*UCL Working Papers in Linguistics* 9 (1997)

# Because *and* although*: a case of duality?*[*]

CORINNE ITEN

**Abstract**

König (1989) argues that there is a relation of duality between concessive and causal constructions. Therefore, he maintains, any account of the meaning of causal connectives like *because*, via duality, also provides an account of the meaning of concessive connectives such as *although*. This paper lists a number of problems with König's account. Appealing to notions central to relevance theory, it will be argued that context plays an important role in determining the propositions expressed by utterances of causal and concessive sentences. Because of this context-dependence there cannot be said to be a semantic relation of duality between *because* and *although*.

## 1 Introduction

In his bid to give an account of the meaning of concessive connectives, such as *although*, Ekkehard König explores the relationship between concessivity and causality. Among others, König cites Hermodsson (1978), who suggests that 'concessive' is a misleading term and that 'incausal' would be far more appropriate an expression to use, since concessives seem to be the opposite of causal constructions (Hermodsson 1978:59). König, however, does not go along with this view. He maintains that, rather than a relation of OPPOSITENESS, a relation of DUALITY holds between concessive connectives and causal adverbials. The most important conclusion König draws from this is that an account of the meaning of causal adverbials, via duality, automatically leads to an account of the meaning of concessives.

In this paper I shall first give a summary of König's duality account. In the third section I shall look critically at this account and in the final section I shall attempt to provide an alternative account for the data König presents by looking at it from a cognitive,

[*]I would like to thank Robyn Carston for her constructive criticism, moral support, many helpful suggestions and enjoyable discussions. Obviously, any mistakes are my own.

Relevance Theoretic perspective.

## 2 König's account of causal and concessive connectives

### 2.1 Duality

According to Sebastian Löbner (1987), there is a relation of duality between two quantifiers, $Q_1$ and $Q_2$, iff $Q_1(P) \equiv \neg Q_2(\neg P)$. That is, the dual of a quantifier Q is the external negation of its internal negation. If all the possibilities of external and internal negation of Q(P) are explored, the result is a so-called 'duality square' (e.g. Löbner 1987:54). The duality square for the general quantification Q(P) is given in Figure 1 below.

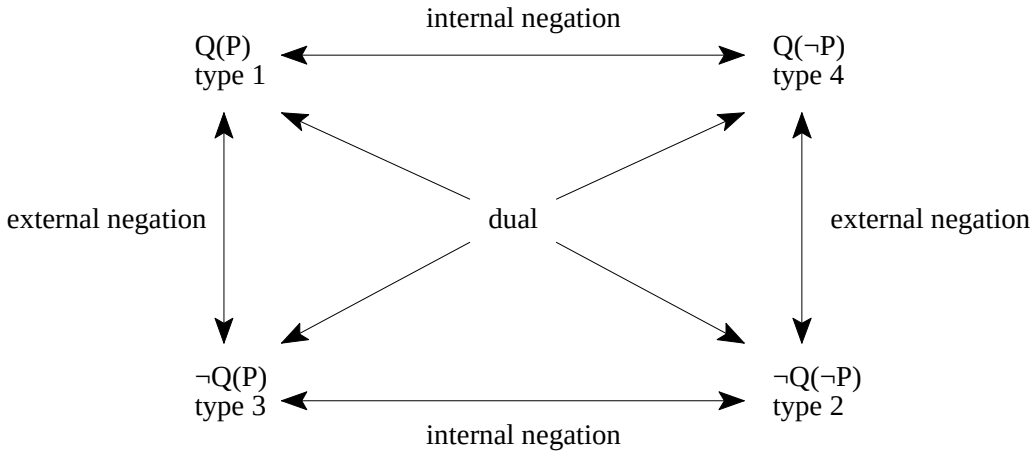


**Figure 1**

Löbner classifies formulas of the form Q(P) as type 1, ¬Q(¬P) as type 2, ¬Q(P) as type 3, and Q(¬P) as type 4. He notes that not all four types are always lexicalised. Thus types 1 and 2 seem to be lexicalised always, type 3 sometimes and type 4 only very rarely (Löbner 1987:62-3).

An example is probably necessary to make it quite clear what this means. Löbner holds with Barwise and Cooper (1981) that NPs such as *some men* are natural language

quantifiers[1] which quantify over predicates such as *like fish*. Thus, if Q(P) is something like (1), ¬Q(¬P) would be something like (2) which is obviously equivalent to (3). It can, therefore, be said that there is a relation of duality between *some men* and *all men*.

(1) Some men like fish.

(2) Not (some men don't like fish).

(3) All men like fish.

The duality square for *all men*, *some men*, etc. is given in Figure 2.

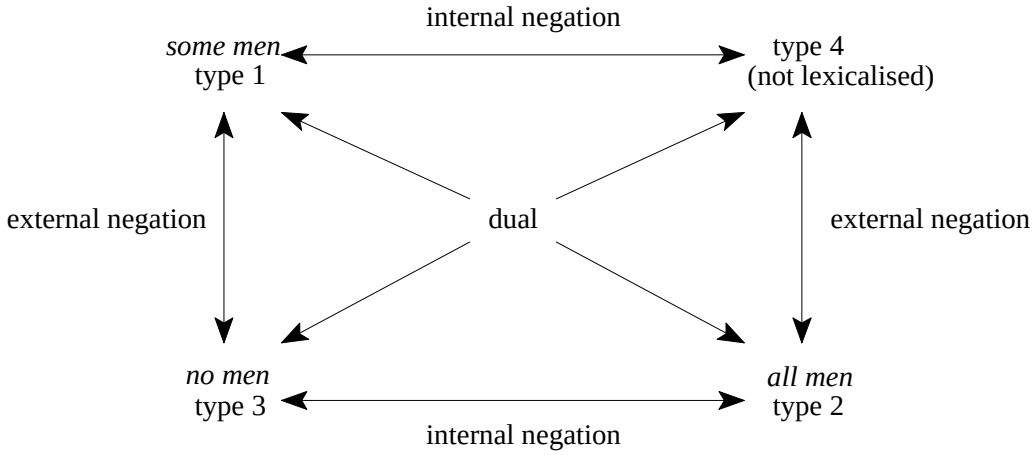


**Figure 2**

According to Löbner (1990), duality holds between a variety of linguistic elements, many of which have not traditionally been treated as quantifiers. König (1989:197) gives the list in (4).

