with assertions. These are the semantic objects which are conventionally associated with declarative, interrogative, and imperative sentences, Sadock and Zwicky's (1985) three major sentence types and Portner's (2004) three universal clause types. I will show in section 5. that, at least for English, exclamative sentences (as in Portner (2003), (2004)) also seem to be associated, in a similar way, with semantic objects we can call exclamations. Of course, a given instance of any clause type will not necessarily be *used* to perform the illocutionary act with which that type is associated, but speakers seem to recognize what Bach and Harnish (1979) call the literal illocutionary force potential of a sentence, as indicated in its shape: "If S is speaking literally, then what S says delimits what his illocutionary act can be, but in general it does not fully determine what that act is. Indeed, it is possible…for S to be performing no illocutionary act at all" (p. 34). Searle (1975) calls the semantic objects, such as assertions and questions, that are the unmarked associates of the morphosyntactic forms of major clause types **literal acts,** and Vanderveken (1990) and Geis (1995) also adopt this terminology. However, it is important to emphasize that these semantic objects are *not* literally *acts*, not things that people actually do.[2] They lack the contextual specifics of actual speech acts: a speaker, an addressee, an appropriate context. Consequently, I shall call them **potential literal acts.** They are abstract objects consisting only of propositional content and whatever illocutionary force potential can be read directly from their morphosyntactic form, not necessarily the actual illocutionary act that might be performed. These objects are not as odd as this description makes them sound. They are, in fact, what we refer to in ordinary language as assertions, questions, commands and exclamations. We say things like "What an odd assertion!" "That's not really the question." or "Do you have a different question?" None of these mentions of potential literal acts seems to call into play the contextual factors of a particular speech act. One cannot, for instance, produce a "different question" by having someone else ask it.

It is fairly common to find some of these potential literal acts, especially questions, included in the ontology and routinely quantified over. (See for instance, Kartunnen (1977), Groenendijk and Stokhof (1989), Ginzberg (1996)). Consequently, I will be assuming that there are restricted variables for each of these potential literal acts. The variables over potential literal acts will be introduced by a context-sensitive meaning shift rule (See (47)) as an accommodation to instances in which the antecedent and the consequent of a conditional do not fit together in the expected way, although they could also be introduced in the compositional semantics (See section 4. for discussion of these alternatives.) The variables will undergo Existential Closure as a matter of course, to yield a representation for (3) that paraphrases as in (7).

> (7) If you're hungry, there is a (relevant/salient) assertion that there's pizza in the fridge.

(7) is meant to indicate that (3) asserts the ordinary conditional 'If you're hungry, there is an assertion that there's pizza in the fridge,' with the contextually determined salience or

[2] The content of these literal acts need not be literal, in the ordinary sense, either; it can easily be metaphorical.

relevance of that assertion presupposed, as is the usual effect of restrictions on quantifier domains. (I henceforth abbreviate this property as 'relevance', but see Section 3. for a discussion of differences between this quantifier domain relevance and the English word *relevance*.) The assertion in the consequent, then, is mentioned, but not performed by the biscuit conditional. I hope to show that this approach accounts better for BCs and makes correct predictions about some related constructions while requiring very few new assumptions. In Section 2., I discuss previous theories of BCs and their problems, and in Section 3. I present my existential theory of BCs in more detail. Section 4. takes up the issue of how the necessary quantification over potential literal acts comes about in BCs, while Section 5. presents other constructions with similar quantificational interpretations, followed by a conclusion in Section 6.

2. PREVIOUS THEORIES OF BCs

2.1. *The Performative Hypothesis*

In examining existing theories of BCs, let us begin with the Performative Hypothesis. Although it has been offered as an explanation of BCs as recently as Iatridou's 1991 dissertation, it has never been worked out very explicitly. Of course, there are many reasons to want to avoid this kind of solution, in which every utterance is preceded by invisible lexical performative material. Boër and Lycan (1980) is dedicated to explaining convincingly and in detail why such an approach cannot possibly work for BCs, and Portner (2003, p. 39), writing about exclamatives, also observes that there are serious problems with analyses that "postulate a morpheme or grammatical feature representing a sentence's illocutionary force." It will be enough, then, for us to note here that in many cases, paraphrases with the predicted explicit performatives are just not accurate. (Bach and Harnish (1979, pp. 225 -228) also make this point.) For instance, sometimes, as in example (8) below, any assertions involved in BCs are not those of the speaker at the time, place and situation of the utterance:

(8) If they ask you how old you are, you're four.

(8) does not mean 'If they ask you how old you are, I say to you that you're four,' but rather something more like 'If they ask you how old you are, it should be said/you should say that you're four.' Note that this problem with a performative paraphrase of (8) does not stem from my choice of a particular speech act. The consequent of (8) does not represent an elliptical imperative, for instance, any more than it does an assertion. While (8) might seem at first as if it might be an elliptical form of 'If they ask you how old you are, I order you to say you're four,' it does not behave like the imperative in (9). We see in (10) that we cannot, for instance, refuse to do as purportedly commanded:

(9) A. If they ask you how old you are, (I order you to) say you're four.
B. NO, I won't!

(10) A. If they ask you how old you are, you're four.
B. *No, I won't.

Similarly, the time of assertions involved in BCs is not always the present expected of performatives. For instance, the waiter's utterance in (4) does not mean, 'If you need anything else later, I say to you (now) / I will say to you later that my name is

James.' The waiter's current act of saying that his name is James cannot be conditional on the customer's needing anything else later, but the waiter is also not predicting a future assertion of his that his name is James. (See Copley (2002) for a more formal account of how contingency interacts with temporal interpretation in conditionals.) Finally, a diagnostic for performative utterances is that they allow the word *hereby* to be inserted, as in (11):

(11) I hereby say to you that my name is James.
(12) *If you need anything else later, my name is hereby James.
(13) *If you need anything else later, I hereby say to you that my name is James.

In contrast, as we see in (12) and (13), the consequents of BCs are not felicitous with *hereby*, even with the explicit performative verb in (13), so BC consequents must not be performatives.

2.2. *Assertion Theories*

However, as Davison (1983) observes, theories involving truly illocutionary assertions do not fare much better than the Performative Hypothesis. Some, like Grice (1967), Dummet (1973), Horn (1989), Dik (1990) and Wakker (1992) have represented the illocutionary operators supposedly involved quite explicitly, as the Fregean assertion operator or as another, declarative operator, DECL. Others like Bach and Harnish (1979), Sweetser (1990), Geis (1995), and Lycan (2001) have not been so explicit, representing "assertion" at some illocutionary level that does not figure directly in semantic interpretation and so, they seem to assume, may not require any formal representation.[3] However, even many of these authors (in particular Horn and Dummet, both of whom discuss explicit illocutionary operators) remark that it is not clear exactly what an assertion operator adds to a proposition to which it is affixed. Assertion certainly includes a large pragmatic component, possibly not amenable to interpretation as a logical operator. Johansson (2003, pp. 662, 664), for instance, has described assertions as "sincere utterances and written sentences that contain a well-formed and meaningful sentence of indicative form…with many parts and properties…," many of them contextually conditioned. Certainly, it is not at all clear how interpretation would proceed of a sentence adverbial *if*-clause located as in (6), *outside* of the illocutionary assertion operator – or, for the less formal theories, outside of the actual assertion - associated with the utterance of that sentence. Also, there is an additional problem associated with interpreting the consequent of a BC as an actual performance of a speech act, a performance conditioned by the antecedent. There are constructions with connectives other than *if* which parallel BCs so thoroughly that most writers seem to expect them to be explained by any adequate theory of BCs. (See section 5. for the extension of my

[3] Such an assumption is probably not warranted. See Davison (1983) and Krifka (2004) for evidence that formal semantics and illocutionary force are closely intertwined.

account to such constructions.) However, some such constructions can include explicit quantification over the literal acts exemplified by the consequent: [4]

(14) Whenever you get hungry, there's pizza in the fridge.

