The meaning of **but***: a procedural reanalysis*[*]

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Abstract

Discourse connectives such as *but*, while obviously meaningful, are widely seen as not affecting the truth conditions of the utterances they occur in. One way of explaining this is to analyse them as encoding procedural constraints on implicatures. I'll summarize the arguments for a procedural account, and look at a recent objection (Bach 1999), according to which *but* does contribute a constituent to a truth-conditional conceptual representation. Then I'll consider the procedural analyses of Blakemore (1987, 2002) and Iten (2000), on which *but* encodes an instruction to process the clause that follows as contradicting and eliminating an assumption. I'll propose instead that *but* indicates that the hearer is to suspend an inference that would result in a contradiction with what follows, so diverts him from a conclusion that he could potentially have drawn. Finally, I'll show how the various interpretations of utterances containing *but* are derived.

1 Introduction

The starting-point for discussions of *but* tends to be Grice's (1989) suggestions that it and a range of other expressions are indicators of 'conventional implicatures', which means that they are indicators of second-order speech acts. However, the category of conventional implicature fits uneasily in Grice's overall framework, and there have been a number of attempts to reanalyse the expressions that have been alleged to generate conventional implicatures. One way of accounting for the non-truth-conditionality of some of these expressions – discourse connectives such as *but*, *although*, *even*, *still* – is to analyse them not as mapping directly onto concepts, or conceptual representations, but instead as encoding 'procedural' meaning, the function of which is to guide the hearer to the intended interpretation of the utterance. In the case of these discourse connectives, this procedural meaning would constrain, in some other way than encoding a concept, the type of (conversational) implicatures to be recovered.

*I would like to thank Robyn Carston and Deirdre Wilson for many interesting discussions on the subject of this paper and their comments on several earlier drafts. I'm also grateful to Kent Bach, whose detailed feedback has helped me to considerably improve the paper.

The idea of procedural meaning has been taken up within a range of semantic/pragmatic frameworks and applied to a range of linguistic devices, and in section 3, I'll introduce the idea behind it and defend the need for it. The main motivation for procedural analyses of various expressions comes from the attempt to account for their non-truth-conditional contribution. However, Kent Bach argues that *but* and some other connectives **are** truth-conditional and that the notion of procedural meaning is unnecessary to explain their effect on interpretation (Bach 1999). In the following section, I'll show that Bach's attempt to accommodate *but* in truth-conditional content raises several problems, for which a procedural account offers a natural explanation. I'll then briefly argue that, contrary to intuitions that the basic use of *but* is to signal contrast, simple contrast can't be what it encodes.

Section 6 is a detailed examination of two well-worked-out procedural accounts, the relevance-theoretic analyses of Diane Blakemore (1987, 2002) and Corinne Iten (2000), on which the basic meaning of *but* is denial of expectation (illustrated in (1) below), in the sense of contradiction and elimination of an assumption. I'll argue that in many cases, no particular assumption that is manifest to the hearer can be plausibly said to be eliminated, so that neither 'denial' nor 'expectations' are necessarily involved. This leads on to a new proposal for the meaning of *but*, which I'll develop in section 7. My claim is that *but* diverts the hearer from an inferential route that wasn't necessarily 'expected', but need only be one route that was open to him. The notion of different degrees of manifestness can explain the varying status of the potential conclusions that *but* diverts the hearer from, depending on context. In 'denial of expectation', there is a strongly manifest conclusion that *but* stops the hearer from drawing. In the cases for which it is difficult to identify any particular such conclusion, the inferential route that is cut off is to an indeterminate range of weakly manifest implications, many, or perhaps all, of which might remain unrepresented by the hearer. I'll then illustrate this by applying it to the data in section 2 below, showing that it avoids the problems with previous accounts. Finally, I'll propose that *although* and *though* encode the same constraint as *but*, and suggest how to explain the differences in interpretation that the choice between the three expressions gives rise to.

2 Interpretations of *P but Q*

Expressions of the form *P but Q* can be given a range of interpretations, and the only immediately apparent feature that *but* has in common on all of these uses is that it doesn't seem to contribute to truth-conditional content. A unitary account of the meaning of *but*, which is what I'm aiming at, needs both to explain its non-truth-conditionality, and to show how these different interpretations are derived

pragmatically from the encoded meaning. In the following subsections the core data that I'll be considering is roughly characterized.

2.1 Denial of expectation

Most of the literature on *but* recognizes at least the 'denial of expectation' use, exemplified by G. Lakoff's (1971: 67) notorious example:

(1) John is a Republican but he's honest.

In denial uses, the idea is that the first clause (here, *John is a Republican*) implies (i.e. leads the hearer to expect) some conclusion (*John is dishonest*) which is then denied by the clause introduced by *but*. The denial can also be indirect: in (2), the assumption derived from the first clause (*We can't ask him*) is denied by an implicature of the *but*-clause (*We can ask him*), rather than by its propositional content:

(2) (A and B are wondering who to consult about a financial matter)
A: John's an economist. We could ask him.
B: He's not an economist, but he is a businessman. (Blakemore 1987: 129)

2.2 Contrast

On the face of it, (3) doesn't appear to have anything to do with denial of expectation: *but* seems to be used just to draw attention to the fact that John and Bill contrast with respect to height:

(3) John is tall but Bill is short.

(3) could, of course, be uttered in a context where it denies an expectation (e.g. in answer to a question like *Can't we use them both on the basketball team?*), but R. Lakoff (1971) claims that it doesn't need to be – it can just be used to signal 'semantic opposition', which I think just means contrast.

2.3 Correction

In (4) and (5), the segment introduced by *but* functions as a correction of the negated assumption; the negation can be of the conceptual content of that assumption, and/or of some aspect of linguistic form:

(4) That's not my sister but my mother. (Iten 2000: 181)
(5) The Pope's not in*flammable* but in*fallible*.
(6) Not John but Tom was there.

Examples like (6), where *but* conjoins just noun phrases rather than sentences, can, I think, be described along the same lines. Admittedly, it doesn't look like the segment preceding *but* (here, *Not John*) is in itself sufficient to negate anything. However, this sort of utterance could only be a response to a previous utterance to the effect that John was there, so it seems likely that the hearer would construct, on hearing just *Not John*, the assumption *John wasn't there*. If this is right, then any account that covers (4) and (5) will be able to deal with this sort of example unproblematically.

Although correction *but* doesn't immediately look susceptible to being reduced to denial, Iten (2000) and Blakemore (2002) try to do just that. The fact that several languages have separate words for denial/contrast *but* and for correction *but* (e.g. *aber* and *sondern* respectively in German; *pero* and *sino* in Spanish) has been the basis for claims that English *but* is ambiguous; however, Iten (2000) shows that there is no compelling reason to conclude that it is. The only evidence presented from English in support of this ambiguity is that the two *buts* are in complementary distribution (see Horn 1989: 407; also, Iten 2000 shows that Anscombre and Ducrot's 1977: 33 description of the distribution of French correction *mais* versus denial/contrast *mais* generally carries over to English). With correction *but*, the first segment must always contain an unincorporated negation, conjunction reduction is obligatory, and the *but*-clause replaces the negated assumption; other types of *but*-conjunction don't have all these features. As Iten says, this doesn't prove the point, as each sense of a genuinely ambiguous word **can** be found in the same distribution as the other senses (no matter how biasing the linguistic context is towards one particular sense). Hence the ambiguity.

2.4 Objection

(7) is an example of a discourse-initial use of *but*, used to introduce an objection. This looks very much like denial of expectation again. You would generally hand someone whisky with the expectation that they'll drink it, and B's utterance denies this expectation:

(7) (Speaker is given whisky)
But you know I don't drink!

Earlier accounts of *but* (e.g. R. Lakoff 1971, Anscombre and Ducrot 1977) didn't consider this use, which is not untypical; Iten (2000) discusses these accounts and

concludes that, as they stand, none could cope with discourse- or utterance-initial use, because they talk of denying an expectation raised by the first clause, or contrasting the content of the two clauses.

The uses that an analysis of *but* has to account for, then, are denial, contrast, correction, and objection. Various attempts have been made to show how all these uses can be derived from a univocal semantics, and I'll consider some of them in later sections. First, though, I'll turn to the more general issue of the type of meaning encoded by *but* and various other discourse connectives, given the general consensus that they are non-truth-conditional[1].

3 Conceptual and procedural meaning

Some initial evidence for *but*'s non-truth-conditionality comes from applying the embedding test, standardly used to identify propositional content (since Cohen 1971). For example, if (8) is embedded under the operator *if…then*, as in (9), does the truth of the consequent depend on the truth of (10c), as well as on the truth of (10a) and (10b)? Intuitions are uniform that the truth of (10c) has no effect on (9), so *but* does not contribute to truth conditions in the regular way:

(8) Lucy will be there but Anna won't.

(9) If Lucy will be there but Anna won't, we should still go ahead with the meeting.

(10) a. Lucy will be there.
b. Anna won't be there.
c. There is a contrast between the fact that Lucy will be there and the fact that Anna won't be there.

If *but* doesn't contribute a constituent to the proposition expressed by utterances in which it occurs, where does it make its contribution? Speech-act analyses of *but* and other connectives such as *even*, *too*, and *although*, have basically followed Grice's (1989) suggestions that these expressions generate conventional implicatures, which amounts to being second-order speech-act indicators. An utterance of *P but Q* communicates the first-order speech acts of asserting *P* and asserting *Q*, and the second-order speech act of contrasting *P* (or the saying of it) with *Q* (or the saying of it). Parenthetical expressions such as *I think*, *frankly*, and *in contrast* have also been analysed along these lines by Grice and others. According to Bach and Harnish

[1] This consensus is not quite universal: see Bach (1999) and Neale (1999).

(1979: 219-221), for example, in an utterance of (11), *frankly* would be indicating the higher-order speech act (12):

(11) Frankly, I'm bored.
(12) The speaker is saying frankly that she is bored.