[1]Note that the whole NP is the qunatifier and that *some*, which may look like a quantfier, is just a determiner.

| | | | | | |
|---|---|---|---|---|---|
| (4) | a. | some, | all, | no, | — |
| | b. | sometimes, | always, | never, | — |
| | c. | also, | only, | —, | — |
| | d. | or, | and, | neither...nor | — |
| | e. | possible, | necessary, | impossible, | unnecessary |
| | f. | can, | must, | —, | — |
| | g. | let, | force, | prevent, | — |

König (1989)'s claim is that just as *all men* is the dual of *some men*, *although* is the dual of *because*. In other words, he claims that (5) is equivalent to (6).

(5) ¬(Because P, ¬Q)

(6) Although P, Q

Figure 3 gives the duality square for *because* and *although*. Note that in this case only type 1 and type 2 are lexicalised. It should also be noted that, here, internal negation applies to Q only while, in the case of 'P and Q', for example, internal negation involves the separate negation of both conjuncts. Thus, 'P or Q' ≡ '¬(¬P and ¬Q). Presumably this is due to the fact that 'Because P, Q' involves subordination, while 'P and Q' involves co-ordination. Internal negation in the case of subordination applies to the main clause (i.e. Q) only.

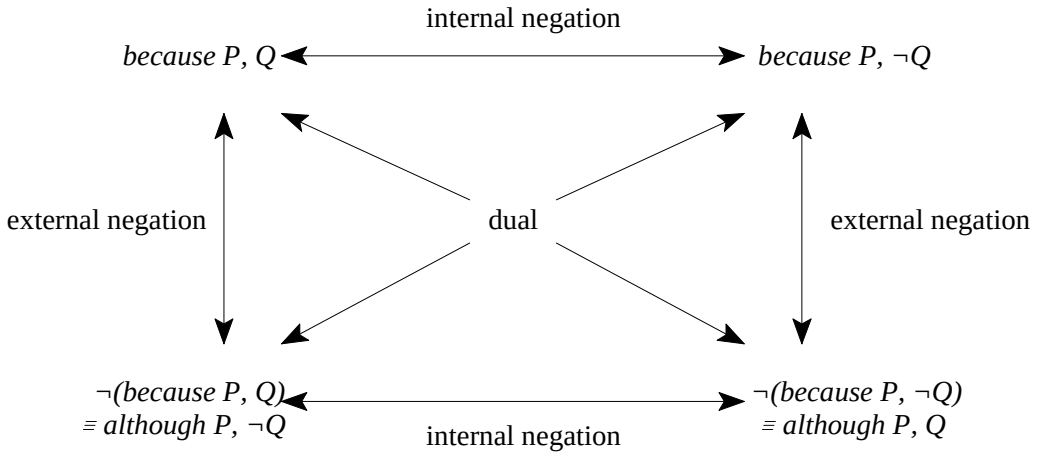


**Figure 3**

As König himself admits (1989:199), it is extremely difficult to find examples where negation clearly takes wide scope over *because*. König's standard example is repeated here as (7). However, as I shall argue in section 4.2, the negation in (7a) does not and cannot take wide scope over *because.* I shall, therefore, use (8a) and (b), where the negation can take wide scope, to discuss König's claims.

(7) a. This house is no less comfortable because it dispenses with air- conditioning.
b. This house is no less comfortable, although it dispenses with air-conditioning (König 1989:196).

(8) a. This house isn't less comfortable because it dispenses with air-conditioning.
b. This house isn't less comfortable, although it dispenses with air-conditioning.

It is König's claim that (7a) and (b) are 'equivalent in meaning' (1989:196). Unfortunately, he does not specify what exactly he means by this. Does it mean that they are semantically equivalent (i.e. that they encode the same logical form)? Does it mean that they express the same proposition? Or does it mean that they have the same overall interpretation?

Unfortunately, König does not make any of the above distinctions. I can only guess that he would probably make a distinction between the overall interpretation of an utterance of a sentence and the proposition expressed by it. On the other hand, it seems fair to assume that he would not distinguish between what is encoded by the constituent words of a sentence and the proposition expressed by an utterance of it. Therefore, he would probably want to say that (7a) and (b) ENCODE the same proposition. However, the distinction between what is encoded and the proposition expressed is important. As has been shown, for example, by Sperber and Wilson (1986:179, 188-9) and Carston (1996a:61), the proposition expressed by an utterance is not determined solely and exhaustively by the semantics of its constituent words plus reference assignment and disambiguation. What the words encode has to be completed, enriched or loosened according to the context in which a sentence has been uttered. This process of completion is governed by pragmatic principles.

Clearly, what (7a) and (b) ENCODE is not the same. In natural language the scope of

negation is encoded only very rarely[2]. According to Atlas (1989), the natural language negation operator *not* is sense-non-specific for scope[3]. In other words, sentences like (8a) and (b) encode the same underdetermined form. The only difference between them is that the former contains *because* where the latter contains *although*. Obviously, these two words do not encode the same meaning.