As a BC, (14) has a reading along the lines of 'At any time t at which you get hungry, there is/will be a (relevant) assertion that there's pizza in the fridge,' as predicted by my theory. However, it is hard to imagine how a theory that holds BC consequents to be only actual speech acts could accommodate such an interpretation. The interpretation of a sentence couldn't include quantification over acts performed only in its very utterance, and such an interpretation - 'at any time t at which you get hungry (PERFORMED ASSERTION) there's pizza in the fridge' – is not even correct: The speaker certainly will not be performing the assertion at any time t at which the listener gets hungry.

Such unsolved problems aside, most proponents of assertion theories of BCs agree on these basic claims: First, BCs are taken to assert their consequents and only their consequents. Second, then, it follows that BCs should entail their consequents. Third, the *if* antecedents, being outside of the assertions performed by the sentences, must express some sort of condition or utterance modification force applied to the speech act of assertion performed by the main clauses. However, even these three fairly straightforward predictions are not borne out.

2.2.1. *BCs Need Not Assert Their Consequents*

There is independent evidence from Japanese that BCs do not have the effect of asserting the propositions expressed in their consequents. According to McCready (2004), the Japanese expressive adverbials *yoku* and *yokumo*, which express surprise at and sometimes positive or negative attitudes toward the proposition to which they are attached, rather like English *wow*,[5] can occur only with assertions of actual propositions, that is, in asserting the existence of situations that have really occurred. Consequently, (15) is an acceptable sentence with *yoku* if the Kings in fact beat the Wolves, but in (16) the same clause with *yoku(mo)* is bad as the consequent of a regular conditional, since

[4] I am grateful to Chris Potts (pc) for pointing such sentences out to me.

[5] Thanks to Ken'ichi Miura for the *wow* translation.

the conditional nature of such clauses generally rules them out as assertions of actually realized situations.[6]

[6] Satoshi Tomioka (pc) has pointed out that there is a small class of exceptions to this ban on *yoku(mo)* in conditionals, as illustrated in (i).

(i.) A: Ken-ga toodai-ni ukatta-rasii-yo.

Ken-NOM Univ.of Tokyo-DAT passed-EVIDENTIAL-PARTICLE

'I hear that Ken got into University of Tokyo.'

B: Ee! Sinzi-rare-nai. Demo mosi hontoo-na-ra,

Wow believe-can-NEG but if/since true-COP-CONDITION

yoku ukatta-mono-da-nee.

surprise passed-NOMINALIZER-COP-PARTICLE

Anmari benkyoo-site-nak-atta- mitai-da-kedo.

very study- do-NEG-PAST- EVIDENTIAL-*COP-though*

'What? Unbelievable! But if/since that's true, he, amazingly to me, got into (such a prestigious school). It didn't look like he studied that much.'

(15) Kinguzu-wa yoku uruhuzu-ni katta-mono-da.
Kings-TOP surprise Wolves-DAT won-NOMINALIZER-COP

'The Kings, amazingly to me, defeated the Wolves'

(16)(Mosi) sensyu-ga kega-kara kaihuku-sita-mono-na-ra,
(if) player-NOM injury-from recover-did-NOMINALIZER-COP-CONDITION

kinguzu-wa yoku* uruhuzu-ni katta-mono-da.
the Kings-TOP surprise the Wolves-DAT won-NOMINALIZER-COP.

'If their players recovered from their injuries, the Kings, [amazingly to me*], defeated the Wolves.'

Significantly, *yoku* and *yokumo* are unacceptable in the main clauses of BCs in Japanese, just as they are in regular conditionals. Even when *yoku* is acceptable in a root sentence, as in (15), it becomes unacceptable when the root sentence becomes the main clause of a BC, as in (17) and (18):

(17)(Mosi)(kimi-ga) pr yoi sirase-o kiki-tai-mono-na-ra,
(If) you-NOM good news-ACC hear-want-COP-NOMINALIZER-COND

kinguzu-wa yoku* uruhuzu-ni
the Kings-TOP surprise the Wolves-DAT

katta-mono-da-(nee).
won-NOMINALIZER-COP-(PARTICLE)

'If you want to hear some good news, the Kings, [amazingly to me*] defeated the Wolves.'

(18) (Mosi) onaka-ga suita-mono-na-ra,
(if) stomach-NOM empty-NOMINALIZER-COP-CONDITION

reezooko-ni yoku* pizza-ga aru-mono-da.
fridge-LOC surprise pizza-NOM exist-NOMINALIZER-COP

Such exceptions, though, are completely consistent with McCready's generalization, as the point of B's utterance is that the situation expressed in the consequent can be asserted as actual.

'If you're hungry, there is, [amazingly to me*] pizza in the fridge.'

The inability of the main clauses of BCs to tolerate such Japanese expressive adverbials constitutes evidence that BCs are not used to assert their main clauses. It is consistent, instead, with my claim that what is asserted in a BC is only the entire conditional, which is a rather ordinary conditional with interpolated existential quantification over potential literal acts.[7]

2.2.2. *BCs Need Not Entail Their Consequents*

Now, let us examine separately the prediction that BCs have to entail the propositions expressed by their main clauses in English. It may seem plausible enough to say that (3) "If you're hungry, there's pizza in the fridge" is just a way of asserting the proposition 'there's pizza in the fridge,' while providing a condition on that assertion's

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[7] An anonymous referee has suggested that conversations such as (i) below, where the denial of a BC seems to focus only on the consequent, show that BCs in English must indeed assert those consequents, contrary to my claims:

(i) A: If you're hungry, there's pizza in the fridge.

B: No there isn't. I ate it last night.

However, the existence of denials such as B's in (i) by no means shows that the consequent is being asserted. People frequently utter such denials of propositions that are included , but clearly not asserted in complex sentences, as in (ii), my full paraphrase of A's uttereance in (i), and (iii), with the complement of a factive verb:

(ii)A. If you're hungry, there's a (relevant) assertion that there's pizza in the fridge.

B: No there isn't. I ate it last night.

(iii) A. I regret that I ruined Clare's party.

B. No, you didn't. Clare ruined her own party.

relevance to the listener: It will be relevant if she's hungry. (3) does seem to entail 'there's pizza in the fridge.' But this is only because the propositions expressed in felicitous, salient, relevant assertions are normally – though of course not always - true, and the consequent of a BC is explicitly identified as containing such a felicitous, salient, relevant assertion. Crucially, though, as illustrated in the Japanese examples, BCs are not used to actually *assert* the propositions expressed in their main clauses; the construction does not include an actual speech act, but only quantification over potential literal acts. Consequently, it is possible to find an example of a BC in which the assertion expressed by the main clause is relevant, salient and felicitous, but it is not an assertion of a true proposition. In such cases, we will be able to see that BCs do not routinely entail the propositions expressed in their consequents. For instance, consider example (8), repeated below, and (19), which certainly do not entail 'you're four' or 'a lot of women want to date racecar drivers.'