However, there are important differences between the two sets of cases. First, the parenthetical expressions such as *frankly* have clearly truth-conditional (non-parenthetical) uses, as in (13), while *but* and other connectives don't:

(13) He told her frankly that he couldn't care less.

In their parenthetical use, they don't contribute to propositional (truth-conditional) content, and neither, based on the embedding test, do the connectives. The embedding test, though, can isolate only propositional content; it excludes both higher-order speech acts, and implicatures, so can't be used to identify any differences between discourse connectives and parentheticals with regard to truth-evaluability. Rouchota (1998) suggests the following way of drawing out the difference between them. If you answered (14A) with *That's not true*, you would be understood to be objecting to the truth of one (or both) of the two clauses *He is a Republican* and *He is honest*. Compare the result of trying to challenge the second-order 'contrast' speech act:

(14) A: He's a Republican but he's honest.
B: ??That's not true – there's no contrast between being a Republican and being honest.[2]

The contribution of the parenthetical verbs and adverbials, on the other hand, can be questioned directly, even though they don't contribute to the truth-conditional content of the utterance:

(15) A: Frankly, I couldn't care less.
B: That's not true – you're not being frank.

[2] Kent Bach has suggested (personal communication) that the reason this doesn't work here is that the contrast-proposition is too backgrounded, compared to the two main propositions, to be identifiable as a potential referent for *that*. If this is right, then switching the order of the clauses in B's reply should result in an improvement: *There's no contrast between being a Republican and being honest, so that's not true*. Surely the first part of the reply here has considerably increased the salience of the contrast-proposition as a candidate for the referent of the subsequent *that*, but I find this no less unacceptable than the original as a reply to (14A).

This casts some doubt on the idea that the devices analysed under the label of 'conventional implicature' form a coherent class, and there are further factors that confirm this suspicion. The parentheticals just contribute the concept they directly encode to the propositions communicated: *frankly* contributes the concept FRANKLY, which, combined with fact that the utterance has taken place, can be enriched into the second-order speech-act description *The speaker is saying frankly that*.... . So the concepts encoded by these parentheticals form constituents of an encoded logical form of the utterance, which undergo the inferential process of developing logical forms into explicitly communicated propositions (whether the proposition expressed or second-order speech acts). In contrast, the connectives don't map directly on to a constituent of a communicated proposition: there is no concept BUT that appears in any of the explicitly or implicitly communicated propositions. Where the connectives really seem to have their effect is at the level of implicature: in (1), the recovery of the implicated premise *Most Republicans aren't honest*, and thus of implicated conclusions like *John is unusual for a Republican*, depends on the use of *but*. So alleged conventional implicature devices appear to fall into two distinct classes. There are the verbs and adverbials which, in their non-truth-conditional parenthetical use, function as second-order speech-act indicators, and then there are the connectives that are always non-truth-conditional, and whose effect is on implicatures.

The problem, then, is to explain what it is about these discourse connectives, which clearly do have an impact on the meaning of utterances, that accounts for their not contributing a constituent to either the basic or second-order speech act, along with the rest of the expressions used. The solution, I claim, is provided by a distinction between two types of meaning that linguistic expressions can encode, and which I'll outline in the rest of this section.

Lying behind many current approaches to inferential pragmatics is a view of the mind like that developed by Fodor (e.g. 1980, 1983), according to which cognitive processes are computations over representations. The central systems, including the system responsible for ostensive-inferential communication, receive input in the form of conceptual representations from the modular input systems of perception and language. Utterance interpretation involves two processes: decoding of linguistic stimuli into (sub-propositional) conceptual representations by the language module, and inference – manipulation of conceptual representations – by the pragmatics system. Given that utterance comprehension involves both decoding and inference, it is plausible that linguistic meaning, which is the input to pragmatic inference, comes in two varieties: one type of information that itself contributes to the conceptual representations that are inputs to inference, and a second type that provides information on what inferences the pragmatics system is to perform on these representations.

Further justification for this distinction comes from how well this second type of meaning would serve communicative purposes. Following Grice's widely accepted insight that understanding an utterance is a matter of identifying the speaker's intention to communicate certain assumptions, it can be assumed that rational speakers want their communicative intentions recognized, and should try to shape their utterances accordingly. It is in a speaker's interests to make her utterance relevant and informative enough to be worth the hearer's attention, and to shape it, constrained by her own abilities and preferences, so that it achieves its intended effects with the minimum possible effort from the hearer (Sperber and Wilson 1986/1995). Given this, one could expect languages to have developed some means of guiding the hearer towards the intended interpretation. Blakemore (1987: 106-8; 2002: 78-9), in developing the idea of 'procedural' (as opposed to 'conceptual') meaning, uses the following example to illustrate this:

(16) John can open Bill's safe. He knows the combination.
(17) a. John can open Bill's safe. After all, he knows the combination.
b. John can open Bill's safe. He knows the combination, then.

It may not be immediately obvious to the hearer of (16) how the speaker intends the second sentence to be interpreted. In (17a), *after all* ensures that the clause it introduces is interpreted as a premise; *then* in (17b) marks the preceding clause as a conclusion. These expressions don't contribute to truth-conditional content: their role is to reduce the hearer's processing effort by limiting the range of interpretive hypotheses he has to consider; they thus contribute to increasing the efficiency of communication.

On this sort of picture, most words encode concepts which may act as constituents of the conceptual representations that are the output of semantic decoding (*Republican*, for example, just encodes the concept REPUBLICAN; *honest* encodes HONEST), but there are a variety of linguistic devices for which a procedural analysis looks more promising. Indexicals, for instance, don't map directly onto concepts: *he* doesn't encode a concept that determines its referent but rather guides the hearer in retrieving the intended concept. It works more like a constraint on inference which restricts the class of possible referents to be considered, and this is how Bach (2001: 31-3), for example, treats non-pure indexicals. Bach's position is that 'what is said' (in the sense of semantic information available to the hearer) by an utterance of (18) is (19):

(18) She is ready.
(19) [a certain female] is ready.
(20) A certain female is ready.

He uses [a certain female] as a way of indicating that what *she* contributes is to be seen as a constraint on the pragmatic process of reference assignment: it is the referent that contributes to truth-conditional content, not the meaning encoded by *she*. All that *she* encodes is a referential constraint that it be used to refer to some female, with the referent being determined in context by the speaker's referential intention. If *she* encoded the concept *a certain female*, then (18) and (20) would be synonymous. As Bach recognizes, these are not the same, so even if *she* does encode some conceptual content, it must also encode a constraint that determines how this conceptual content is used in identifying the referent. Similarly, Recanati (1993: 291-3) talks of pronouns encoding 'contextual conditions' – conditions which must be contextually satisfied for the sentence to express a complete proposition – as opposed to truth conditions. Both Bach's and Recanati's accounts can be seen as procedural-type analyses: these indexicals do not encode the kind of meaning that can function as a conceptual constituent of the proposition expressed by the utterance, but encode constraints on pragmatic inference indicating the kind of element being referred to. Once the hearer has identified the referent, that is what enters into the proposition expressed, and the procedural constraint drops out of the picture.

Procedural information can constrain any phase of inference: while indexicals guide the development of logical form into the proposition expressed, discourse connectives such as *but*, *too*, and *after all* could be seen as constraining the derivation of implicatures by, for example, helping the hearer identify the kind of contextual assumptions with which he should combine the utterance's propositional content, or indicating what sort of implicated conclusions he should be looking for. This kind of procedural approach was the strategy taken by the argumentation theorists, Anscombre and Ducrot, whose analysis of denial *but* was as follows: 'In *P but Q*, *P* implies *not-R*; *Q* implies *R*; *Q* has more weight' (1977: 28) [3]. Such an approach has been developed within relevance theory by Diane Blakemore (1987, 1992, 2002), who has given detailed analyses of a number of connectives and other devices under the label of 'procedural' meaning. In section 6, I look at her procedural analysis of *but*.

As well as these connectives, there is also a whole range of other expressions whose role seems to be not, or not only, to contribute a constituent of propositional content, but instead (or also) to directly constrain inference. For instance, utterances of the following two sentences, in identical contexts, are truth-conditionally identical; the difference in interpretation is at the level of implicature:

[3] See also Dascal and Katriel (1977) on *but* in Hebrew.

(21) a. Your car will cause few problems in the first 3 years
b. Your car will cause a few problems in the first 3 years.

Anscombre and Ducrot (1976, 1989) use examples like these to show that utterances with the same truth-conditional content cannot always be used as arguments for the same sets of conclusions, and that this argumentative or inferential potential of the utterance has to be an aspect of the linguistic meaning. *Few* and *a few* require converse topoi (background knowledge linking two scales), so (21a) and (21b) activate (22a) and (22b) respectively:

(22) a. The *less* a car causes problems, the *better* it is.
b. The *more* a car causes problems, the *worse* it is.

So part of the encoded meaning here is serving only to guide the hearer towards the intended context of background assumptions in which to process the utterance, and hence the conclusions to be drawn. (Certain discourse connectives have also been treated as encoding constraints on context – see, for example, Iten 2000 on *even*, and Blakemore 2000 on *nevertheless*.)

There are many further plausible candidates for procedural analyses. Discussing such quantifiers as *little* versus *a little*, van Eemeren et al (1996: 316) comment, "Evidently the quantitative information provided by these operators does not determine the way in which they are used argumentatively: There is some extra meaning attached … which transcends their purely informative meaning in the quantitative sense." Michael Israel reaches a similar conclusion about polarity items such as *the least bit* and *rather*: "I suggest that polarity items are sensitive not so much to the objective truth conditions a sentence encodes, but rather to the rhetorical and subjective ends for which a sentence may be used" (2001: 301). What both authors are suggesting is that these expressions, in addition to contributing some conceptual constituent to truth-conditional content, also encode constraints on inference that guide the hearer towards certain types of conclusion.