On the other hand, it seems unlikely that König is referring to the overall interpretation of (7a) and (b) since that would be moving too far away from the realm of semantics, where the notion of duality surely belongs. Therefore, the only reasonable assumption is that, by saying that (7a) and (b) are 'equivalent in meaning', König means that they express the same proposition or, in other words, that they have the same truth-conditions. Since these truth-conditions are to a great extent determined by the context in which a sentence has been uttered, it is unfortunate that König does not take the influence of context into consideration. Section 4.1 will deal with this in more detail. For the time being, let us assume that there really is a relation of duality between concessives and causal adverbials at the level of the proposition expressed.

König (1989) draws two conclusions from this. The first is that, since the two kinds of adverbials are linked by duality, any account of the meaning of causal adverbials should also yield an account of the meaning of concessives. The fundamental problem with this conclusion is that the one thing everyone seems to agree on with regard to concessive connectives is that they do not contribute to the truth-conditions of any sentence containing them (see e.g. König 1989:196, Sidiropoulou 1992:202, Winter & Rimon 1994:367). Thus, 'Although P, Q' is true iff P is true and Q is true. Any account of the meaning of causal adverbials, on the other hand, would surely have to include the fact that causal connectives standardly do contribute to truth-conditions[4]. 'Because P, Q' is true iff P is true, Q is true, and P causes Q. In other words, an account of the meaning of causal connectives cannot lead directly to an account of the meaning of concessive connectives.

König's second conclusion is based on Löbner's statement that any elements that stand in a relation of duality to each other must be quantifiers. Concessives and causal

---

[2]In fact, I believe that *no less* is a case where the scope of the negation is encoded. If it is, it is narrow-scope in both (7a) and (b) and the only difference between (7a) and (b) is in the connective used. My argument is still valid.

[3]More of this in §3.2.

[4]This question will be dealt with in more detail in section 3.3.

adverbials are duals of each other, therefore, König maintains, the best way of accounting for their meaning must be to treat them as quantifiers. The problem with this is that, at least in his 1989 paper, König does not actually provide such an account. Furthermore, I cannot imagine what such an account of concessives and causal adverbials could look like. Quantifiers, as the name suggests, quantify over entities in a domain. It is not clear to me what kind of entities *because* or *although* would quantify over or, indeed, in what domain they would operate[5].

## 2.2 König's problems

Apart from the problems with his main conclusions, which I have just pointed out, there are three problems, which König himself (1989:205-6) recognises. The first of these is that, according to König, the duality account only seems to work in cases where there is an underlying causal connection between the states of affairs in question. His example of a case where '¬(because P, ¬Q)' ≠ 'although P, Q', because there is no generally acknowledged underlying causal connection between P and Q (or ¬Q), is repeated here as (9).

(9) a. Not (I hit him because I did not like his face)
b. Although I did not like his face, I did not hit him.
(König 1989:205)
a.' I did not hit him because I did not like his face.

Obviously, (9a) is not a natural language sentence. Presumably, König uses this notation rather than the more natural (9a') to make clear the scope of the negation.

The problem with this point is that, even in cases where there is a clear underlying causal connection between the two states of affairs in question, König's duality account does not work (see example (19) in 3.2). What is more, in my opinion, (10a) is as much equivalent to (10b) as (7a) is to (7b), and here the causal connection between the two clauses is undoubtedly of a private nature. I believe that this shows that these examples, which involve comparatives, are exceptional.

[5]Admittedly, this is true of a number of items listed in (4) too.

(10) a. Peter is no less wonderful because he's rich.
b. Peter is no less wonderful although he's rich.

The second problem König lists is that, if *because* and *although* are duals '¬(although P, ¬Q)' should be equivalent to 'because P, Q'. However, as König (1989:205) mentions, negation cannot take scope over concessive connectives and, therefore, '¬(although P, ¬Q)' cannot be formed. Consequently, there is no way of checking whether '¬(although P, ¬Q) ≡ because P, Q'. It seems to me that this fact also has some more important implications. König does not discuss WHY negation cannot take scope over *although*. Quite conceivably this is due to the fact that *although* is not truth-conditional. Whatever exactly the reason, this seems to be another indication that *because* and *although* are different types of connectives and that an account of the meaning of one cannot possibly directly lead to an account of the meaning of the other.

König's third problem is that an account of concessives as the dual of causal adverbials only applies to one kind of concessives. It does not, for example, apply to what is often called 'rectifying' or 'argumentative' concessives. Unfortunately, he does not give an example of this 'rectifying' or 'argumentative' kind of concessive. I can only guess that, what König means by 'argumentative' concessives here, corresponds to what he called 'adversatives' in König (1985). The fact that this seems to be roughly the same as what Moeschler (1989:47) calls argumentative concessives confirms this. According to König (1985:6), concessives of the form 'although P, Q' carry the implicature 'if P then ¬Q'. 'Adversatives' of the same form, on the other hand, carry the implicature 'if P then R; if Q then ¬R'. While (7b) is an example of concessiveness, (11) is an example of 'adversativeness'.

(11) [The rooms in this house are very small]$_{Q}$ although [it does have air-conditioning]$_{P}$.

Here, R could be something like 'the house is uncomfortable'. P (*the rooms in this house are very small*) will imply R, while Q (*this house does have air-conditioning*) will imply ¬R. Plainly, this is not at all equivalent to '¬(Because P, ¬Q), as (12) shows.

(12) It is not the case that [the rooms in this house aren't very small]$_{\neg Q}$ because [it does have air-conditioning]$_{P}$.

It seems to me that on the basis of König's three problems alone, his duality account

of concessives could be rejected. However, it is an intriguing fact that (7a) seems to be interpreted as expressing the same proposition as (7b) at least in some contexts. Clearly, this calls for further investigation.