(8) If they ask you how old you are, you're four.

(19) If we can believe Gordy, a lot of women want to date racecar drivers.

It might be objected that the complete conditionals in (8) and (19) are false whenever their consequents are false, that is, in those cases in which the addressee is not four or a lot of women do not want to date racecar drivers. If this were so, the entailment relation would still hold: Whenever (8), for instance, was true, 'you're four' would also be true, and only when (8) was false could the consequent be false. But most speakers of English, including me, do not judge (8) as a whole false if the addressee is not four. Contrary to the predictions of assertion accounts, speakers do not simply assign BCs the truth value of the propositions in their main clauses. Rather, they have a great deal of trouble making judgments about the truth of many BCs. Asked about the truth of (8), speakers respond with comments like, "You want to know about the whole sentence, not just what you say at the end, right? … I don't know; it's like you're giving directions…not really true or false… Oh, I guess it's true if you want to tell them that." Predictably, Japanese sentences similar to (8) do not allow the expressive adverbial *yoku(mo)* in their consequents, just as examples (16) – (18) did not, and for the same reason: The speaker is just not confident enough of the truth of the consequent – even within a hypothetical context - to want appear to be treating it as actually occurring or entailed:

(20) Nani ga okotta ka kikare tara
what-NOM happened QUESTION asked CONDITION

kinguzu-wa yoku* uruhuzu-ni katta-mono-da.
the Kings-TOP *surprise* *the Wolves-DAT* *won-NOMINALIZER-COP*.

If they ask you what happened, the Kings, [amazingly to me*], defeated the Wolves.

This unease with assigning truth values to BCs is consistent with my representation of BCs as asserting 'If X, there is an assertion that Y' and presupposing the relevance of the assertion of Y. (See my discussion of examples (31)-(32) and (34)-(35) for arguments that the relevance of the assertion in the consequent is presupposed and not asserted.) First, it is understandably difficult for someone other than a participant in the conversation to know whether or not X is a condition for the mere existence of an assertion of Y. It is even more difficult for such an outsider to calculate whether or not the presupposition of relevance in the context is satisfied. Nevertheless, according to my theory, it is this X-conditioned existence of a (relevant) assertion of Y, not necessarily a true one, that constitutes the conditions for the truth and felicity of a BC, and judgments about the truth and felicity of BCs with antecedents and consequents bearing various truth values seem to be consistent with this hypothesis.

It is actually somewhat tricky to figure out the truth value of an entire BC as a function of the truth values of the antecedent and the overt consequent on my theory since the actual content of the consequent is held to include the *existence* of the assertion expressed in the overt consequent, while its relevance and felicity is merely presupposed. On my view, then, (3) means 'If you're hungry, there exists a (presupposed relevant, salient, and otherwise felicitous) assertion of "there's pizza in the fridge."' So if the antecedent A is true and the surface consequent C is true, the whole BC will be true. That is, if it is true that the listener is hungry and also true that there is pizza in the fridge, then it also comes out that if the listener is hungry, there exists a (presupposed relevant and otherwise felicitous) assertion that there is pizza in the fridge. But what about the case in which both A and C are false? My theory predicts that whenever A is false, regardless of the value of C, the BC will suffer from presupposition failure. If it is not true that the listener is hungry, then just about any assertion about pizza will not be relevant. In the case of A false and C true (the listener is not hungry, and there is pizza in the fridge), then, the failure is relatively minor, since only the relevance presupposition will not be satisfied. As predicted, if (3) is uttered when the listener isn't hungry, but there is pizza in the fridge, the sentence feels just a little odd and pointless, but not false. (People tend to respond, "OK, I guess it's true, but I'm not hungry, so it doesn't matter.") However, when A is false and C is also false (the listener is not hungry, and there is no pizza in the fridge), the presupposition failure is worse, since the assertion mentioned in the consequent not only fails to be relevant, it also fails to conform to the truth we have evidence for, which conformity is something else we presuppose of assertions in play in conversation, unless warned otherwise. But even in these False A/False C circumstances in which the listener is not hungry and there is no pizza, most speakers, like me, are not ready to call (3) false. (They also won't call it true, of course.) Again, they say something along the lines of "Weird...It's not really true or false…but so what, since I'm not hungry."

The fourth possibility for truth values for (3), A true and C false (the listener is hungry, but there is no pizza in the fridge), also works out as predicted, although it is less clear. If the speaker is hungry, but there is no pizza, it is easy to want to call (3) false. Indeed, under the hungry-but-no-pizza circumstances, someone might respond to (3), repeated below, with something like (21):

(3) If you're hungry, there's pizza in the fridge.

(21) That's not true! Rebecca ate it all this morning.

However, the fact that someone might appear to apply the English predicate "not true" to a given sentence does not necessarily mean that sentence is not semantically true. In fact, Horn (2001) and references cited therein provide a good deal of evidence that we must "dissociate the definition of the semantic truth predicate from the behavior of ordinary language *true*" (Horn , 2001, 419). My theory, then, does not predict that (3) is actually false under the true A and false C condition, but rather that it exhibits another serious presupposition failure. The speaker has asserted that if the listener is hungry there is a (presupposed relevant and otherwise felicitous) assertion that there is pizza in the fridge. The listener *is* hungry, but finds out that there is no pizza, that is, the mentioned assertion did not, as she had a right to presuppose, come with evidence of its truth. Since the failed felicity presupposition is about the truth of the assertion, some speakers will speak of such sentences as false, since, of course, there is no natural language predicate "serious presupposition failure." Nevertheless, many ordinary English speakers also agree with me that the sentences are weirder than merely false, consistent with my hypothesis of serious presupposition failure.

Clearer evidence that my analysis of presupposition failure, rather than falsehood, is the cause of the weirdness of such BCs with a true A and a false C, then, has to come from a different kind of example. My theory suggests that if I could find a BC example with a true A and a false C in which the presupposition of evidence for the truth of the assertion mentioned in C was somehow cancelled, then that whole BC example should come out both felicitous and true, since false potential assertions still *exist* and can satisfy the remaining relevance presupposition. (22) below is just such an example.

(22) If you want to hear a big fat lie, George W. and Condi Rice are secretly married.

As predicted by my theory, speakers judge (22) true, even when A is true and C is false. This would be hard to explain within theories that maintain that speakers of BCs are asserting only the overt consequent, but it is consistent with my theory, which represents (22) as 'If you want to hear a big fat lie, there is a (presupposed relevant) assertion that George W. and Condi Rice are secretly married.' That rendering is undoubtedly true despite the false overt consequent in (22). It is also felicitous since labeling the assertion mentioned in the consequent a "lie" has effectively removed the presupposition of its truth, and the assertion about Bush and Rice satisfies the presupposition of relevance, since it qualifies handily as a "big fat lie." To the extent that speakers can make judgments, then, it is possible for a true BC to have a false overt consequent, contrary to the prediction of assertion theories.