Returning to *but*, an analysis on which it encodes the concept CONTRAST, or a conceptual representation P CONTRASTS WITH Q, looks unable to account for why it never contributes to the truth-conditional content of the utterance. A procedural analysis, on the other hand, automatically explains this: it's due to the fact that *but* doesn't map onto a constituent of thought contents, but instead constrains the manipulation of these contents[4]. Inferences can go through or they can fail, but they can't be true or false.

[4] *But* can appear in indirect thought reports, such as *He believes that John is rich but unhappy*, and Bach (1999: 341) takes this as evidence that it is a constituent of thought contents. The

Another feature of *but* and other connectives that is accommodated better by a procedural account than a conceptual one is their non-compositionality. Concepts combine systematically with other concepts to form larger conceptual representations. Expressions that encode not concepts but constraints on the manipulation of conceptual representations shouldn't be able to combine in the usual way with conceptual expressions to produce complex representations. As expected, the meaning of *but* is not compositional – it doesn't interact with other words so that their meanings modify each other, but instead affects how the conjoined propositions as a whole are interpreted. While *but* and *in contrast* can, in many cases, have a similar effect on interpretation, *in contrast* can combine with other concepts (e.g. *in complete contrast*), whereas *but* can't combine with anything to form a complex connective. This isn't, of course, to say that anything non-compositional is procedural: it's generally accepted that *and* and *or*, for example, encode conceptual meaning, and that they are truth-conditional. Their meanings are also non-compositional, but this is expected on the assumption that their semantics is captured by the truth tables for the logical operators: it's difficult to see how these could interact with the meanings of other expressions to produce a more complex conceptual constituent[5].

So if an expression is always non-truth conditional and isn't compositional, there is a good case for it encoding procedural meaning, and *but* seems to meet these requirements. However, Kent Bach claims (Bach 1999) that the non-truth-conditionality of *but* and some other expressions that have been analysed as encoding constraints on implicatures (e.g. *too*, *even*, and *still*) is only apparent: *but*, for example, contributes a proposition with the concept CONTRAST as a constituent, and this proposition is part of the truth-conditional content of the utterance. If this kind of account were feasible, it would undermine the main

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procedural account denies this: according to Blakemore (2002: 91-2) and Wilson and Sperber (1993: 15), a thought report can attribute not only the content of the thought, but also a particular inferential process, e.g. that of contrasting the thought contents *John is rich* and *John is unhappy*. The reason *but* can appear after *He believes…* is that, in order to report what inferential process one is attributing, one needs a way of verbalizing it.

[5] The fact that *but* apparently contributes the truth-functional force of *and* might lead to the conclusion that *but* encodes at least the conceptual content of *and*. This conclusion is not inevitable, as *but-and* entailment simply falls out from the truth of both conjuncts, as can be seen from the fact that *P.Q* has the same truth conditions as *and*- or *but*-conjoined cases. However, if the conclusion is right, as it may well be, there's still the question of how to account for the extra meaning of *but* over and above this conceptual content. There's no reason why an expression shouldn't encode both conceptual and procedural meaning: as discussed above, *few* and *a few* clearly encode something that contributes to truth-conditional content, but there's good reason to think that they have procedural meaning too.

motivation for a procedural analysis of these expressions, so it's worth discussing in some detail.

4 Bach: IQ testing

Bach (1999) dismisses the conceptual-procedural distinction[6], and argues that, because *but* can feature in indirect quotation, it must be contributing to 'what is said', in the sense of logical form plus reference of any pure indexicals (1999: 339; 2001: 22). The idea is that elements of the original utterance that can be indirectly quoted, i.e. that can embed felicitously under the schema *He said that…* are part of what was said. The only adjustments allowed are for tense and indexicals: *I* becomes *he* or *she*, *now* becomes *then*, etc. So (23) is reported as (24):

(23) I am not here now.
(24) He said he was not there then.

Bach compares two notions of what is said: what is uttered, and propositional content. The first of these can include "any element, even an interjection", but his 'IQ test' is intended to isolate just the second (1999: 340). Based on their acceptability in indirect quotation, he divides 'alleged conventional implicature devices' into 'sentence modifiers' and 'utterance modifiers'. Bach finds the latter unacceptable in indirect quotation, and doesn't see them as part of what is said. In (26), the test is applied to the utterances in (25):

(25) a. John is rich but unhappy.
b. Frankly, I couldn't care less.
(26) a. He said that John was rich but unhappy.
b. ?He said that, frankly, he couldn't care less[7].

[6] On the grounds that, "in some way or another anything one says 'constrains the inferential phase of comprehension' and 'provides an instruction for performing computations'" (1999: 361). In some way or another, maybe, but not by virtue of **encoding** this constraint: only procedural expressions do that.

[7] I don't see anything wrong with (26b), and also find *moreover*, *strictly speaking*, and many of Bach's other utterance modifiers perfectly acceptable in indirect quotation. If they are, then Bach's test doesn't even separate his sentence modifiers from his utterance modifiers, regardless of their effect on truth conditions. Bach's answer to this (1999: 340) is that utterance modifiers are only acceptable after *He said that* if they are either a comment of the speaker's, or implicitly directly quoted. What Bach doesn't explain is how we are supposed to distinguish indirect from implicit direct quotation, other than by stipulation. Moreover, as Carston (2002: 176-7) points out, the IQ test makes unclear predictions even within these utterance modifiers: there is a big difference between *frankly*, *moreover*, etc., on the one hand, and vocatives such as *my dear*, on the other (compare **He*

Sentence modifiers such as *but*, *still*, and *even*, which pass the IQ test and thus contribute to what is said, modify the content of the sentence. Utterance modifiers – among which he includes illocutionary adverbials such as *frankly* and *off the record*, and some discourse connectives such as *moreover* and *however* – are "vehicles for the performance of second-order speech acts … [they] characterize the act of uttering [the sentence]" (1999: 328).

So Bach's claim is that *but* contributes to what is said, but he has to accommodate uniform intuitions that it and some other connectives don't affect truth-value judgements. Underlying these intuitions he recognizes four factors, which I'll outline briefly below, and sets out to neutralize them, conveniently using *but* for purposes of illustration (1999: 343-50). Note that the point of these arguments of Bach's is to show that an analysis of *but* as truth-conditional is more viable than it might initially seem. They do nothing to disprove an analysis on which *but* constrains implicatures.

The first factor is that there is no unique contrastive relation indicated by *but*. As he demonstrates, it can communicate a variety of roughly contrastive relations (that *P* contrasts with *Q*, that *P* and *Q* have contradictory implications, etc.), and this leaves any attempt to capture the contribution of *but* in terms of truth conditions vulnerable to counterexample. His solution is to say that the truth-conditional contribution of *but* is underspecified and context-dependent: all that *but* encodes is that there is a certain contrast, and the specific contrastive relation is arrived at by pragmatic enrichment (what Bach calls 'completion'). Second is the fact that the contribution of *but* – that there's a contrast of some sort or another – is often background knowledge, and thus seems less important than the two conjoined propositions, which are what's asserted. Bach's response is that not all that is 'said' has to be equally important, so there's no incompatibility between *but*'s contribution being both part of what is said, and pragmatically presupposed rather than asserted. Third, in reporting what was said with *P but Q*, you'd need an extra conjunct to spell out the import of *but* (so you get *He said that P, that Q, and that there's a contrast between P and Q*); since this requires more conjuncts than there were clauses in the original utterance, we are disinclined to count the content of the third conjunct as part of what is said. Bach claims that this was the deciding factor that made Grice opt for the conventional implicature analysis. His own solution is far more elegant: *He said that P but Q*.

The final factor underlying the non-truth-conditional intuition is that, in a situation in which the two conjuncts are both true, but there is no apparent contrast between them, we judge the utterance as a whole to be true. According to Bach, this is the

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said that, my/his dear, he didn't give a damn). Since anything can be directly quoted, why are the latter cases unacceptable after *He said that*? For the sake of argument though, I'll go along with Bach's judgements about acceptability in indirect quotation.

result of a forced choice between judging it simply true or false; if given more scope for discussion, we may well acknowledge that something false has been said. A similar problem arises with various types of disjunct constructions (which are also fine in indirect quotation), such as the non-restrictive relative clause in (27):

(27) Napoleon, who recognized the danger to his right flank, personally led his guards against the enemy position.

This example was originally discussed by Frege (1892), who suggested that (27) expresses a conjunction of the following two propositions:

(28) a. Napoleon personally led his guards against the enemy position.
b. Napoleon recognized the danger to his right flank.

Neale (1999: 48-9) proposes one modification of this. Consider the situation where (28a) is true but (28b) is false. We probably wouldn't want to say, in such a case, that (27) as a whole is false. It would be more natural to say that something true has been said, but that something false has also been said. But with a conjunction, the falsity of one of the conjuncts is sufficient for the falsity of the whole. If we treat (27) as expressing not a conjunction, but two separate propositions, (28a) and (28b), each of which has its own set of truth conditions, conflicting intuitions of truth or falsity fall out naturally. Bach also adopts this approach, and further suggests treating utterances containing *but* and other 'sentence modifiers' in the same way: drop the assumption that an utterance expresses a single proposition, with a single set of truth-conditions; instead, utterances can express several propositions, each with its own truth conditions, and some of these propositions will be more relevant or important than others[8]. Intuitions about the truth or falsity of such sentences are therefore intuitions about which proposition(s) have the most conversational weight. His idea is that these sentence modifiers function as 'propositional operators', preserving the propositions they are attached to, while operating on them to yield an additional proposition. The details of how they would operate remain to be spelled out, but to illustrate the result of such an operation, an utterance of (29) would express the propositions (30. a, b, and c):

(29) He's a landlord but he's generous.

[8] Similar proposals have been made by speech act theorists including Recanati (1987), and within Relevance Theory by Ifantidou (2001) and Wilson and Sperber (1993).

(30) a. S1: He is a landlord.
b. S2: He is generous.
c. There is a certain contrast between being a landlord and being generous[9].