## 3 Problems with the duality account of concessives and causal adverbials

### 3.1 Underdeterminacy

If König's duality account of concessives and causal connectives were right, (5) and (6), repeated below as (13) and (14) respectively, should ALWAYS express the same proposition in the same context, as long as there is an underlying general (='non-private') causal connection between the types of states of affairs described by P and those described by Q.

(13) ¬(Because P, Q)

(14) Although P, ¬Q

There is a very good reason why this cannot be the case. The propositions expressed by utterances of both concessive and causal sentences, which contain a negation, are radically underdetermined by what their constituent words encode even after reference assignment and disambiguation. The two main elements that are responsible for this underdeterminacy are the negation and the connectives. (13) and (14) make it look as if at least the scope of the negation was clear. However, as mentioned above, it is almost impossible to capture differences in scope in natural language. Thus, in (13') and (14') — surely the most natural way of expressing (5) and (6) — the scope of the negation can only be determined in a context.

(13') The glass didn't break because it fell off the table.

(14') The glass didn't break although it fell off the table.

Furthermore, there are some crucial differences between causal connectives and concessive connectives. In the following two sub-sections I shall look at how concessive

sentences differ from causal sentences with regard to this underdeterminacy and the ways in which a proposition expressed is constructed from what is encoded.

### 3.2 The scope of the negation

As mentioned in 2.2, Atlas (1989:125) convincingly argues that natural language negation is sense-non-specific for scope[6]. Thus, the proposition expressed by an utterance of sentences like (8a) and (b) has to be constructed pragmatically on the basis of accessible contextual assumptions. Even if we assume that the negation is clearly wide-scope as in (5), the result is non-specific. If the truth-conditions of utterances of sentences like 'Because P, Q' are something like those outlined in (15), a hearer can construct anything from (16a) to (16d) as the truth-conditions of '¬(because P, Q)'.

(15) a. P&Q
b. P causes Q

| | | | | |
|---|---|---|---|---|
| (16) | a. | ¬P & Q | (and therefore) | ¬(P causes Q) |
| | b. | P & ¬Q | (and therefore) | ¬(P causes Q) |
| | c. | ¬P & ¬Q | (and therefore) | ¬(P causes Q) |
| | d. | P & Q | (but) | ¬(P causes Q) |

(17) P & ¬Q

On the duality account 'not (because P, Q)' should be the same as 'although P, not-Q', whose truth-conditions are given in (17). Even if we leave aside the extra, 'causal', truth-condition (15b), this only corresponds to one possible set of truth-conditions of '¬(because P, Q)', namely those in (16b).

Let me illustrate this with an example that is, maybe, a bit easier to process than (8a). (19), the (wide-scope) negation of (18), could be continued in (at least) four different ways, each of them making explicit one of the four different sets of possible truth-

[6]Others have argued that the negation always takes maximally wide scope and that the scope is narrowed down pragmatically in certain contexts (cf., for example, Horn 1989, Kempson 1975, Gazdar 1979). I am not considering this question further because, for my present purposes, all that matters is that the scope of the negation has to be determined pragmatically.

conditions outlined above.

(18) [The glass broke]$_Q$ because [it fell off the table]$_P$.

(19) It is not the case that [the glass broke]$_Q$ because [it fell off the table]$_P$.
  a. [It broke]$_Q$ all right, but [it didn't fall off the table]$_{\neg P}$.
  b. [It fell off the table]$_P$ all right, but [it didn't break]$_{\neg Q}$.
  c. [It didn't break]$_{\neg Q}$ and [it didn't fall off the table]$_{\neg P}$ either.
  d. [It fell off the table]$_P$ all right, but [it broke]$_Q$ because John stepped on it.

I do not believe that *It is not the case that the glass broke because it fell off the table* would strike anyone as being the same as (20), which it should be if König's duality account is right, since there is a clear, 'non-private', causal connection between the event described by P and that described by Q. Certainly the most accessible interpretation of the more natural (21) would be either (19a) or (19d).

(20) The glass didn't break although it fell off the table.

(21) The glass didn't break because it fell off the table.

König deals with this problem by assuming that the kind of negation that allows the interpretations in (16a), (c) and (d) is not the 'real' external negation, but rather a case of 'focusing' negation (1989:199). According to König, this 'focusing' negation not only indicates that a sentence is false but also tells the hearer which part of the sentence has to be replaced to make it true. Mentioning Horn (1985), he goes on to say that there are reasons to believe that this 'focusing' negation is a special case. In fact, Horn (1985) does not actually use the term 'focusing' negation. However, König mentions the construction *not…but* as typically occurring with 'focusing' negation. Horn (1985:166) observes that 'one typical occurrence of metalinguistic negation is in phrases of the form *not X but Y*.'[7] From this I conclude that König might want to say that (19a), (c) and (d) are cases of metalinguistic negation. The problem with this is that there is no reason to assume that

[7]Note that McCawley (1991) argues against Horn's position, maintaining that *not...but*, although often used with metalinguistic negation, is merely an indicator of contrastive negation.

(19a), (c) and (d) are metalinguistic while (19b) is not. As Carston (1996b) has shown, the only valid criterion for distinguishing metalinguistic negation from descriptive negation is that, in the case of the former, at least some of the material in the scope of the negation has to be used echoically. Clearly, this is true of B's utterance of the more natural equivalent of (19b) in (22).

(22) A: The glass broke because it fell of the table.
B: The glass didn't break because it fell off the table – it fell off the table all right, but it didn't break.

In fact, any of the more natural equivalents of (19a), (c) and (d) could be used metalinguistically as in (23).

(23) A: The glass broke because it fell off the table.
B: The glass didn't break because it fell off the table –
a. it broke all right, but it didn't fall off the table.
c. it didn't break and it didn't fall off the table either.
d. it fell off the table all right, but it broke because John stepped on it.