2.2.3. *Antecedents of BCs Are Not Just Conditions on Assertions*

We have seen, then, that BCs do not assert or entail their main clause propositions. Even worse for assertion analyses, their *if* -clauses are often not correctly paraphrased as giving conditions on the assertability of the propositions expressed by the main clauses (or being modifiers of the main clause utterance, in the terms of Bach (1999)). Consider (23), adapted from Noh (1998, p. 293), and (24), which is from a radio ad.

(23) If I don't see you again before then, I hope you have a happy birthday.

(24) If you are suffering from depression, Friends' Hospital is conducting a study of an investigational medication.

In (23) the content of the *if*-clause, the speaker's not seeing the hearer again before her birthday, cannot be a condition on the assertability – or a modifier of the actual assertion - of the birthday wish since, according to illocutionary assertion analyses of BCs, that wish has been asserted upon the utterance of (23), (probably) felicitously, whether or not the speaker and hearer are to meet again before the birthday. Similarly, in (24) the suffering of any audience member is not a condition on the assertability - or modifier of the assertion - by the announcer of the proposition expressed by the main clause. Any correct paraphrase must include no suggestion that 'If you suffer from depression' acts as any kind of condition on the actual speech act of the radio announcer who, after all, cannot be expected even to know about any sufferers in the audience.

Thus, the most basic predictions of both Performative Hypothesis and assertion analyses of BCs turn out to be incorrect, a situation described by Boër and Lycan (1980) as "a performadox." The failure of these sorts of accounts remains a bit puzzling, though, since our intuitions about the meanings of examples like (2) – (4), (8), (19) and (22) – (24) include a feeling that the *if* clauses *are* somehow applying to the saying or assertion of the main clause.

3. QUANTIFICATION OVER POTENTIAL LITERAL ACTS IN BCs

My proposal to quantify over potential literal acts can escape the performadox and capture our intuitions about the meanings of the BC examples. We will avoid the problems that the other accounts run into if we can have the *if*-clause in (24), for instance, apply to the existence of the potential literal act of assertion of the proposition expressed by the main clause without reference to any actual speech act being performed by the announcer. This is what we get in (25).

(25) If you're suffering from depression, there is a (relevant) assertion that Friends' Hospital is conducting a study of an investigational medication.

(25) is a fair paraphrase of (24), and it avoids the previous pitfalls of attempting to lexicalize illocutionary acts (Performative Hypothesis) or of setting up the i*f*-clause outside of the true speech act of assertion (assertion hypotheses). If actual illocutionary acts are to be represented in the semantics as in Krifka (2004) or Potts and Kawahara (2004), the illocutionary act performed in uttering (24) will assert the entire conditional in (25).

As established in Section 2., an interpretation of BCs as indicated in (25) will correctly predict the truth conditions of BC sentences, given any standard analysis of ordinary conditional *if* , such as one that involves quantification over possible worlds or situations as in Stalnaker (1968) and many subsequent writers. (25) would be taken, under such a theory, to say that in every world in which you are suffering from

depression there is a (relevant) assertion that Friends' Hospital is conducting a study of an investigational medication. (25) also avoids the incorrect prediction that the antecedent *if* clause either applies to the announcer's actual saying of the main clause (as in Performative Hypothesis theories) or that it represents a condition on the announcer's speech act of asserting the proposition represented by the main clause (as in assertion theories). Moreover, the introduction of the assertion represented in the BC consequent as an existentially quantified variable correctly predicts that the potential literal act represented must be new to the discourse. Even if the propositional content of the consequent has been introduced in the discourse previous to the BC, as with 'my name is James' in (26) below, it must be repeated in full in the consequent of the BC, as it is a different object from just the proposition it represents. (27), in which the BC consequent is treated as old, containing a pronoun linked to the first occurrence of 'my name is James' is decidedly odd:

(26) The management requires that I tell each customer that my name is James, so if you need anything later, my name is James.

(27) The management requires that I tell each customer that my name is James, so if you need anything later, that's so.

We can conclude, then, that the sort of paraphrase represented in (25) works well, not only on straightforward examples such as (3), paraphrased in (7), but also on (8), (19) and (23), which posed difficulties for earlier analyses, but which are accurately paraphrased under my theory as in (28), (29) and (30).

(28) If they ask you how old you are, there is a (relevant) assertion that you're four.

(29) If we can believe Gordy, there is a (relevant) assertion that a lot of women want to date racecar drivers.

(30) If I don't see you again before then, there is a (relevant) assertion that I hope you have a happy birthday.

My analysis even accounts for the rather subtle meanings of BCs in the few embedded contexts in which they are acceptable, as complements of verbs such as *remind, remember,* and *realize* :

(31)a. Dad called to remind us that if we're hungry there's pizza in the fridge.

b. Dad called to remind us that if we're hungry there's a (relevant) assertion that there's pizza in the fridge.

(32)a. Dad called to remind us that if we're hungry I say to you/he says to us there's pizza in the fridge.

b. Dad called to remind us that if we're hungry ASSERT there's pizza in the fridge.

c. Dad called to remind us that if we're hungry it's relevant that there's pizza in the fridge.

The intuitive meaning of (31)a. is accurately expressed by the existential quantification paraphrase in (31)b. Dad would be reminding the kids of the existence of a relevant assertion about pizza in the event that they are hungry. In contrast, he would certainly not be reminding them of what the Performative Hypothesis paraphrase in (32)a. seems to suggest, that he (or the speaker) *says* that there's pizza under the condition that the kids are hungry. That cannot be true if he is not there. He also would not be reminding them of what the assertion analysis seems to predict in (32)b., that 'there's pizza in the fridge" is assertable – or that the speaker is actually asserting it - if they're hungry. The assertability of such a proposition in the context of hunger is not what they'd be likely to forget.

Finally, (32)c. shows that a simpler account of BCs than mine, one that holds that BCs assert the relevance of the assertion of the main clause, but include no existential quantification over potential literal acts,[8] also makes the wrong prediction. Dad would have implausibly dim children if he needed to remind them that pizza's being in the fridge is relevant to their being hungry. Similarly, examples of sentences with BC readings that include quantificational time adverbials in the antecedent show that this simpler, relevance-only theory makes incorrect predictions:

(33) a. Whenever you get hungry, there's pizza in the fridge.
b. Whenever you get hungry, it's relevant that there's pizza in the fridge.
c. Whenever you get hungry, there's a (relevant/salient) assertion that there's pizza in the fridge.

As in (32)a., the speaker of (33a) could not plausibly be trying to tell his listeners about the mere *relevance* of the presence of pizza to their being hungry – they presumably know about this. (33c) provides a much more plausible paraphrase.

An analysis along the lines I have suggested can be made more formally explicit and interpretable model theoretically, again given any satisfactory analysis of ordinary conditional *if*. All we have to do is to include potential literal acts as part of the inventory of individuals in our models. No matter how internally complicated assertions turn out to be, we can now quantify over them to produce something like (34) to as an interpretation of (24).

(34) If you suffer from depression, $\exists$ **a** $\exists$ **p** (**a is an assertion of** **p** $\wedge$ **p** = ^(**Friends' Hospital is conducting a study of an investigational medication**)), where **a** varies over assertions, **p** varies over propositions, and **is an assertion of**

[8] I am grateful to Jeffrey Kaplan (pc) for bringing to my attention the possibility of this kind of relevance-only theory.

is the relation between assertions and propositions such that if x is an assertion of y, then y is the propositional component of x.