Utterances containing *but* therefore express the propositions S1 and S2 that are being contrasted, plus the less salient proposition **that** they are being contrasted: the *but*-proposition, "while truth-conditional, is secondary to the main point of the utterance" (1999: 328).

I'd agree that a multiple-proposition approach to certain phenomena, such as disjunct clauses, is well-motivated. What I want to question is, on the one hand, Bach's extension of this framework to apply to *but* and other connectives, and on the other, the reliability of the criterion that he claims can identify what, in his view, forms part of the proposition(s) expressed.

Bach intends his IQ test to isolate just the elements that contribute to truth-conditional content. However, when the standard tests for identifying this are applied to the various expressions that Bach discusses, it turns out that his test does not clearly distinguish the truth-conditional from the non-truth-conditional, or what is said from comments on what is said, and that many of his utterance modifiers seem to have more effect on truth-evaluability than *but* does.

First, as Wilson and Sperber (1993) show, some illocutionary adverbials clearly do affect truth conditions:

(31) A: What can I tell our readers about your private life?
B: On the record, I'm happily married, off the record, I'm about to divorce. (1993: 19)

Bach (1999: 357) classes *off the record* as an utterance modifier (so it doesn't contribute anything truth-conditional). But as Wilson and Sperber say, *on the record* and *off the record* must be contributing to truth conditions in (31), or B's utterance would be perceived as contradictory: without the adverbials, a non-contradictory reading is unavailable here.

Second, some of the expressions Bach lists as utterance modifiers, such as *it cannot be overemphasized that*, can be shown to affect truth conditions when embedded under *if … then*, as in (32) (and their truth could also be directly questioned, by e.g. saying *Yes it can*):

[9] This third proposition is the underspecified contrast relation encoded by *but*, and, as I understand Bach's account, is not necessarily communicated. What is communicated is a proposition specifying the type of contrast at issue, for example, *Landlords tend not to be generous*. I'll take the distinction into account where necessary in what follows.

(32) It cannot be overemphasized that cigarettes are bad for you.
(33) a. If it cannot be overemphasized that cigarettes are bad for you, then we should make the anti-smoking commercials more graphic.
b. If cigarettes are bad for you, then we should make the anti-smoking commercials more graphic.

In (33a), *it cannot be overemphasized that* falls in the scope of the operator, and the truth conditions are clearly different from those of (33b).

Third, even the contribution of parentheticals such as *I think*, *unfortunately*, and *frankly*, though not part of propositional content, does seem to have a greater salience than Bach's contrast-proposition when it comes to truth-conditional assessment. Even if the *but*-proposition is backgrounded compared to the propositions it conjoins, it should, if truth-conditional, surely not be backgrounded compared to second-order speech acts. The supposedly truth-conditional contrast-proposition (30c) above cannot be objected to in the usual way with *That's not true, there's no contrast*. It is possible, on the other hand, to directly object to the truth of the secondary propositions to which *frankly*, *I think*, and so on contribute, as (34) and (36) show. This is hard to explain, though, if *but* affects truth conditions and *frankly* etc. don't. For example, A's utterance in (34) expresses the proposition in (35a), and the higher-level speech act (35b); it is the latter that is denied by B's answer in (34):

(34) A: John is, I think, an idiot.
B: That's not true – you think nothing of the sort.
(35) a. John is an idiot.
b. I think this.
(36) A: Frankly, I couldn't care less.
B: That's not true, you're not being frank.

At least some secondary, thus backgrounded, propositions that are communicated – (35b), for instance – can affect assessments of truth or falsity to some extent, as the above examples show; Bach's contrast-proposition, on the other hand, can't (as he says). The same goes for some of Bach's other examples of apparently non-truth-conditional connectives, including *even* and *still*, for which a procedural analysis looks more promising. His example of an utterance with *even* is (37A), which would usually be taken to implicate that there's something unexpected about the fact that Bev likes Jesse Helms. As the awkwardness of (37B) shows, this communicated proposition does not affect the truth of the utterance as a whole:

(37) A: Bev even likes Jesse Helms.
B: ??That's not true, there's nothing surprising about her liking Jesse Helms.
(38) A: Not only is she fond of more likeable Southern politicians, Bev likes Jesse Helms.
B: That's not true. Helms is the only Southern politician Bev likes.

Bach's treatment of this supports the same conclusion. According to him (1999: 349-50), the import of *even* can be paraphrased by the first clause of (38A), and, as he recognizes, only if the proposition indicated by the use of *even* is explicitly stated in this way does its truth become relevant to the truth of the whole utterance, and only then can it be challenged with *That's not true*, even though it's still a secondary proposition. If not spelled out, then it's inappropriate to challenge it, even if you add that it's this proposition you're objecting to. So it doesn't look like these expressions' lack of effect on truth conditions can be explained away along these lines. As shown in the last section, this pattern is exactly what you'd expect if *but* etc. are procedural and the parenthetical expressions like *I think* and *frankly* are conceptual.

How do these tests apply to the non-restrictive relative clauses mentioned above? The embedding test doesn't apply straightforwardly here: applying it to (27) would identify only the primary proposition expressed, i.e. (28a). Since this test generally excludes secondary propositions expressed such as (28b), and second-order speech-act indicators, and also the non-truth-conditional contribution of elements like *but*, it won't help decide whether the contribution of *but* is to a secondary proposition expressed or to an implicature. What about the 'That's not true' test? The disjunct clause **can** be objected to, as long as you specify that it's this proposition that you mean, as with the cases discussed above of *frankly* and *I think*. Moreover, the weighting of the disjunct clause for truth-conditional assessment can vary, according to such factors as the quantity and complexity of the material it contains, and its importance, unexpectedness, and so on, in context, as in (39):

(39) Ann's computer, which is essential to her work, crashes frequently.

As Bach (1999: 346, note 25) says of this example, "the material between the commas is important enough to count toward intuitive assessments of truth or falsity" (see also Carston 2002: 130-131). This is expected on the view that the disjunct expresses a proposition in its own right, as that's precisely the effect that the multiple-proposition framework was proposed to accommodate in the first place. The point with *but*, though, is that the contrast-proposition that it allegedly encodes, or the proposition specifying the particular type of contrast at issue, **never** demonstrates this type of effect on truth-conditional assessment: You can't

felicitously object to it directly, even if you do specify what it is that you're trying to object to, and it never has more weight than the propositions expressed by the clauses it conjoins. If it did, then the sort of case where you'd expect the contribution of *but* to be important enough to affect judgements is where at least one of the two conjuncts is obviously true, and where it's equally obvious that there's no contrast or contradiction between them. In this case, the normal roles would be reversed: one of the conjuncts would be background knowledge, and using *but* to indicate that there's a contrast should mean that the contrast-proposition has sufficient weight to move us to judge the utterance false. (40), where the second conjunct would be a trivial consequence of the first, is such a case, yet we'd still say it's true as long as the two conjuncts are:

(40) It's raining but the grass is wet.

It seems that the *but*-proposition can never have enough salience to affect truth-conditional assessment in the way that non-restrictive relative clauses and other usually backgrounded propositions can. The same goes for *even*, *still*, and so on – a fact that Bach recognizes. This would mean that utterances with *but*, *even* etc. were highly untypical cases of multiple-proposition utterances, not displaying the type of behaviour which the framework was intended to account for. Claiming that they are indeed just special multiple-proposition utterances ignores this behaviour, and would seem to make Bach's position on these expressions unfalsifiable. In contrast, as described in the previous section, the procedural account offers an explanation of why, however the weighting of the various conjuncts and propositions is manipulated, the contribution of these discourse connectives can never be raised to sufficient salience to affect truth-value judgements[10].

Since there isn't any significant correlation between the acceptability of an expression in indirect quotation and its salience for truth-conditional assessment, the divisions Bach draws based on the IQ test do not distinguish any natural classes of expressions that encode the same sort of meaning (describing or indicating, saying or commenting, truth-conditional or not) or affect the same aspect of interpretation (for example, development of logical form into the proposition expressed or explicatures,

[10] Bach (1999: 345, note 24) claims that it **is** possible to dispute the alleged contrast, as long as you make it explicit that it's the contrast you're objecting to: in response to *Shaq is huge but he is agile*, you could say *Shaq is huge and agile all right, but as a seven footer I can assure you that he is not huge BUT agile*. However, the marked intonation indicates that this is metalinguistic negation, used to object to any aspect of linguistic form, propositional content, implicatures, or attributed thought contents. Unlike everything else under discussion so far (propositional content, second order speech acts, secondary propositions expressed), the contribution of *but* can't be objected to using ordinary descriptive negation.

implicature derivation, or highlighting certain contextual assumptions to be used in interpretation). Expressions whose effect seems to be on implicatures are split into those that pass the IQ test, like *but*, *although* (on some uses), *even*, and *still*, and those that fail it, like *moreover*, *although* (on other uses), and *but* (on 'objection' uses), with the latter group being lumped together with clearly conceptual expressions like parenthetical *in contrast* and *frankly*, which encode speech-act information, rather than constraints on implicatures.

It's true, of course, that an utterance of *P but Q* is infelicitous if no contrast holds, but the same could be said of the higher-order speech acts communicated by adverbials like *frankly*, which are clearly not part of the propositional content, and also about conversational implicatures, especially where they carry the main relevance of the utterance, as in (41B):

(41) A: Can anyone post this letter for me? I don't have time.
B: I'll be passing the post box.
C: ??No you can't. You're not tall enough to reach.

B's utterance here is highly infelicitous if, contrary to what she implicates, she can't post A's letter; it is, nevertheless, strictly speaking true as long as she will indeed be passing the post box. What the oddness of C's reply to B shows is that the implicature (*I can post it*) cannot be denied directly, as with the contrast-proposition in the *but*-examples. This behaviour contrasts with that of the secondary propositions expressed in the case of disjunct clauses, and with the second-order speech acts communicated by *frankly* and other utterance modifiers. Saying, as Bach would have to, that the *but*-proposition is presented in a very backgrounded sort of way seems to overlook the fact that the contribution of *but* often **is** the central point of the utterance – especially with denial uses like (1), where the main import lies in the recovery of implicatures (e.g. *Republicans are usually dishonest*; *John isn't like other Republicans*, etc.). As with the implicature in (41) *I can post it*, the contradiction or contrast indicated by *but* can be foregrounded as far as its import for the hearer is concerned. Again, the contribution of *but* does not pattern with anything that is 'said', or explicitly communicated, but instead with uncontroversial examples of implicature.