This shows that (19b) does not differ from (19a), (c) and (d) with regard to metalinguistic use. Actually, König 'rules out' (16a), (c) and (d) in the following way:

> The negation that makes it possible to paraphrase a causal construction by a concessive one has wide scope, does not interact with focus and relates to the causal connection between main clause and subordinate clause. This means that the causal connection between the two clauses and, *as a result*, also the content of the main clause is rejected (König 1989:199; my emphasis).

Plainly, as (16a), (c) and (d), or indeed, (19a), (c) and (d) show, from the fact that the causal connection between the two clauses is rejected it does not at all follow that the content of the main clause is rejected too.

As far as the scope of the negation is concerned, concessives differ considerably from causal adverbials. As König (1989:205) notes, negation cannot take scope over *although*. Therefore, the negation in (8b) cannot be anything but narrow-scope, which is not indeterminate in the way wide-scope negation is. Surely, this is proof enough that the

truth-conditions of (5) are far from always being the same as those of (6). However, there is one more complication as will be shown in the next sub-section.

### 3.3 *Because* and *although*

Sweetser (1990:76ff.) shows that *because* has three uses: a 'real-world' causal, or content, use, an epistemic use, and a speech-act use. In (24), the connection between the two clauses is 'real-world' causal; the fact that it was dark was the cause of John's switching the light on.

(24) John switched the light on because it was dark.

In (25), the connection is epistemic; the fact that there is a light on in John's office leads the speaker to conclude that John is around.

(25) John's around, because there's a light on in his office.

Finally, in (26) there is a speech-act connection; the fact that the speaker cannot see is the cause of her asking the hearer to switch on the light.

(26) Could you switch the light on, because I can't see.

As Sweetser (1990:76) suggests, it would be implausible to maintain that *because* is ambiguous between these three uses. Therefore, it would appear reasonable to assume that, just as *not* is sense-non-specific for scope, *because* is sense-non-specific for use. This sense-non-specificity of *because* poses a problem for König's account of causal and concessive connectives because the propositions expressed by sentences of the form 'Q because P' are not the same on all of the uses mentioned above. This can be proved easily if we try to determine the truth-conditions of (24)-(26). Intuitions about truth-conditions become much clearer if a sentence is embedded under the scope of a logical operator, such as *if…then*. Embedding (23) results in (27).

(27) If John switched the light on because it was dark he won't have to pay a fine for wasting electricity.

Here, intuitions are clear that John will not have to pay a fine if: (i) John switched the light on, (ii) it was dark, and (iii) (ii) caused (i). Thus, on the 'real-world' causal use of *because*, 'Q because P' is true iff Q is true, P is true and P causes Q. As (28) shows, the result is somewhat different if (24) is embedded.

(28) If John's around because there's a light on in his office I'll go and see him.

In fact, the first interpretation of (28) to come to my mind is one where there is a 'real-world' causal connection between the two clauses. It is my first impulse to read (28) as saying that the speaker will go and see John if (i) John is around, (ii) there is a light on in John's office and (iii) (ii) causes (i). Clearly, this does not correspond to an epistemic interpretation of *because*. It would, therefore, seem that utterances where *because* is used clearly epistemically cannot be embedded in the scope of a logical operator. Unsurprisingly, the same is true of utterances which contain *because* in its speech-act use. This can be explained if we take a closer look at (25) and (26). In both these cases the *because* does not link the subordinate clause to the proposition expressed by the main clause. It rather links it to a higher-level explicature[8] of the main clause. In the case of (25), this higher-level explicature is something like 'the speaker concludes that John is around'. In (26), it is something like 'the speaker requests the hearer to switch the light on'. It is thus not surprising that the subordinate clause cannot be embedded under the scope of a logical operator in these cases.

Just like *because*, *although* has three uses (cf. Sweetser 1990:79). These are illustrated in (29)-(31) below. (29) is a case of content conjunction; John did not switch the light on in spite of the fact that it was dark. In (30) *although* is used epistemically; John is not around in spite of the fact there is a light on in his office, which might reasonably have led one to conclude that John is around. Finally, (31) is an example of a speech-act use of *although*; the speaker is asking the hearer to switch the light on in spite of the fact that it is not very dark.

(29) John didn't switch the light on although it was dark.

(30) John isn't around, although there's a light on in his office.

(31) Could you switch the light on, although it's not very dark.

---

[8]See Wilson & Sperber (1993).

(32) If John didn't switch the light on although it was dark, he's crazy.

However, there is one significant difference between *although* and *because*. *Although* does not contribute to the truth-conditions of (29). Any speaker who utters (32) is, surely, saying that John is crazy if (i) John did not switch the light on, and (ii) it was dark. If *although* does not contribute to truth-conditions in (29) it certainly does not do so in (30) or (31).

To sum up the last two sub-sections, the proposition expressed by an utterance of a natural language sentence of the form '¬(because P, Q)' is radically underdetermined by what is encoded by its constituent words, reference assignment and disambiguation. A natural language sentence of the form 'Although P, ¬Q', on the other hand, is not underdetermined to the same degree (at least not as far as the proposition expressed is concerned). This should be proof enough that utterances of natural language sentences like (5) and (6) simply CANNOT always express the same proposition in the same contexts. In section 4.1 I shall look at utterances of sentences like these in different contexts and show that, indeed, the propositions expressed by them do not always coincide. However, I shall also have to offer an explanation as to why utterances of (7a) and (b) do seem to express the same proposition, at least in the most accessible contexts. Section 4.2 will be devoted to this task.