Several nice results fall out from this representation. First, as we have seen, truth conditions for BCs come out correctly with *if* receiving a normal conditional translation, and BCs are not predicted to assert or entail their main clauses. Second, we get for free the presupposition that the assertions included in the domain of the existential quantifier in (34) will be only contextually salient, relevant ones. This follows because, as it has been pointed out by von Fintel (1994), Cooper (1995), Stanley and Szábó(2000), Bach (2000), and many others, "It is generally assumed that the range of quantification for any quantifier has to be limited in some way by the context of use" (Cooper, 1995, p. 71). While there is a great deal of disagreement about how such a limitation comes about (See Stanley and Szabó (2000) and Bach (2000) for an interesting exchange about this controversy), there is little doubt that domains of quantification are effectively further restricted to contextually salient and/or RELEVANT individuals.[9] So (24) will automatically be taken to mean 'If you are suffering from depression, there is a (contextually salient, relevant) assertion that Friends' Hospital is conducting a study.' This happens for the same reason that an assistant entering an office full of people can convey new information by asserting (35): (35) will actually be interpreted as (36), that

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[9] While it might seem that some expressions that can be translated as existentially quantified do not undergo this kind of domain restriction, it has been argued convincingly, in Stanley and Szábó, 2000, p. 242, for instance, that they do. Polly Jacobson has pointed out to me (pc) that if one goes to a familiar supermarket and finds the shelves unexpectedly rearranged, one can say (i), without an apparent domain restriction on 'someone.'

(i) Someone rearranged these shelves.

However, there is still a domain restriction to contextual salient rearrangers, as one can see if one considers (i) as uttered at an odd supermarket at which the shelves are routinely rearranged each night. Its adventure-loving customers would not utter (i), meaning only that the usual rearrangement had occurred, but only if there had been, say, an unusual, midday rearrangement, or the daily rearrangement had somehow been in doubt. That is, (i) does, in even the ordinary case, report only salient rearrangers.

is, as announcing that someone new, relevant, or salient to the business of the office has arrived.

(35) There's someone here.

(36) There's someone (salient/contextually relevant) here.

We can see that in (35) the requirement for contextual relevance of the individuals in the domain of the quantifier – however it may be accomplished - is presupposed, rather than asserted. First, it survives negation. Consider a negation of (35), *There's nobody here.* When uttered in a context parallel to the one given for (35), that is, with many of the workers who belong in the office present, it retains the presupposition that only contextually relevant individuals are at issue. Second, and also characteristic of presupposition, the failure of the condition of relevance produces infelicity: If we utter (35), say, when only the ever-present office receptionist is here - no one contextually salient enough to demand attention - what we say is not false, only inappropriate or misleading. Similarly, in BCs, the routine restriction of quantifiers in natural language to domains that include only contextually salinet, relevant individuals allows my analysis to explain why most English speakers have a great deal of trouble assigning a truth value to a sentence like (37a), judging it very odd.[10]

(37)a. If you're hungry, Paris is in France.

b. If you're hungry, there is a (true) assertion that Paris is in France.

c. If you're hungry, there is a (relevant) assertion that Paris is in France.

When questioned about the truth of (37a), speakers generally refuse to label it true or false, objecting that the sentence is "weird" because Paris' being in France "has nothing to do with" the person's being hungry. If (37a) meant only (37b), that is, if there were no relevance presupposition, one would expect (37a) to be true, since in every world in which a real person is hungry, there is a (true) assertion that Paris is in France. However, since (37a) is to be interpreted in my theory as in (37c), in which the parenthetical *relevant* represents the presupposition routinely introduced with quantifier domains, it suffers from presupposition failure; only very rarely in a world in which a particular real person is hungry will there be a *contextually relevant* assertion that Paris is in France. Perhaps one would have had to have been insisting that the addressee can obtain food only in France for (37a)/c) to be felicitous. In that situation, where the *if* clause *does* condition the existence of a (presupposed relevant) assertion of the proposition expressed by the main clause, (37a) is true and felicitous as predicted.

Although I have been using the English word *relevant* as a shorthand to express the properties of members of a domain of quantification, that is, contextually determined relevance or salience, my use of this word is not to be taken to mean that I think these

[10] I am grateful to Gregory Ward (pc) for pointing out to me sentences like (37a).

properties are just the same as those expressed by the English word *relevant.* In fact, there are sentences that show quite clearly that this is not the case:[11]

> (38) If I may say something completely ir*relevant*, I have to go pick up my daughter now.

If the English word *relevant* in the antecedent were the same as the domain restriction 'relevant,' we would expect that (38) would be contradictory, since it would mean 'If I may say something completely ir*relevant*, there is a relevant assertion that I have to go pick up my daughter now.' However, (38) is not contradictory, for two reasons. First, the two *relevant*s may have quite different meanings. Since the criteria for domain restriction are still somewhat mysterious, we cannot be sure, but the domain restriction 'relevant' seems to include, at least, a larger measure of 'salience' than does the English word *relevant.* Second, the contexts that help determine quantifier domain restrictions may change in the course of a sentence (Stanley and Szabó , 249). So, in (38) the speaker may be saying that what he has to say is irrelevant to his companions' conversation, but relevant to his plans for continuing to participate in it. In any event, the behavior of (38) closely parallels that of sentences with existentially quantified traditional individuals , such as B.'s answer in (39) below, and so is consistent with my account of biscuit conditionals' involving existentially quantified potential literal acts.

> (39) A. We would like to hire you as a preschool teacher. Is there anyone we could call for a character reference?
> B. Well, if I can include people who are completely irrelevant, there are several people you can call.

Like (38), (39) is not contradictory, even though it would be taken to mean 'If I can include people who are completely irrelevant, then there are several (relevant) people you can call.' The people may be irrelevant to pre-school teaching, but they are among those who would be deemed relevant in terms of quantifier domain restriction of 'several people you could call.' That is, they would have to know B. and be likely to give a decent character reference. Without such restriction of the domain of *several*, the consequent of B.'s comment would be uninformative; of course there are more than several people in general that the interviewer is capable of calling. Similarly, without the restriction of the domain of the existential quantifier that I posit in BCs, the BC consequents would also be trivially true. Almost any conceivable potential literal act can be said merely to *exist.* BCs, then, remark upon their relevant/salient existence in a given context.

A third good result mentioned previously is that (34), unlike the representations of previous theories, predicts correctly that the *if*-clauses in BCs do not have to represent just conditions on an actual speech act. As Geis and Lycan (2001, p. 191) observe, the conditions invoked by the antecedents of BCs "need not be illocutionary even in [the] broader sense; their natures can vary quite widely." My (34) would correctly allow the *if* antecedents to bear any loose relation whatever to the relevant existence of the assertion

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[11] I am grateful to an anonymous reviewer for bringing examples such as (38) to my attention.

represented in the main clause. Moreover, (34) would predict that one of these possible relations would be one in which the *if* – clause is just a condition on the very literal existence, in the relevant context, of an assertion of the main clause's proposition. Such BCs do exist. For example, my daughter reports that, when she left the message in (40) on our unreliable answering machine, she meant that she knew that (only) if the answering machine was working could such an assertion of the proposition that she needed a ride exist. Furthermore, this particular potential literal act of assertion could not be salient or relevant to whatever digital "conversation" she might hope to have with me if it did not exist. In fact, the very existence of the conversational context itself within which the assertion is presumed relevant depends upon the operation of the machine. (41), then, correctly paraphrases (40).