Another issue here is whether the recovery of a proposition containing the concept CONTRAST is necessary as some intermediate stage in recovering the specific relation, standardly considered an implicature, indicated by *but* (e.g. *Republicans are usually dishonest*, from an utterance of *He's a Republican but he's honest*). In the next section, I'll show that *but* can't encode contrast, which raises the question of just what conceptual representation *but* would map directly onto (as part of Bach's 'what is said'). However, I think such an intermediate contrast-proposition can be

dispensed with altogether. I agree that, if we often recognize that the interpretation of *P but Q* has something to do with contrast, then some proposition like *S1 contrasts with S2* must be capable of being constructed and accepted as true, at least on any roughly contrastive reading of *but*. It must therefore be manifest to at least some degree, and perhaps weakly ostensively communicated. However, being so weakly communicated, it is unlikely in many cases to be represented by the hearer. This makes sense if *but* encodes a procedure: the import of *but* lies in the implicatures that the procedure results in. Even when *but* looks like it's indicating a contrast, it's unnecessary for any proposition including CONTRAST to be represented by the hearer, as expressions that encode procedures can achieve the intended effect without this specific proposition being constructed.

Finally, while classing *but* as a sentence modifier on most of its uses, Bach claims that utterance-initial ('objection') *but* is an utterance modifier, "used to introduce a reason or evidence against something previously asserted", rather than to express a contrast (1999: 358):

(42) (Speaker given whisky)
But I don't drink.
(43) *He said that but he didn't drink.

However, as mentioned in section 2.4, this use of *but* is merely a variant of denial of expectation (see also footnote 17 below). It doesn't pass the IQ test, as (43) shows, but the reason for this is syntactic (only a sentential complement can follow *He said that…*), and nothing to do with whether *but* is performing a saying or commenting function. Counting *but* as truth-conditional when it happens to conjoin two sentences, and as non-truth-conditional when it doesn't, looks like an arbitrary distinction.

To sum up this section, Bach's IQ test doesn't pose any insurmountable obstacles for a procedural analysis on which *but* constrains implicatures, so I'll assume that *but* encodes procedural meaning. Before looking at existing procedural accounts, I'd like to examine another claim of Bach's, and of many other authors (e.g. Grice 1989, Rieber 1997, Fraser 1999), that its basic meaning is contrast.

5 Contrast *but*?

Intuitively, it seems that the incompatibility or exceptional state of affairs highlighted by the denial cases like (1) necessarily involves some sort of contrast. Given that denial of expectation is more complicated than contrast, if you want to reduce one to

the other, it does make more sense to say that contrast is the basic meaning, with the other interpretations derived pragmatically.

However, Blakemore (1987: 134-7, 1989) gives several variations on an argument for why the meaning of *but* can't be contrast. These involve the different interpretations that can be communicated by sentences connected by *and* or *but*, and juxtaposed sentences. Her main point is that, if *but* encodes contrast, it should be acceptable in any utterance where a contrast is being drawn between two things. (44) shows that this isn't always the case, even where a contrast reading is inevitable due to the contrastive stress:

(44) A: What's the capital of Germany now – Bonn or Berlin?
B: It's BERLIN, and not Bonn.
B': ?? It's BERLIN, but not Bonn.

It might be argued that the reason for the unacceptability of *but* here is its redundancy, given that a contrast reading is already present due to the contrastive stress. However, the occasional redundant occurrence of *but* doesn't generally tend to have adverse effects, as is shown by the fact that it can co-occur with expressions like *in contrast*, or *contrary to what you would think*:

(45) He's English, but, contrary to what you'd expect, he's quite a good cook.
(46) John is tall but, in contrast, Bill is short.

Moreover, this 'redundancy' argument can't explain why *but* may be unacceptable in contexts where contrastive connectives such as *whereas* and *in contrast* can appear quite happily:

(47) A: Why did your landlord send round the one-armed plasterer again when the other guy works twice as fast?
B: Because he's half price, whereas/while the other guy charges more to work on a weekend.
B': Because he's half price; the other guy, in contrast/on the other hand, charges more to work on a weekend.
B": ??Because he's half price, but the other guy charges more to work on a weekend.

If *but* means contrast, there would seem to be no reason why, in (47), it can't replace other indicators of contrast. All that they seem to be doing here is emphasizing the contrast in price, and this suggests that in the so-called 'contrast' cases (such as *John*

is English but Bill is Welsh), drawing attention to the contrast is a more indirect effect, rather than contrast being encoded in the meaning of *but*.

This sort of consideration led Blakemore to try the opposite approach: reducing contrast to denial of expectation. In the next section, I'll examine her and Iten's analyses on which the core meaning of *but* is denial.

6 Denying expectations

In this section, I'll look at two existing procedural accounts of *but* – those of Diane Blakemore (1987, 2002) and Corinne Iten (2000), who both attempt to reduce all uses of *but* to denial.

First, a little more needs to be said about the relevance-theoretic framework (Sperber and Wilson 1986/1995; Wilson and Sperber 2004) within which both authors are working. Relevance theory claims that human cognition is geared to the maximization of relevance. An input to cognitive processes is relevant if it achieves a positive cognitive effect, i.e. if the information it carries interacts with information already stored (or available) in the cognitive system to strengthen an existing assumption, to contradict and eliminate an assumption, or to combine with existing assumptions to yield a contextual implication. All else being equal, the more cognitive effects the input has, the more relevant it is. The computation of effects, however, requires effort, and the greater the effort expended, the lower the relevance of the input. Relevance is thus a positive function of effects achieved, and a negative function of effort incurred. In communication, the speaker makes a claim on the hearer's attention, so the hearer is justified in expecting the utterance to be relevant enough to be worth his attention, or, in Sperber and Wilson's terms, 'optimally relevant'. Successful communication is a matter of the hearer recognizing the speaker's communicative intentions, so, to help get their message across, speakers are expected to achieve the greatest cognitive effects, for the smallest processing effort, compatible with their abilities and preferences, and this is built into the definition of optimal relevance. According to Blakemore (1987, 1992), it would make sense for languages to have devices that are linked to the above three ways of achieving relevance, that guide the hearer to the specific cognitive effects the speaker intends. *After all*, for example, encodes the information that the clause it introduces provides evidence for some other assumption (see example (17) above), and Blakemore (1992: 142-3; 2002: 95-6) links it to the cognitive effect of strengthening. In this sort of account, to say that *but* means denial is to say that it encodes a constraint that triggers an inferential route involving contradicting and eliminating an assumption.

Blakemore's (2002) proposal for the constraint encoded by *but* is that the clause it introduces contradicts and eliminates an assumption that is manifest in the context. In (48), for example, the *but*-clause contradicts and eliminates (49), which the speaker assumes is manifest to the hearer on combining the first clause of (48), *It's raining*, with the contextual premise in (50):

(48) It's raining but I'm going out.
(49) The speaker is not going out.
(50) People don't go out when it's raining.

So far so good. Indirect denial, as in (51), proves somewhat more problematic. Here, the *but*-clause doesn't seem to be eliminating an assumption, but just introducing an argument that points in a different direction. In B's reply, the first clause implicates *We can rely on him*; the second implicates *We can't*:

(51) A: Do you think we can rely on him?
B: Well he's honest, but he's a Republican, so I don't know.

If the assumption *We can rely on him* has been eliminated by the time the hearer gets as far as the end of the *but*-clause, then, on hearing *I don't know*, he would have to go back and reprocess B's reply, and it should sound marked. However, according to my intuitions (and those of my informants), there is nothing marked about this utterance, indicating that the cognitive effect here is not one of contradiction and elimination.

From her analysis of some similar examples (2002: 101, 104), I think Blakemore would say that this is a case of contradiction and elimination of the assumption (attributed, possibly mistakenly, to A by B) that there will be a single *yes* or *no* answer to his question, or that the answer is somehow uniform. However, Blakemore's illustration of this, to be discussed below, is unconvincing. Moreover, if we replace *but* with *and*, as in (52), it becomes even clearer that, in (51B), the speaker is still using *but* to establish a contradiction or contrast between the attributes of Republicanism and honesty:

(52) He's honest and he's a Republican, so I don't know[11].

Any assumption that there was going to be a uniform answer would still be denied by an utterance of (52), because of the *I don't know*, but, at least in the absence of

[11] This may sound slightly marked. I don't think it matters for the point I'm making.

marked intonation, the overt suggestion of a contrast between being a Republican and being honest is lost.

Where this account really runs into difficulty is with 'contrast' uses of *but*, as in (53):

(53) John is English but Bill is Welsh.

Contrast, intuitively, seems more straightforward than denial of expectation. And Blakemore's (2002: 101-2) account of these cases is that they simply involve a denial of the expectation that there's no contrast. Her idea seems to be that if you want to indicate that two propositions contrast, you get the hearer to access an assumption that there is **no** contrast, so that this can be contradicted and eliminated, so that he can conclude that there **is** a contrast, so that he can speculate on the contrasting implications of the two propositions. Blakemore therefore has to claim that using *but* to indicate contrast is only appropriate if the hearer is entertaining an expectation that there's no contrast: in (53), the hearer would have to expect that Bill will be English, the same as John. However, Blakemore doesn't explain why the hearer might have been holding any such assumption.