## 4 The cognitive perspective

### 4.1 Utterances in context

According to Relevance Theory (Sperber & Wilson 1986), every utterance comes with a guarantee of optimal relevance. That is, by demanding the hearer's attention the speaker creates the expectation that what she has to say is worth the hearer's attention. An utterance is optimally relevant iff it yields an adequate range of cognitive effects for no unjustifiable effort. An utterance can have a range of effects. It can strengthen an existing assumption of the hearer's, it can contradict and throw out such an assumption and it can give rise to contextual implications. The more cognitive effects an utterance has, the more relevant it is. However, this is balanced by considerations of effort. The more processing effort an utterance demands of the hearer, for example because it is very long and complex, the less relevant it is. Thus, the first interpretation of an utterance to come

to a hearer's mind, which yields an adequate range of effects, will be the one the speaker intended. Any other, less accessible, interpretation would increase processing effort and reduce the relevance of the utterance. So, how will Peter interpret Mary's utterances in scenarios 1-3?

Scenario 1:

Peter and Mary are looking for a house to buy. Peter knows that Mary does not like houses with air-conditioning. They have just looked at the second house of the day when the following exchange takes place.

P: The rooms in this house are smaller than those in the one we saw before.
(implication: this house is less comfortable than the previous one).

(8a) M: This house isn't less comfortable because it dispenses with air-conditioning.

(8b) M: ?This house isn't less comfortable although it dispenses with air-conditioning.

Scenario 2:

Peter and Mary are looking for a house to buy. They have just had a look at the second house of the day when the following exchange takes place.

P: This house doesn't have air-conditioning.
(implication: this makes it less comfortable than the previous one.)

(8a) M: It isn't less comfortable because it dispenses with air-conditioning.

(8b) M: It isn't less comfortable although it dispenses with air-conditioning.

Scenario 3:

Peter and Mary are in Mary's house. They are talking about houses. The following exchange takes place.

P: Houses without air-conditioning are less comfortable than houses with air-conditioning.

(8a) M: This house isn't less comfortable because it dispenses with air-conditioning.

(8b) M: This house isn't less comfortable although it dispenses with air-conditioning.

Mary's utterances of (8a) are underdetermined by what is encoded in several important ways. In order to recover the propositions Mary intended her utterances to express Peter has to assign reference to *this house* and *it*, determine what she is comparing the house with, decide how *because* is used and whether the negation takes wide scope or narrow. He will be guided in his choices by considerations of optimal relevance.

In scenario 1, the first interpretation of Mary's utterance of (8a) to come to Peter's mind will be something like (33). In this case, (33) is the proposition expressed by Mary's utterance.

(33) The reason why the house we are looking at isn't less comfortable than the house we just saw is that this house doesn't have air-conditioning.

In this context, (33) has a range of effects. It contradicts Peter's assumption that this house (= house A) is less comfortable than the one they looked at before (= house B) and it may well also contradict an assumption of his that they should not consider buying house B. Thus, the highly accessible interpretation (33) yields an adequate range of effects and Peter is allowed to assume that this is the interpretation Mary intended.

Clearly, in scenario 2, (33) is not an available interpretation of (8a). Here, the first interpretation to come to Peter's mind which yields an adequate range of effects will be something like (34).

(34) The fact that this house doesn't have air-conditioning isn't the reason why it's less comfortable than the house we just saw.

Again, this interpretation yields an adequate range of effects. It does, for example, contradict Peter's implicitly communicated assumption that the reason why house A is less comfortable than house B is that house A does not have air-conditioning. Note that the truth-conditions of (8a) on this interpretation are most likely to be that house A is less comfortable than house B, that house A dispenses with air-conditioning but that this fact is not the reason why it is less comfortable. In fact, it does not matter whether Mary is saying that house A is less comfortable than house B. The only thing that matters is that, if house A is less comfortable than house B, it is not because house A does not have air-

conditioning.

In scenario 3, the most accessible interpretation of (8a) that achieves relevance is slightly different again. Here, there is no salient other house to compare this house with. The most likely interpretation to come to Peter's mind here will be something like (35).

(35) The fact that this house doesn't have air-conditioning doesn't mean that it is less comfortable than it would be if it had air-conditioning.

(35) may, for example, have the effect that it contradicts Peter's explicitly communicated assumption that houses without air-conditioning are less comfortable than houses without air-conditioning. Note that, on this interpretation, the truth-conditions of Mary's utterance of (8a) are simply that the house does not have air-conditioning and that it is not less comfortable than it would be if it had air-conditioning.

It will now be interesting to compare the interpretations of (8a) with those of the concessive (8b). The only accessible interpretation of the concessive sentence in any of the above scenarios will be something like (36). The truth-conditions of (8b) are simply that house A does not have air-conditioning and that it is not less comfortable than house B. Note that these are very similar to, but not exactly the same as, the truth-conditions of (8a) in scenario 3.

(36) This house isn't less comfortable than some other house[9] in spite of the fact that this house doesn't have air-conditioning.

In scenario 1 this does not yield any effects, and, in fact, it is highly unlikely that any speaker would utter (8b) in this context. In scenarios 2 and 3, an utterance of the concessive sentence seems perfectly natural. However, it is interesting to note that the effects (36) achieves in these contexts are the same as the effects of an utterance of the causal sentence in scenario 3 only. In scenario 2, (36) not only contradicts Peter's assumption that the reason why house A is less comfortable than house B is that house A does not have air-conditioning, but it also contradicts the assumption, which underlies this assumption, namely that house A is less comfortable than house B. This clearly shows that the wide-scope negation of a causal sentence does not always express the same proposition in the same context as the narrow-scope negation of a corresponding

[9]The house Peter and Mary just looked at in contexts 1 and 2, some unspecified other house in context 3.

concessive sentence. Let me now return to König's original examples (7a) and (b) and investigate how they are interpreted in scenarios 1-3.