(40) If this answering machine is working, I need a ride home now.

(41) If this answering machine is working, there is a (relevant) assertion that I need a ride home now.

Fourth, the existential clause consequents in my interpretations of BCs would, like those of ordinary conditionals, have to be interpreted relative to a time frame overlapping or following that of the antecedent, so that the consequents can reasonably be contingent upon the antecedents (Copley 2002). Hence, we have an explanation of how we seem to be able to interpret some BC consequents relative to a reference time different from that of their actual speech situation, something not consistent with earlier analyses. We saw that (4), for instance, *If you need anything later, my name is James*, does not mean 'If you need anything later, I say to you now (or I will say to you later) that my name is James.' Nor could the *if* –antecedent, which contains a reference to a time in the future, be a condition on an actual performance of the assertion 'my name is James' at the time of utterance. Rather, (4) is correctly interpreted as something like (42), which would fall out automatically from any theory of regular conditionals, such as Copley (2002), which takes the output time of the antecedent and feeds it as the input time of the consequent.

(42) If you need anything else later, [there will be at that time a (relevant) assertion that] my name is James.

The existential quantification intervening in my analysis between antecedent and consequent also accounts for cases in which BCs do not exhibit the same sensitivities or dependencies between clauses that ordinary conditionals do. Davison (1983), for instance, reports that in German preposed adverbials, including ordinary conditional *if* clauses, trigger subject-verb inversion, but that BCs in German occur without the inversion. [12] According to my theory, this is because the *if*-clauses in BCs do not apply as

[12] Davison (1983) cites the example sentences shown in (43) and (44) as coming from a (1978) forthcoming paper by B. de Cornulier, 'Sur un *si* d'énonciation prétendument non-conditionnel,' in which they were attributed to M. Villaume. It was claimed there that (43) was ambiguous between an ordinary and a BC reading, while

adverbials to the surface main clause, but to the existential quantification over potential literal acts, so they cannot trigger preposing in the surface main clauses.

(43) (Davison's (10a)) ordinary conditional:
Wenn du mich brauchst, bleibe ich den ganzen Nachmittag zu Hause
If you me need remain I the whole afternoon at home
'If you (should) need me, I will stay at home all afternoon.'

(44) (Davison's (10b)) BC conditional:
Wenn du mich brauchst, ich bleibe den ganzen Nachmittag zu Hause
If you me need I remain the whole afternoon at home
'If you need me, I'll be at home/ I will be staying at home the whole afternoon.'

Finally, since the *if* in BCs is to be treated as ordinary conditional *if*, my account would predict that *then* should be able to appear associated with the full consequent in the main clause. Now, it is well known that BCs do not allow ordinary conditional *then* to be associated with their surface main clauses (See, for instance, Horn (1989), Dancyier (1990), Iatridou (1991), and Lycan (2001)). Iatridou (1991, p. 121) argues that the reason BCs do not allow conditional *then* is that the major semantic contribution of *then* to a conditional is a presupposition that 'if ¬p, ¬q' is true (where p is the antecedent and q the consequent of a conditional). (45), a BC with conditional *then* associated with its surface consequent, is certainly very odd, as expected: We do not presuppose that if the customer does not need anything else later, then the waiter's name will not be James.

(45) *If you need anything else later, then my name is James.

However, BC sentences do, just as my analysis predicts, allow a sort of meta-version of *then*, reminiscent of van Dijk's (1979) pragmatic connectives or Horn's (1989) metalinguistic elements:

(46) If you need anything else later, then, (there will be a relevant assertion that) my name is James.

I hypothesize that the comma intonation which normally marks meta-connectives causes the *then* to be associated with the higher existential quantification that I posit, perhaps because it signals missing material. Consequently, (46) is fine with or without the parenthetical material because the presupposition that if the customer does not need anything else later there will not be a relevant assertion that the waiter's name is James is easily satisfied.

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(44) was said to have only the BC reading as shown, which is the significant judgment here. Unfortunately, I was not able to ascertain whether or where the Cornulier paper had ever actually come forth, and German speakers I consulted denied that (43) could have a BC reading. I am extremely grateful to Katrin Holzhaus, Jürgen Meisel, and Tom Roeper for verifying the grammaticality of the examples and providing the judgments given about available readings.

4. WHERE DOES QUANTIFICATION OVER LITERAL ACTS COME FROM?

Any account of BCs has to answer the question of how hearers interpolate the material to which the *if*-clause actually applies, whether that material is a lexical performative, an assertion operator or actual speech act, or, in my analysis, existential quantification over the potential literal act of assertions. Most scholars who have addressed this question have suggested that when the semantic interpretation of a sentence with an *if*-clause is anomalous as a normal conditional, cooperative hearers will try interpreting it as a BC. Since type-shifting theories, explanations of ambiguity resolution, and even minimalist syntax make use of such strategies, which assume that language users can resort to well-defined alternatives to avoid anomalous interpretations, this seems reasonable enough. However, no such alternatives are clearly defined within the Performative Hypothesis and assertion operator theories of BCs, even if those theories could be made to work otherwise. No independently motivated rules would explain just how listeners would know to insert exactly the contextually appropriate performative material or cause the *if*- clause to apply to an abstract illocutionary operator in just the right cases, as speech acts of assertion (or question, command, exclamation, etc.) can take many different morphosyntactic shapes. (Less formally explicit assertion theories escape such problems by maintaining that no such rules are necessary.)

In contrast, the BC interpretation in my theory comes about as a result of a familiar kind of semantic operation, existential quantification over variables which are restricted, in this case, to potential literal acts and propositions. A rule like (47) below could introduce the variables, much as event variables for tense, time, and aspect are introduced in the compositional semantics or relation variables for genitive interpretation are introduced by lexical or pragmatic coercion (Partee and Borschev 2000):

(47)

If B is a sentence of English with the morphosyntactic shape of an assertion and ^β is its translation, then **a is an assertion of p** $\wedge$ **p = ^ β** , is also a possible translation of B, where **a** varies over assertions, **p** varies over propositions, and **is an assertion of** is the relation between assertions and propositions such that if x is an assertion of y, then y is the propositional component of x.

As noted in Section I., (47) must make the particular choice of potential literal act - assertion, as above, or question, command, exclamation - depend upon the morphosyntactic shape of the BC consequent.[13] This is not such an unusual requirement, however, as the formal representation of belief contexts, for instance, requires a similar sensitivity to surface features of the sentence involved, in order to account for the different truth values assigned to belief sentences about distinct but logically equivalent propositions (see for instance, Davidson (1968), Partee (1982)), and the choice of number and type of event, state or process variables is similarly sensitive to lexical and syntactic choices, (e.g. Parsons (1989), Landman (1992)).

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[13] The potential literal acts involved have all been assertions so far, but see Section 5. for BCs involving questions, commands and exclamations.