This assumption that there is no contrast would presumably have to be represented by the hearer at some stage, if triggering the cognitive effect of contradiction and elimination is how *but* achieves relevance[12]. But if it was represented, then the hearer would surely be aware of its getting denied, as with the more obvious denial cases (such as *It's raining but I'm going out*); Blakemore's claim is that they all work in the same way. It follows from her account that, if the hearer didn't have any expectations about the similarity, he would need to recover the speaker's assumption that he *did* think there was no contrast, for the utterance to be acceptable. We don't seem to have this awareness, though, that some assumption that the two things are alike is getting denied. It seems to be enough for the hearer to recognize that the speaker is drawing attention to the fact that the two things are different, which may or may not have been manifest to him already. To illustrate this, consider Blakemore's example in (54):

[12] That an assumption is manifest to someone does not entail that it is represented by him; it's just capable of being represented as true, and manifestness is a matter of degree (Sperber and Wilson: 1986/1995: 39). However, it seems that, on Blakemore's account, the particular assumption that is targeted by *but* does have to be strongly manifest to the hearer – i.e. it does have to be mentally represented. This follows from the claim that it's the contradiction and elimination that achieves relevance, and this interpretation of her account finds support in the following passage: "For an utterance to achieve relevance as a contradiction, it must communicate an assumption which is contradictory to **an assumption which the hearer believes to be true**" (2002: 111) [my emphasis].

(54) A: Do all the buses from this stop go to Piccadilly Gardens?
B: The 85 and 86 do, but the 84 and 87 go to Cross Street.

What is eliminated here, she claims, is "the assumption which is underlying A's question, namely, that all buses from the stop are alike in respect of whether they go to Piccadilly Gardens, and hence that there is a single 'yes' or 'no' answer to her question" (2002: 104). I don't know what sort of 'single no' answer might be expected, given the uninformativeness of just answering 'no' here – nor does it seem that any expectation of a 'yes' or 'no' answer would be denied anyway, as B's answer **is** (paraphrased) 'no'. What Blakemore must mean is that just the assumption that all the buses are alike in respect of whether they go to Piccadilly Gardens is what's denied, so the negative answer would then be that none of them do. However, the assumption underlying A's question has to be that at least some of them do. Otherwise she would have asked whether any of them do, not whether all of them do. So it doesn't look like any assumptions that A is making about B's answer are manifestly getting contradicted. But if *but* can only be appropriately used when the procedure it encodes results in the elimination of a manifest assumption, then B's answer in (54) should sound marked. It's fine, though, which is, of course, why Blakemore is trying to accommodate it. One possibility she didn't consider, which I think would be the only remotely plausible way of analysing this as denial, is that the assumption that gets contradicted and eliminated is (55), i.e. that A is just expecting an answer of 'yes':

(55) All the buses go to Piccadilly Gardens

However, this is far too weak to be anything like an 'expectation' of the hearer's, and even if B assumes that A was expecting an answer of 'yes', for the utterance to sound acceptable it wouldn't be necessary for A to recognize that B expects that A expects this. Blakemore would have to agree that it's hardly an assumption that stands out, and whatever's going on here seems quite different from the denial cases (e.g. *It's raining but I'm going out*), where it's immediately obvious what expectation could be denied.

With correction *but,* as in (56), Blakemore (2002: 111-2) claims that the *but*-clause denies (57) – the same assumption already denied by the first clause:

(56) She's not my sister but my mother.
(57) She is my sister

Her argument for this is that the first clause of (56) could have raised an implicit question, such as *So what is she?*, which needs answering to dispel any remaining

doubt before assumption (57) can be said to have been completely killed off. By contradicting and eliminating the same assumption as the first clause, the *but*-clause strengthens the conclusion drawn on the basis of the first clause (*she's not my sister*), simultaneously providing an explanation. However, as the first clause was obviously intended to achieve relevance as a denial, (57) is no longer manifest to the hearer for interpretation of the *but*-clause, so a constraint requiring that a **manifest** assumption be contradicted and eliminated won't be satisfied. A similar problem arises for the counterfactual in (59), where, according to Blakemore, the *but*-clause denies (59):

(58) Tom was meant to be here but his car broke down.
(59) Tom is here.

Even if (59) had been manifest to the hearer, the first clause of (58) implicates its denial. Blakemore's (2002: 113) solution to this is to say that (59) must be treated by the hearer as true in a possible world, so that he can recognise the invalidity of any conclusions drawn on the basis of it in this world. However, the point of this is that in this possible world, the assumption is **not** contradicted and eliminated. Even after the *but*-clause has been processed, the assumption *Tom is here* could still stand in a possible world. The assumption manifest to the hearer in this case could only be something like *Tom's being here is a possibility* (in the logical sense of possibility), and this assumption isn't what gets denied – it's still manifest to the hearer after he's processed the *but*-clause.

Iten (2000: 228) proposes a modification to Blakemore's (1987) account (essentially the same as her 2002 one) that initially seems to provide a solution for at least these correction and counterfactual cases. The requirement that the contradicted and eliminated assumption be **manifest** to the hearer is too strong. Instead, Iten suggests, this assumption need only be **accessible** to him. An assumption is manifest to an individual at a given time if and only if he is capable of representing it mentally at that time and accepting it as true or probably true (Sperber and Wilson 1986/1995: 39); what is meant by 'accessible' is that the individual is merely capable of entertaining the assumption, and not necessarily accepting it as true or probably true. The first clause of (56) had already contradicted and eliminated (57), so this was no longer manifest, just accessible on the basis of hearing the corresponding negative. And the subjunctive in the first clause of (58) makes accessible (59), which is what *but* contradicts and eliminates. This could possibly also apply to the contrast cases: in *John is English but Bill is Welsh*, the first clause makes accessible a schema *X is English*; Bill provides a value for X, so *Bill is English* is accessible, though not necessarily manifest, and gets denied (Iten 2000: 230).

However, there are several problems here. First, how does something that's just accessible get eliminated? For example, in (56), the first clause negates the

assumption *That is my sister*, so has eliminated this from the set of assumptions manifest to the hearer, so downgraded it from manifest to accessible, but I don't know what is meant by 'eliminating' it further. It's still 'accessible' thanks to the corresponding negative, and can only be contradicted, not eliminated. Second, Iten still links *but* to the cognitive effect of contradiction and elimination, but doesn't explain what is added to the interpretation by again contradicting something that has just been denied. Moreover, how could an utterance achieve relevance anyway by contradicting and eliminating something that was only accessible, not manifest? For an utterance to achieve relevance as a contradiction, there must have been a possibility that the hearer would have represented the contradicted assumption as true. So if the relevance of *but*'s contribution lies in the contradiction and elimination of an assumption, then this assumption must be manifest – as on Blakemore's (2002) account – and not just accessible. Finally, Iten would predict that the use of *but* would virtually always be acceptable. In this regard, consider (60):

(60) A: Is tomorrow Tuesday or Wednesday?
B: ??It's Tuesday, but not Wednesday.

Clearly, *but* is not acceptable here but, according to Iten, it should be fine. The *but*-clause contradicts the assumption that tomorrow is Wednesday, and even though this is no longer a possibility given the first clause of B's answer, it's still accessible in the context by virtue of A's question. This should work along the same lines as the correction *but* cases would on her account, where the assumption contradicted by the *but*-segment has just been denied by the preceding clause.

The upshot of all this is that it doesn't look like denial (contradiction and elimination) is encoded by *but* if, following Blakemore (1987: 128), we "reserve the term 'denial' for those utterances in which it is assumed that the speaker has grounds for thinking that the optimally relevant interpretation yields a proposition inconsistent with an assumption held by the hearer." This only really works for the obvious denial of expectation use of *but*; in many, perhaps most, other cases, there is no plausible candidate for being contradicted and eliminated. With 'contrast *but*', in particular, it's difficult to identify the exact assumption in question. Furthermore, I'd question the idea of a straightforward link between these connectives and cognitive effects.

Blakemore tries to fit many procedural discourse connectives into three categories, corresponding to relevance theory's three cognitive effects (1992: 137-142)[13]. *After*

[13] She does point out that some of them are obviously not linked to any particular cognitive effect: *too*, for example, indicates that the segment it belongs to is to be processed in a similar way to another assumption, yielding similar cognitive effects, of whatever variety, to those derived from

all and *indeed* are linked to strengthening; *but* and *however* to contradiction and elimination, and *so*, *hence*, and *thus* to contextual implication. This way of thinking about connectives can look quite intuitively appealing, largely because it's a neat way of categorizing them. These cognitive effects, however, are ends in themselves: an instance of contradiction and elimination achieves relevance **in that** an existing (manifest) assumption is contradicted and eliminated – not by providing a route to some other cognitive effect. In (1), contradicting and eliminating *He's dishonest* doesn't in itself achieve relevance. The point of *but* is to contradict an assumption as a means to deriving further cognitive effects, which may be of any of the three kinds (strengthening, in the case of correction *but* on Blakemore's 2002 analysis), and the main relevance, even in denial uses, lies not in the contradiction and elimination of this assumption, but in getting the hearer to entertain the implicated premise and the fact that the state of affairs introduced by the *but*-clause is an exception – from which the cognitive effects of the utterance follow. So if there's any link between certain cognitive effects and connectives, it has to be more accidental and indirect than is suggested by an attempt at this kind of categorization.

Once the idea that *but* encodes the cognitive effect of contradiction and elimination is dropped, there's no requirement that what is targeted by the *but*-constraint has to be a particular assumption. The contrast, and other, cases, would be better accommodated by an account on which *but* targets the inferential process itself, rather than any identifiable conclusion of this inference, and this is what I'll try to develop in the next section.

7 Diversion *but*

Neither a contrast nor a denial of expectation analysis of *but* is looking appealing by now. The fact that *but* is not always interchangeable with other indicators of contrast, as shown in section 5, supports Blakemore's conclusion that there are no pure contrast uses; however denial of expectation, if analysed as contradiction and elimination of a manifest assumption, is far too strong.