## 4.2 (7a) and (b) revisited

First of all, let me note that there seems to be no difference whatsoever between the interpretations of (8b) and (7b) in any context. (7a), on the other hand, differs from (8a) in important ways.

In scenario 1, Peter is most likely to interpret (7a) in the same way as (8a), with the negation taking narrow scope. In scenario 3, too, (7a) would most naturally be interpreted in the same way as (8a). In scenario 2, however, there seems to be a difference in the way (7a) and (8a) would be interpreted. Here, I believe, the interpretation of (7a) would, again, be (37). In other words, in scenario 2, (7a) would convey that the fact that house A dispenses with air-conditioning does not mean that it is less comfortable than it would be if it had air-conditioning. (8a), in the same scenario, will convey that the fact that house A dispenses with air-conditioning is not the reason why house A is less comfortable than house B. I believe that this difference between (7a) and (8a) is due to the fact that in (7a) the negation cannot actually take wide scope. If it could, there would be no reason why (7a) could not be interpreted in the same way as (8a) in every scenario. In fact, as (37) shows, it is absolutely impossible to continue (7a) in any other way than one corresponding to (16b). P is *it dispenses with air-conditioning*, Q *this house is less comfortable*.

(37) This house is no less comfortable because it dispenses with air-conditioning.
- a. *[It's less comfortable]$_{Q}$, all right, but [it doesn't dispense with air-conditioning]$_{\neg P}$
- b. [It dispenses with air-conditioning]$_{P}$, all right, but [it isn't less comfortable]$_{\neg Q}$
- c. *[It isn't less comfortable]$_{\neg Q}$ and [it doesn't dispense with air-conditioning]$_{\neg P}$ either.
- d. *[It dispenses with air-conditioning]$_{P}$ but [it's less comfortable]$_{Q}$ because its rooms are very small.

This indicates that the negation in (7a) cannot be wide-scope in the same way the

negation in (8a) is. (36) shows that, for (8a), all continuations are possible.

(38) This house isn't less comfortable because it dispenses with air-conditioning.
  a. [It's less comfortable]$_{Q}$, all right, but [it doesn't dispense with air-conditioning]$_{\neg P}$
  b. [It dispenses with air-conditioning]$_{P}$, all right, but [it isn't less comfortable]$_{\neg Q}$
  c. [It isn't less comfortable]$_{\neg Q}$ and [it doesn't dispense with air-conditioning]$_{\neg P}$ either.
  d. [It dispenses with air-conditioning]$_{P}$ but [it's less comfortable]$_{Q}$ because its rooms are very small.

The suspicion that the negation in (7a) is not, in fact, wide-scope seems to be confirmed by the fact that (7a) cannot be continued in a way that makes it clear that the only thing the speaker is negating is the causal connection between the two clauses. In other words, the main clause is not negated. In (39), (8a) is continued in such a way with a perfectly acceptable result. (40), where (7a) is continued in the same way, is completely unacceptable.

(39) This house isn't less comfortable because it dispenses with air-conditioning, but because its rooms are very small.

(40) *This house is no less comfortable because it dispenses with air-conditioning, but because its rooms are very small.

So far, I have ignored the different uses of *because* in this section. I believe that this point can now shed some light on the way in which (7a) is interpreted. It is interesting to note that (41), the negated counterpart of (24), where *because* is used clearly epistemically, behaves like (7a) when it comes to negating the causal connection between the clauses. (42) is just as unacceptable as (40).

(41) John isn't around because there's a light on in his office.

(42) *John isn't around because there's a light on in his office, but because I saw him a minute ago.

In fact, in scenario 4, (41) is interpreted in a way analogous to the way (7a) is interpreted in scenarios 2 and 3.

Scenario 4:
Peter and Mary walk past John's window. There is a light on. Peter points at the window. The following exchange takes place.

P: John's around.
(41) M: John isn't around because there's a light on in his office.

Surely, Peter would interpret Mary's utterance here as conveying something like (43), which is clearly analogous to (35).

(43) The fact that there's a light on in John's office doesn't mean that he's around.

It is my hypothesis that the negation takes narrow scope in both (7a) and (41) and that the interpretation of (41) is arrived at in the following way. In scenario 4, (25), the positive counterpart of (41), is highly accessible. Since the causal connection is not part of the truth-conditions of (25), Mary has no way of denying this connection directly with a negation. However, Mary can negate Peter's conclusion that John is around, while she can, at the same time, grant the grounds on which Peter reached this conclusion, namely that there is a light on in John's office. In other words, the truth-conditions of Mary's utterance of (41) in scenario 4 are that there is a light on in John's office and that John is not around. In this way she is effectively contradicting Peter's assumption that from the fact that there is a light on in John's office it can be concluded that he is around. This is a very efficient way for Mary to contradict Peter's assumption. All other ways of doing it, like for example (44), would be more complicated and they would thus involve more processing effort while not achieving any extra effects.

(44) You can't conclude that John's around just from the fact that there's a light on in his office.

I would argue that (7a) is interpreted in a similar way. Again, the positive counterpart of (7a), i.e. (45), is highly accessible in scenarios 2 and 3.

(45) This house is less comfortable because it dispenses with air-conditioning.

The problem here is that *because* in (45) does not *have* to be interpreted epistemically. However, it *can* be interpreted in that way. Since the negation cannot take wide scope in (7a), and in scenarios 2 and 3 the context rules out a narrow-scope 'real-world' causal reading, the only way in which (7a) can be interpreted seems to be one analogous to (41): *because* is interpreted epistemically and does, therefore, not contribute to the truth-conditions of (7a) in scenarios 2 and 3. Thus, the truth-conditions of Mary's utterance of (7a) in scenarios 2 and 3 are that (i) this house is not less comfortable than it would be if it did not have air-conditioning and (ii) this house dispenses with air-conditioning. As mentioned above, these truth-conditions are *almost* the same as the truth-conditions of the concessive (8b). The only difference seems to be that, in the causal cases, the point of comparison is the same house with air-conditioning, whereas, in the case of concessives the point of comparison is some other (either specified or non-specified) house, which may or may not have air-conditioning. This point becomes even clearer if one tries to make the points of comparison explicit. Thus, (46a) sounds distinctly strange, while (46b) is a perfectly natural utterance. Conversely, (47a) sounds perfectly natural, while (47b) smacks of redundancy.