Like other individual variables, the free variables introduced in (47) would be bound by Existential Closure, widely assumed to work throughout the grammar, from the compositional semantics (as on event variables) through discourse representation (Heim 1982). We will not have to worry about what will happen if rule (47) fails to apply when it is needed or applies unnecessarily when there is no need for accommodation. First, this sort of thing may be prevented by general principles, such as an extension of Rooth and Partee's (1982) processing strategy "interpret all expressions at the lowest type possible." Furthermore, any over- or under-generation that did take place would be taken care of by the principle that ill-formed or uninterpretable structures simply don't work out. Just as we don't have to worry about all the derivations that fail because lambda abstraction or type-shifting have applied when they weren't appropriate or failed to apply when they were, we won't have to worry about missing or superfluous potential act variables.

While nothing in this paper hinges on the "timing" of the application of (47), and variables can be introduced and bound throughout the semantics and interpretation, I still think it more likely that (47) is a discourse-coerced construal rule that will apply only when needed to accommodate what would otherwise be anomalous interpretations. While the existence of such strategies may blur the traditional line between semantics and pragmatics, much recent work has shown that such strategies must exist. This work includes, among many others, accounts of the pragmatic coercion of adjective meanings (Partee and Borschev (2000, 2001), contextual inferencing in complement anaphora (Nouwen (2003)) and in VP ellipsis (Hardt and Romero (2004)), and contextually licensed pragmatic mapping in deferred reference (Ward (2004)). Nouwen (2003), for instance, suggests that complement sets emerge as the antecedents of pronouns by means of such a strategy in cases of complement anaphora, illustrated in (48) and (49).

(48) Few Senators attended the meeting. They got a lot done, though.

(49) Few Senators attended the meeting. They were too busy, unfortunately.

While *they* in (48) will be taken to refer to the few Senators described as attending the meeting in the first sentence, the same pronoun in (49) will be taken to refer to the complement of that set, the majority of Senators who did not attend the meeting. The sentences in (49) do not fit together sensibly otherwise, so, as a sort of heuristic strategy of accommodation, speakers use available semantic and pragmatic information to infer that the logical antecedent for *they* is the complement of the set actually described. Similarly in conditionals, if a main clause does not combine as we expect it to with its *if* antecedent, we may try to accommodate as in rule (47) by bringing to bear something else we know about it, its potential literal act. We will infer from the morphosyntactic shape of the clause whether it represents a potential literal act of assertion of **p** or a question, command, or exclamation of **p**. If, in our accommodation efforts, we infer that the clause represents, for instance, a member of {**a**| **a is an assertion of** p}, rule (47) would introduce the appropriate variables, and Existential Closure would bind both the assertion variable and the proposition variable.

Language users, then, employ many heuristic strategies in order to render interpretations sensible. In the case of BCs, such a strategy provides the characteristic

existential interpretation, and the added material even blocks subject-verb inversion in German, as in examples (43) and (44). However, if (47) really represents such a general interpretive strategy, we would expect to see it in use in contexts other than BCs. In Section 5. I show that we do indeed see BC interpretations as in (47) with potential literal acts other than assertion and in constructions other than conditionals. For now, though, we need only observe that ordinary conditional readings and BC ones are distributed as we would expect if the BC readings arise only as a result of Existential Closure applied to potential literal act variables brought into play in order to avoid anomalous interpretations. That is, as long as a sentence fits the requirements of ordinary conditionals, it has only that reading; one cannot force (50), for instance, to take on a BC meaning, even though putting pizza in the fridge in situations of hunger might not be very sensible. This is just as we would expect if we are correct in supposing that BC meanings arise only to avoid formal interpretive difficulties:

(50) If you're hungry, I'll put a pizza in the fridge.

However, all we have to do is change (50) minimally to provoke the possibility of a BC reading. We can, for instance, give the two clauses different aspects, making quantifying over the situations together difficult, as in (51):

(51) If you're hungry, I'm putting a pizza in the fridge.

(51) can still have an ordinary conditional reading, but it requires the rather odd accommodation of supposing that both the hunger and the putting of the pizza in the fridge are presently ongoing: "That does it! We won't wait around for dinner any more. If you're hungry, I'm putting a pizza in the fridge. I know you can eat only cold pizza." In comparison, the BC reading, "If you're hungry, there is/will be a relevant assertion that I'm putting a pizza in the fridge," is much more natural. Similarly, changing (50) so that there is no transparent link of contingency between the antecedent and the consequent also produces a preferable BC reading, as in (52):

(52) If you're hungry, there will be a pizza in the fridge.

The ordinary conditional is still possible, but only in a magical world, or at an extraordinarily attentive hotel, at which every world in which you're hungry somehow gets to be a world in which there is a pizza in the fridge. Without such a context, the listener is far more likely to resort to (47) and the BC reading, 'If you're hungry, there is/will be a relevant assertion that there will be a pizza in the fridge.' Even (4), repeated below as one of the most purely BC examples one could imagine, has an ordinary conditional reading, but one which is easily rejected on pragmatic grounds. It just requires imagining a possible world in which the future needs of restaurant patrons somehow cause the names of the wait staff to change.

(4) If you need anything else later, my name is James.

The ambiguities behave, then, just as predicted by the hypothesis that (47) comes into play and BC readings come about in order to avoid problems in interpreting ordinary conditionals. Well-behaved ordinary conditionals can be unambiguous, while every BC has a potential ordinary conditional reading, no matter how unlikely pragmatically.

5. QUANTIFYING OVER POTENTIAL LITERAL ACTS IN CONSTRUCTIONS OTHER THAN BCs

We can now turn to evidence of Existential Closure applied to potential literal act variables as a general strategy for ameliorating anomalous interpretations in contexts other than BCs and with potential literal acts other than assertions. First, my account of BCs extends naturally to some other *if* constructions often described as distinct from those apparently tied to speech acts, but just as puzzling within other theories of BCs (See, for instance, Horn (1989), Copley (2002)). These include meta-textual (53), epistemic (54), indication (55) and contextually given (56) conditionals. In some of these, existential quantification over assertions can occur in both clauses of the conditional. Still, (53) – (56) all seem to have the interpretations predicted by application of (47) in my account:

(53)a. If I may say so, (there is a relevant assertion that) you're looking lovely tonight.
b. Needless to say, (there is a relevant assertion that) I want the money as soon as possible.[14]

(54) (Horn's (1989) example (38a), translated from Ducrot(1972))[15]
If (there is a relevant assertion that) the Cité is the heart of Paris, (there is a relevant assertion that) the Latin Quarter is its soul.

(55) (Noh's (1998) example (10))

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[14] Note that the paraphrase in (53b) is far more satisfactory than the contradictory ones supplied by the Performative Hypothesis or pragmatic assertion theories: 'Needless to say, I say to you that I want the money as soon as possible' (PH) or 'Needless to say, [actual speech act of asserting:] I want the money as soon as possible.' It is much more likely that the speaker means that asserting the existence of a (relevant) assertion is needless, while mentioning the assertion itself clearly isn't needless; the listener needs to be reminded. Thanks to Kent Bach (pc) for bringing this expression to my attention.

[15] I am grateful to Larry Horn (pc) for bringing this example to my attention.

If (there is a relevant assertion that) two and eleven makes thirty, (there is a relevant assertion that) you need a lot more work on maths.