What *but* is doing in the obvious denial cases is indicating that the hearer is not to draw a conclusion that he could be expected to draw (e.g. from *It's raining* to *I'm not going out*). The more contrast-like cases, among others, show that it can't necessarily be an inference that the hearer was **expected** to make that is getting cut off by the

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this other assumption (1992: 142-3). Later (2000: 479, 2002: 96-7), she also shows that it's too crude a division, which doesn't account for the differences between e.g. *but*, *nevertheless*, and *however*, all of which seem to often have something to do with contradiction and elimination. So I don't know how committed she is to the claim that connectives directly encode cognitive effects. However, she still seems to regard it as a useful way of broadly categorizing them.

but-clause; however, it does seem that there has to be an at least **potential** inferential route that is cut off for the use of *but* to be acceptable. Going back to Blakemore's (2002: 104) example, for which denial of expectation isn't plausible, compare the different answers in (61):

(61) A: Do all the buses from this stop go to Piccadilly Gardens?
B: The 85 and 86 do, but the 84 and 87 go to Cross Street.
B': ??Only the 85 and 86 do, but the 84 and 87 go to Cross Street[14].
B'': Only the 85 and 86 do. The 84 and 87 go to Cross Street.

In (61B), after the first clause, there is nothing to stop the speaker continuing with something like …*and so do the 84 and the 87*…. While highly unlikely to be an expectation of the hearer's, it is one possible route that is left open after the first clause. So the use of *but* is acceptable, as the hearer is being diverted from a potential conclusion. In (61B'), however, this possibility has been excluded by the use of *only*, and accordingly, *but* can't be used.

Further support for this comes from the following pair of examples (due to Deirdre Wilson). Where the second clause is introducing not something that cuts off a previously available route, but only something that had to be true given the previous clause, *but* is unacceptable, as in (62B):

(62) A: Is tomorrow Tuesday or Wednesday?
B: ??It's Tuesday, but not Wednesday.
B': It's Tuesday, (and) not Wednesday.
(63) A: Are we meeting on Tuesday or Wednesday?
B: We're meeting on Tuesday, but not on Wednesday.

In (63), it's perfectly conceivable that A and B could be meeting on both Tuesday and Wednesday, so after the first clause of B's reply, there's nothing to exclude B continuing with … *and on Wednesday*[15]. So this is what the hearer could be diverted away from by the use of *but*. In (62), on the other hand, having just asserted that tomorrow is Tuesday, there's no possibility that B will go on to claim that it's also

[14] Thanks to Nick Allott for suggesting this.

[15] Of course, if A's question is uttered with exclusive-*or* intonation, and/or there's a presumption that they're only meeting on one of the days in question, then (63) would work like (62): there's nothing that the second clause is cutting off, so *but* would be unacceptable. Also, (61B') would be fine in certain contexts: if, for example, Cross Street is on the hearer's route, so that the potential inference from *Only the 85 and 86 do* to e.g. *Those are the only buses I can take* is unfounded: as long as there is some potential inference getting undercut, the use of *but* is acceptable.

Wednesday. In adding that it's not Wednesday, there's no alternative route from which she could be diverting A, so she can't use *but*.

So, for the use of *but* to be acceptable, what follows has to be undermining a conclusion that the hearer could have drawn. By indicating that this potential inference is getting cut off by what follows, *but* may save the hearer effort in reaching the intended interpretation of the clause it introduces. The context provides some evidence compatible with a certain inference; an aspect of the interpretation of the *but*-segment contradicts the result of this inference, had it gone through, so *but* signals that the speaker doesn't want the hearer to draw some potential conclusion. My suggestion for the constraint encoded by *but* is, then: suspend an inference that would result in a contradiction with what follows[16].

The varying status of the conclusion(s) that the speaker wants to cut off with the *but*-clause – from actual expectations of the hearer, through to potential conclusions that, in the contrast-type cases, are not necessarily ever represented by him (see discussion of examples (53) and (54) in the last section) – can be accounted for in terms of their degrees of manifestness. According to Sperber and Wilson's (1986/95: 39) definition of manifestness, for an assumption to be manifest does not necessarily mean that it is mentally represented – just that it's **capable** of being represented (and accepted as true or probably true). If it's strongly manifest that the *but*-clause leads to a conclusion contradictory to those that the hearer could have been expected to draw, or that the hearer can recognise the speaker thought he might have drawn based on the previous conjunct or the context, then the interpretation is more on the denial-of-expectation side. If it's not manifest that this was expected, then you get what looks like a contrast reading. I'll now work through some examples to explain this.

Direct denial of expectation works straightforwardly:

(64) It's raining but I'm going out

But indicates that the first clause can be interpreted as giving rise to an inference that the speaker wants to cut off – in this case, an inference leading to the conclusion that the speaker is not going out. In (64), the first clause could indeed have given rise to the assumption that is getting denied, but in (65), it is unlikely that the hearer would ever have entertained this assumption without the use of *but*:

(65) John is a Republican but he's honest.

[16] This is the same as the constraint proposed by Iten for *although*, 'Suspend an inference from what follows (*P*) which results in an unresolvable contradiction' (2000: 259), except that *although* introduces *P*, and *but* introduces *Q*. There are, however, some differences in interpretation depending on whether *but* or *although* is used; I'll come back to this at the end.

According to this account, the hearer doesn't need to recognise/represent what is being denied for the use of *but* to be acceptable. In which case, there might seem to be no reason why the hearer would need to recover the denied assumption in interpreting (65). Pre-empting somewhat, the point is that in the cases to which this applies (the contrast and counterfactual examples to be discussed below), there is at least a **potential** conclusion that is undermined as incompatible with the *but*-clause, and since this would comply with the *but*-constraint, processing can simply proceed smoothly in those cases without the hearer needing to access a conclusion that would be contradicted. In (65), where there is absolutely no incompatibility in principle between Republicanism and honesty, the hearer is forced to make more effort and entertain an (attributed) assumption that they are incompatible, hence the marked feel of this sort of example.

For indirect denial (say if (65) is a reply to a question like *Can we trust him?*), this account has an advantage over the contradiction and elimination one. The implication of the second clause (*We can trust him*) doesn't seem like it's completely replacing that of the first (*We can't trust him*); it just has more weight, and this is all that follows from the constraint I'm proposing. Objection *but* is just a variation on denial of expectation, and works as described in section 2.4[17].

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[17] To forestall any protest about this reduction of objection to denial (Bach 1999, for one, wouldn't agree), I'll explain the difference between the interpretations of the *but*-clause in the following examples:

i. John is a Republican but he's honest.
ii. A: John is a Republican.
B: But he's honest.

As Bach says, in (ii), B's answer is "not expressing a contrast of the sort expressed in [(i)] but rather … objecting to the claim just made" (1999: 358) In (i), on a direct denial reading, what is being denied by the *but*-clause is an implicature that could have been derived from *John is a Republican*. In (ii), it's *John is a Republican* itself that is getting indirectly contradicted by the *but*-clause (unless B is understood as continuing A's utterance) – a reading that is unavailable for (i).

Blakemore's (2002: 117-122) analysis of *however* and her comparison of it with *but* is the key to an explanation for this in relevance-theoretic terms. She analyses both as encoding denial, and *however* as additionally encoding a constraint on context. To use *however*, the speaker must be accepting the presumption of relevance communicated by the utterance an aspect of whose interpretation the *however*-clause contradicts; no such acceptance is required for the use of *but*. So *but* is acceptable in (ii) above, but *however* wouldn't be, on the objection reading. When the two clauses are uttered by the same speaker, as in (i), she's obviously not rejecting the guarantee of relevance of the first clause that she herself has given by virtue of uttering that clause, so the objection reading is excluded. In (ii), however, the first clause is uttered by a different speaker, so there's no problem with B rejecting A's guarantee of relevance, and contradicting the propositional content of A's utterance.

Possibly the most difficult interpretation to explain on this account is contrast *but*. In (66), A doesn't seem to have any expectations about the answer:

(66) A: Do John and Bill live in the same town?
B: No, John lives in Amsterdam and Bill lives in Rotterdam.
B': No, John lives in Amsterdam but Bill lives in Rotterdam. (Foolen 1991)

And and *but* are equally acceptable, and the *but* in (66B') doesn't seem to be particularly emphasizing the fact that there's a contrast. Although an assumption that they might be alike could be thought by B to underlie A's question (as could an assumption that they might be different), A doesn't appear to be anticipating any particular one of these answers. What might be going on is that B might think it possible that the hearer, A, will recognize from B's use of *but* that *B* thinks there is something unexpected about Bill living in a different place to John, rather than just attributing this to A. A possible objection here is that the contrast uses start to look quite complicated, involving multiply-embedded metarepresentations (the hearer would have to recognize that the speaker is attributing to him an expectation that they would live in the same place, or the recognition that the speaker would have expected them to live in the same place, or whatever), compared to the denial of expectation examples, when, intuitively, they're simpler. This can be explained using the notion of varying degrees of manifestness, plus our highly-developed capacity for metarepresentation.

Sperber (1994) argues that most adult communication involves manipulating multi-layered metarepresentations, and that we are so proficient at it that even complex cases like these uses of *but* could be processed without us being conscious of the complexity. For example, although recognizing a speaker's communicative intention involves being capable of representing something along the lines of *She intends me to believe that she intends me to believe that p*, hearers don't generally need to actually represent this in order for communication to succeed[18]. Procedural expressions, like *but*, can have their effect without the hearer being aware of what's going on, so any background assumptions that were manifest to the hearer to any degree (and not necessarily accessed) as possible inferences would be candidates for getting undercut, and so would satisfy the constraint without the hearer needing to represent them. This captures our intuitions about what happens in the contrast use, where *but* can look like it's being used just to draw attention to the fact that two

[18] According to Sperber and Wilson's relevance theory, overt communication involves both an informative and a communicative intention. For communication to succeed, the informative intention (that the speaker intends the hearer to believe that *p*) must be recognized (but does not have to be fulfilled), while the communicative intention has to be fulfilled but does not have to be recognized.

things are different, without any concern for what the hearer might otherwise have concluded: It's difficult to identify where the potential contradiction might lie, and *but* can be perfectly acceptable without the hearer needing to recognize what particular conclusions he is being diverted from. Interpreting denial *but*, on the other hand, does involve much more awareness of what assumptions are being denied, just because they are more manifest in the context, so representing and manipulating them requires more effort, and that's why it seems more complex.