(46) a. ?This house is no less comfortable than house B because it dispenses with air-conditioning.
b. This house is no less comfortable because it dispenses with air-conditioning than it would be if it had air-conditioning.

(47) a. This house is no less comfortable than house B although it dispenses with air-conditioning.
b. ?This house is no less comfortable than it would be if it had air-conditioning although it dispenses with air-conditioning.

There is one more question that seems worth asking here. If (7a), (8a) and (8b) all have the same truth-conditions in the context of scenario 3, are there any differences between them? I believe that there are.

In scenario 3, (7a) and (8a) have very much the same effects. They contradict Peter's assumption that houses without air-conditioning are less comfortable than houses with air-conditioning. The effect of (7b) and (8b), however, is subtly different. I shall go along with König (1989:196) in saying that 'Although P, Q' carries an implicature 'If P,

normally ¬Q'. Thus, what Mary is communicating by her utterances of (8b) is not only that house A is not less comfortable than house B and that house A does not have air-conditioning, but also that, normally, houses without air-conditioning are less comfortable than houses with air-conditioning. In other words, in scenario 3, Mary is, in principle, agreeing with Peter, while at the same time stating that this particular house is an exception. With her utterances of (7a) and (8a) in the same context, on the other hand, Mary conveys that she thinks that houses without air-conditioning are not less comfortable than houses with air-conditioning. In other words, she disagrees with Peter.

## 5 Conclusion

This paper has, hopefully, shown that the semantics of *although* cannot be accounted for by treating it as the dual of *because*. In some contexts, an utterance of König's example (7a) can have truth-conditions which are very similar to the truth-conditions of an utterance of (7b) in the same context. However, as section 4.1, has shown this does not hold across all contexts: in scenario 1 (7a) and (b) have very different truth-conditions. Furthermore, in the cases where the truth-conditions of (7a) are very similar to those of (7b) this is not because the negation takes wide scope in the former and narrow scope in the latter. It is, rather, the case that the negation takes narrow scope in both sentences and that, in (7a) in these contexts, *because* is interpreted epistemically and thus does not contribute to the truth-conditions. Moreover, (7a) and (b) differ in their overall interpretation.

In section 3.2 I have argued that König (1989:199) cannot be right when he says that '[…] the causal connection between the two clauses and, *as a result*, also the content of the main clause is rejected.' §4.2 shows that, if anything, the argument goes the other way: the main clause, and as a result, the (epistemic) causal connection between the higher-level explicature of the main clause and the subordinate clause is rejected.

## References

Atlas, J.D. (1989). *Philosophy without Ambiguity. A Logico-Linguistic Essay*. Oxford: Clarendon Press.
Barwise, J. & Cooper, R. (1981). Generalized quantification in ordinary English. *Linguistics and Philosophy* 4. 159-219.
Carston, R. (1996a). Enrichment and loosening: complementary processes in deriving the proposition expressed? *UCL Working Papers in Linguistics* 8. 61-88.
Carston, R. (1996b). Metalinguistic negation and echoic use. *Journal of Pragmatics* 25. 309-330.
Gazdar, G. (1979). *Pragmatics: Implicature, Presupposition and Logical Form.* New York: Academic Press.
Hermodsson, L. (1978). *Semantische Strukturen der Satzgefüge im kausalen und konditionalen Bereich*. Uppsala: Almquist & Wiksell.
Horn, L. (1985). Metalinguistic negation and pragmatic ambiguity. *Language* 61. 121-174.
Horn, L. (1989). *A Natural History of Negation*. Chicago: University of Chicago Press.
Kempson, R. (1975). *Presupposition and the Delimitation of Semantics.* Cambridge: CUP.
König, E. (1986). Conditionals, concessive conditionals and concessives: Areas of contrast, overlap and neutralization. In Traugott (1986).
König, E. (1989). Concessive relations as the dual of causal relations. In: D. Zaefferer (ed.). *Semantic Universals and Universal Semantics*. Dordrecht: Foris.
Löbner, S. (1987). Quantification as a major module of natural language semantics. In: Groenendijk, J. et al. (eds.) *Studies in Discourse Representation Theory and the Theory of Generalized Quantifiers*. Dordrecht: Foris.
McCawley, J. (1991). Contrastive negation and metalinguistic negation. *Chicago Linguistic Society 19: The Parasession on Negation*. 189-206.
Moeschler, J. (1989). *Modélisation du dialogue*. *Représentation de l'inférence argumentative*. Paris: Hermes.
Sidiropoulou, M. (1992). On the connective *although*. *Journal of Pragmatics* 17. 201-221.
Sperber, D. & Wilson, D. (1986). *Relevance: Communication and Cognition*. Oxford: Blackwell.
Sweetser, E.E. (1990). *From Etymology to Pragmatics. Metaphorical and Cultural Aspects of Semantic Structure.* Cambridge: CUP.
Traugott, E. *et al.* (1986). *On Conditionals*. Cambridge: Cambridge University Press.
Wilson, D. & Sperber, D. (1993). Linguistic form and relevance. *Lingua* 90 (1/2). 1-25.
Winter, Y. & Rimon, M. (1994). Contrast and implication in natural language. *Journal of Semantics* 11. 365-406.