(56) If (there is a relevant assertion that) my mamma wears army boots, (there is a relevant assertion that) your mamma sucks bicycle seats.

Furthermore, as many have noted (e.g. Ross (1970), Lakoff (1972), Sadock (1974), Boër and Lycan(1980), Davison (1983)), adverbials other than *if* clauses have uses parallel to those of the antecedents of BCs. These too are accurately paraphrased with existential quantification over potential literal acts:

(57) Although you probably don't care, (there's a relevant assertion that) your skirt is too short.

(58) Now that I think of it, (there's a relevant assertion that) I'd rather walk.

(59) (Boër and Lycan's (1980) example (15))
Since you're interested, (there's a relevant assertion that) John is a Catholic.

BC-type interpretations even occur with coordinating conjunctions as well as with *if* and other adverbials. (See, for instance, Dummet (1973), Davison (1983), Horn (1989), Rauchota (1998)). These too are accounted for by my quantificational account.

(60) You don't care what I think, but (there is a relevant assertion that) your skirt is too short.

(61) (Davison (1983) example (16)c.)
I don't see Jenny, so (there is a relevant assertion that) she's not here.

(62) You didn't hear it from me, but (there is a relevant assertion that) the Secretary of State will resign this afternoon.

Finally, as writers such as Dummet (1973) and Noh (1998) have observed, BC-type interpretations exist for sentences with non-declarative main clauses. As my analysis predicts, listeners seem to supply quantification over potential literal act interpretations for sentences involving not only assertions, but also questions, commands, and even exclamations.

(63) If I have your attention now, (there's a relevant question:) what do you want for dinner?

(64) Before you go, (there's a relevant command:) remember to call when you get there.

(65) If you want to talk about weird co-workers, (there's a relevant exclamation:) what a pervert Len is!

(66) (There's a relevant exclamation:) what an idiot she is, so (there's a relevant question:) what can you expect of her?

Even root sentences and those with only prepositional modifiers sometimes seem to be understood as prefaced with this existential quantification over potential literal acts, although only, as predicted, when such an interpretation is coerced by the discourse context, as in (67), (68) and (69):

(67)A: At least you're not alone
B: Yes, there IS that. (= there IS that (relevant) assertion)

(68) A: Where did this guy come from?
B: Yes, (= yes, there IS that (relevant) question) and when is he going to leave?

(69) (Verizon DSL ad, CBS tv, 9/26/05)
DSL is fast and cheap, and with my crazy hours, someone's there 24/7.
(= with my crazy hours, there's a relevant assertion that someone's there 24/7)

There are many kinds of examples, then, involving existential quantification over assertions, questions, commands, and exclamations, just as predicted. However, it is important to note that not just any semantic object we can imagine associated with a potential speech act behaves this way. Offers, for instance, are speech acts, but they are not conventionally associated with a particular clause type and are therefore not potential literal acts. We would expect, then, that we could not quantify over them to create BC readings. This prediction turns out to be true, even though we do find BC readings for sentences like (70) and (71), whose main clauses exemplify common forms of offer. I will argue, however, that these readings are the result of quantification over the potential literal acts of question and assertion which conversationally implicate the offers, not over offers themselves.

(70) If you're hungry, (there is a (relevant) offer/question:) would you like some pizza?

(71) If you're hungry, (there is a (relevant) offer/assertion:)I could get some pizza.

(70) and (71) show that quantification over offers is not ruled out merely on the basis of possible paraphrases. The paraphrases above which include offers sound just as plausible as those with the potential literal acts of question and assertion. In order to show that quantification over offers cannot be responsible for the BC readings in (70) and (71), we must look at more complex examples, in which the *if* –clause is intended to apply to conjoined clauses:

(72) If you're hungry, [would you like some pizza and could I get you some salad?]

(73) Would you like some pizza, and could I get you some salad?

(74) * If you're hungry, [would you like some pizza and I could get you some salad.]

(75) Would you like some pizza, and I could get you some salad.

(72) , containing two offers in question form, is easily interpretable as having the BC *if* clause apply to both conjuncts, which form a single question with a single, raised intonational contour. Two questions conjoined together make a complex question, as in (73), so the mechanisms that supply quantification over potential literal acts operate successfully to give us the reading 'If you're hungry, there exist (relevant) question(s): would you like some pizza and could I get you some salad?' However, (74), with its non-matching potential literal acts of question and assertion, sounds very odd with intonation indicating that the *if* clause is to apply to both conjuncts at once,[16] even though without the *if* –clause, conjunction of a surface question and an assertion which both perform offers is acceptable, as in (75). This is because, unlike assertions, questions, commands, and exclamations, offers are not conventionally associated with a particular morphosyntactic form or sentence type. Consequently, they are not included in our domain of potential literal acts and thus cannot be quantified over to produce a BC reading. Since offers are not potential literal acts, the BC interpretation of (74) with quantification over offers, 'If you're hungry, there exist (relevant) offer(s): would you like some pizza and I could get you some salad' is not available, and the sentence cannot escape its oddness. In contrast, (76) below, whose main clause conjunction joins an offer and a request, both phrased as questions, shows that we can get BC readings applying to conjoined main clauses even when those clauses represent entirely different speech acts, as long as their potential literal acts match.

[16] (74) becomes acceptable if read with separate intonation contours for each conjunct of the consequent to produce a reading like: 'If you're hungry, there's a (relevant) question whether you would like some pizza and there's a (relevant) assertion that I could get you some salad.' This is as predicted by my analysis, since nothing would prevent quantification over the different potential literal acts in both conjuncts. However, the present argument hinges on the behavior of sentences like (74) when the entire consequent is treated as a single act.

(76) If you're hungry, could I offer you some pizza and would you serve it yourself?

Quantification over potential literal acts, not over speech acts is responsible for BC readings.

6. CONCLUSION

Positing an interpretive option of quantification over potential literal acts such as (47), then, offers a solution to an old and vexing puzzle in pragmatics, namely, how biscuit conditional interpretations come about. It does not alone account for all adverbial modification that seems to apply to some sort of higher, illocutionary level, as there are some expressions such as *frankly* and *to tell the truth* that must apply to the actual speech act being performed by the utterance, as in (77), which does not paraphrase as in (78):

(77) Frankly/ To tell the truth, I've never liked turkey that much.
(64) *Frankly/To tell the truth, there is a (relevant) assertion that I've never liked turkey that much.

Of course, as suggested in Krifka (2004), actual speech acts may well have to be integrated into formal representations along with potential literal acts, but as we have seen, even such an integration will not allow these speech acts, tied as they are to particular speech contexts, to model BCs correctly.

Interestingly, hypothesizing an accommodation strategy such as (47), which introduces variables over potential literal acts, leading to Existential Closure, solves the puzzle of biscuit conditionals by moving away from the actual pragmatic speech situation and finding a high enough level of abstraction in formal context-sensitive construal rules. Even biscuit conditionals, then, though they are often called illocutionary or speech act conditionals, are not best interpreted as involving real speech acts, but rather potential literal acts that are objects in our formal models for interpretation. We should, consequently, continue to be open-minded about the sorts of accounts we seek of apparently semantic or pragmatic phenomena. In the case of biscuit conditionals, we may have been looking in the wrong place for forty years.

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