Since I'm claiming that the notion of 'expectation' is too strong, the inference that's cut off may be just one of two or more that were equally susceptible to being drawn by the hearer, so there's no obvious point in cutting off one rather than another. Rather than being a problem, this seems to me to fit in well with Blakemore's original motivation of the conceptual-procedural distinction (illustrated in section 3, example (16)): that you'd expect expressions that just guide the hearer towards the appropriate interpretation, which he might well have got in the absence of any such help. Where *but* looks interchangeable with *and* or a full-stop is where more or less the same reading – roughly, contrast – is available without *but*, so *but* is just doing no more than *then* and *after all* in (17): ensuring the right interpretation, which would probably not have been difficult to recover anyway. It's in the other uses, where the intended interpretation wouldn't have been available without it, that *but* is really needed to divert the hearer away from some other interpretation of the second clause (for example, as an explanation for the first, which seems like the prevailing reading with juxtaposed sentences no matter how incompatible with background assumptions, as in *It's raining. I'm going out*).

Counterfactuals like (67) posed a problem for the contradiction and elimination analysis:

(67) Tom was meant to be here but his car broke down.

Rather than contradicting and eliminating *Tom is here*, and possible-worlds scenarios that might have followed if he'd turned up, I'd suggest that, as in the contrast cases discussed above, the *but*-clause is again targeting just weakly manifest assumptions. It's hard to see what specific assumption would be getting contradicted, and this suggests that the function of the *but*-clause here is to replace, or cut off, any set of inferences that could have been tentatively drawn based on an assumption that Tom *would* be here. These (or any one of these) weakly manifest assumptions would satisfy the constraint encoded by *but*, and it's possible that some of them might be mentally represented by the hearer. It looks like there's a continuum of cases between obvious denial of expectation, at one end, and what can pass for contrast uses of *but*, at the other, and that these counterfactual cases would probably fall

nearer the contrast end, depending on how manifest the assumptions or inferences that are targeted by the *but*-clause are to the hearer.

Correction *but*, as in (68), looks difficult for any account, especially when compared to (69) where, without the conjunction reduction, you get a denial of expectation reading:

(68) She's not my sister but my mother
(69) She's not my sister but she is my mother

The first clause of (69) could be interpreted as implicating *She's not related, you were wrong*; the *but*-clause then gives *She is related – you weren't entirely on the wrong track*. This reading is impossible with (68): the *but*-clause isn't denying anything communicated by the first clause. The relation instead seems to be between the *but*-clause and the assumption (*She is my sister*) already negated by the first clause: nothing else could be getting cut off other than inferences from this same assumption.

To preserve a unitary analysis, an explanation (which won't be supplied here) is going to have to say that there is something about the *not X but Y* construction that allows this. Blakemore (2002: 112) suggests that a solution lies in the formal properties of the sentence, and I'll just mention some evidence that this sort of approach might be right. She points out that the conjunction reduction exploits the parallelism between the two conjuncts (i.e. their shared linguistic material), so encourages a reading on which both segments are, at least in some respect, doing the same thing; the fact that the *but*-clause functions as an explanation/correction strengthens the point made in the first clause. Also interesting is the fact that *but* contributes nothing to the interpretation of (68) – compare (70):

(70) She's not my sister; she's my mother

Eliminating *but* doesn't affect interpretation at all, and this could suggest that its function here is no more than to allow the introduction of material that emphasizes an interpretation available already on the basis of the first clause. *But*'s usual job – cutting off potential inferences – has been taken over by the first clause; the least-effort interpretation of the *but*-segment is just to back this up. With or without *but*, the second clause replaces the denied assumption, so can be seen as encouraging the hearer to process *She's my mother* in the same context as he had been processing the now-eliminated *She's my sister*, and run the same sort of inferences on this new assumption, replacing any previous conclusions he might have drawn. Also, correction-*but* examples like (68) seem metalinguistic in a way that denial cases like

(69) aren't; what gives the correction reading is likely to be the combination of this metalinguistic negation with *but*, plus the conjunction reduction.

Finally, a brief note on *but* versus *although*, and *though*. Iten (2000: 232-237) compares the first two, and shows that some of the differences can easily be explained away: for example, there's no 'objection' *although* because *although* introduces what would be objected to, which is absent in the objection uses, or not uttered by the speaker making the objection. Iten notes that *although* can replace *but* in the latter's direct or indirect denial uses, and also in contrast uses. In certain cases, though, there **are** some clear differences in interpretation depending on which is used. For example, (71) can seem like it's communicating simple contrast; replace *but* with *although*, as in (72), or *though*, as in (73), and the interpretation is much more obviously denial of expectation:

(71) John is tall but Bill is short.
(72) Although John is tall, Bill is short/Bill is short, although John is tall.
(73) John is tall. Bill is short, though.

Also, I guess (74) was moderately amusing in 1971. (75) would have been too; (76) is much less so:

(74) John is a Republican but he's honest.
(75) John is a Republican. He's honest, though.
(76) Although John is a Republican, he's honest/John is honest, although he's a Republican.

As already mentioned in passing (footnote 16), the suggestion is that *although* encodes the same constraint as *but* (but reversed). I'd also suggest that *though* encodes the same constraint (but not reversed). In that case, these differences had better turn out to follow from the syntax of the three expressions.

According to Iten (2000: 259), a side effect of the hearer's being warned that something should be avoided is that what he is being warned of becomes more manifest to him. It's true that, with *although*, it's obvious just what inference is getting cut off, and the hearer would recognize and mentally represent the conclusion that might have been drawn. However, I don't think this follows from the encoded constraint, and there are other factors that could explain why *although* and *though* work differently from *but* in this respect.

First, there's the fact that *although* introduces the clause an aspect of whose interpretation gets denied, while *but* and *though* are attached to the clause that does the denying. In the first set of examples above, when the *although*-clause is preposed (so the utterance has the form *Although P, Q*), the hearer is warned in advance that

some inference he might draw from *P* is to be suspended, so he is likely to immediately start forming hypotheses about which conclusion it is that the speaker doesn't want him to draw. When it isn't preposed (*Q, although P*), the hearer has to go back and reinterpret the first clause as cutting off a potential inference from the *although*-clause. Either way seems less straightforward, and thus more effortful, requiring more conscious awareness of the inferences being performed, than the simplest processing route available in contrast uses of *but*, so the inference being targeted by *although* will be mentally represented by the hearer[19]. As for the difference between (71) and (73), the even more afterthought-like nature of *though* compared to *but*, with it generally coming later in the second clause, means that the hearer only gets prompted later to interpret the second clause as cutting off a potential conclusion (as opposed to interpreting it like that from the start with *but*). This backtracking and reprocessing of the second clause is what makes the conclusion that's cut off become more salient, which is what gives the denial reading.

That *although* is a subordinating conjunction while *but* and *though* coordinate the two clauses is also likely to be significant. In the second set of data above, *but* and *though* present the two clauses as equally important, with the 'contradiction' between them giving rise to the humour. The clause introduced by *although* is presented more as a background assumption and a fact already known – a function at least in part of the grammatical subordination. By downplaying the importance of this, the punch line (about his honesty) is less surprising and effective in light of that assumption than if it is more foregrounded, as when the two clauses are coordinated. The *although P* versus *but Q/Q, though* difference might also play some role here: when *although* is preposed in (76), the *he's honest* clause involves more advance planning than with *but* and *though*; these are both more of an afterthought, which probably contributes to the humorous effect.

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[19] The difference in acceptability between (i) and (ii) falls out nicely from this account. It was noted by R. Lakoff (1971: 137), but no satisfactory explanation of it has so far been given:

i. He would be a doctor today but he failed chemistry.
ii. ??Although he would be a doctor today, he failed chemistry/??He failed chemistry, although he would be a doctor today.

As argued above, it seems that the fact that *although* introduces *P* leads to the hearer mentally representing a specific conclusion that is undermined by *Q*. As Iten (2000: 267) points out in her discussion of this example, this conclusion could only be an inference from the implausible (iii):

iii. If someone would be a doctor today, he didn't fail chemistry.

That explains the unacceptability of *although*. On my above account of such counterfactual uses of *but*, what is cut off or undermined need not be any one inference, but rather a range of tentative inferences to conclusions that are only weakly manifest, e.g. conclusions based on an assumption that he *would* be, or could have become, a doctor, and which probably remain unrepresented.

8 Conclusion

This paper set out to give a unitary account of the meaning of *but*, on which it encodes a procedural constraint on implicatures that reduces the hearer's effort in recovering the intended interpretation of the clause it introduces. The idea that discourse connectives directly encode types of cognitive effects has led to analyses of *but* as triggering an inferential route that results in the contradiction and elimination of an assumption. I hope to have undermined the appeal of this, partly by questioning the idea that there is any such link with cognitive effects, and partly by demonstrating that it just can't work for *but.* The problems with such accounts are the difficulty in many cases of finding an assumption that could plausibly be said to be manifestly contradicted and eliminated, and the question of whether this is how utterances with *but* achieve relevance anyway. Instead, I've tried to develop an account on which *but* encodes a procedure that involves suspending an inference that would lead to a contradiction if it went through. The various interpretations that utterances containing *but* can be given depend on the degrees of manifestness of contextual assumptions, ranging from unrepresented and weakly manifest, through to full-fledged expectations of the hearer. Though I've shown how the account works for the main uses of *but* that have been discussed in the literature, it's far from complete: correction *but*, in particular, needs some more thought, as do the often subtly different interpretations of utterances containing *but* and similar expressions such as *although*. Also not really addressed so far are questions about how these procedures or constraints actually work – how they activate certain kinds of inference, and how such procedural information is represented in the lexicon.

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