

Modifying the ordering source – unstressed *überhaupt* in German purpose clauses¹

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Abstract. My goal is to reconcile the seemingly unrelated meanings of the two variants of the German particle *überhaupt*, stressed *überhaupt* (\approx ‘at all’, ‘in general’) and unstressed *überhaupt* (\approx ‘even’) in one specific embedded case: purpose clauses² with the complementizer *um*. I propose an account of *überhaupt* in purpose clauses that does justice to its focus-sensitive scalar meaning but keeps intact the domain widening meaning, as argued for by Anderssen 2006 for the stressed variant. I claim that unstressed *überhaupt* modifies the bouletic ordering source in purpose clauses by excluding all higher ranked focus alternatives of the embedded proposition q in p in order to q . The result is a wider domain which is quantified over by a bouletic modal included in the purpose clause with *um*.

Keywords: purpose clauses, modality, *überhaupt*, focus, domain widening

1. Introduction

The German particle *überhaupt* has two variants with seemingly distinct meanings: stressed (*überhaupt_s*) and unstressed (*überhaupt_u*). Depending on the logical context, the stressed variant has a meaning paraphrasable by ‘in general’ as in (1) or ‘at all’ as in (2). (1) involves an upward-entailing (UE) context, whereas (2) involves the verb *verhindern* ‘prevent’, which gives rise to a downward-entailing (DE) context.

- (1) Paul ist sehr frech zu seinen Lehrern. Er ist ÜBERHAUPT sehr frech.
Paul is very sassy to his teachers he is ÜBERHAUPT very sassy
‘Paul is sassy with his teachers. He is sassy in general.’ König (1983: 161)
- (2) Wir müssen verhindern, dass er sich ÜBERHAUPT einmischt.
we must stop that he himself ÜBERHAUPT involves
‘We have to stop him from getting involved at all.’ König (1983: 161)

The unstressed variant exhibits NPI-distribution König (1983) and has a scalar effect, sensitive to focus. Its meaning is in most cases paraphrasable by English *even* (in its most-likely reading). (3) shows the corresponding example to (2) with the unstressed variant.

- (3) Wir müssen verhindern, dass er sich überhaupt EINMISCHT.
we must stop that he himself ÜBERHAUPT involves
‘We have to stop him from even getting INVOLVED.’

The contrast between (4a) and (4b) illustrates the NPI distribution of the unstressed variant. Whereas its use is fine in the *before*-clause (with *bevor*), the corresponding *after*-clause with

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²Also sometimes called final clauses or rationale clauses.

nachdem in does not license its use. As *before*-, but not *after*-clauses license NPIs (Krifka, 1991; Condoravdi and Beaver, 2003).

- (4) a. Bevor Su überhaupt die EINLEITUNG gelesen hatte, war sie begeistert.
 before Su ÜBERHAUPT the introduction read had was she thrilled.
 ‘Before Su had even read the INTRODUCTION, she was thrilled.’
- b. # Nachdem Su überhaupt die EINLEITUNG gelesen hatte, war sie begeistert.
 after Su ÜBERHAUPT the introduction read had was she thrilled.
 ‘After Su had even read the INTRODUCTION, she was thrilled.’

The goal of this paper is to account for the meaning of both variants in one specific case: German purpose clauses headed by the complementizer *um* (\approx ‘in order’), as in (5).

- (5) a. Bo hat eine Tablette genommen, um ÜBERHAUPT zu schlafen.
 Bo has a pill taken in-order ÜBERHAUPT to sleep
 ‘Bo took a pill in order to sleep at all.’
- b. Bo hat eine Tablette genommen, um überhaupt zu SCHLAFEN.
 Bo has a pill taken in-order ÜBERHAUPT to sleep
 ‘Bo takes a pill in order to even sleep.’

In (5a) a desire is expressed in the embedded clause: the agent’s desire to sleep, the use of *überhaupt_u* leads to an interpretation with respect to a wider domain of interpretation. The wish to sleep is understood to be more general, than without *überhaupt_u*. In use of *überhaupt_u* (5b) leads to an interpretation where sleeping is considered a desire which is ranked lowest on a scale of amount of work.

My proposal in a nutshell: For the stressed variant in (5a), I follow the account of Anderssen (2006): *überhaupt_s* widens the relevant domain of interpretation, similar to English *any* (cf. Kadmon and Landman 1993). I argue that the effect of *überhaupt_u* in (5b) is also one of domain widening. In the unstressed case however, the widened domain is the set of possible worlds quantified over universally by a bouletic modal. This bouletic modal part of the meaning of the purpose clause, allowing a paraphrase *p because the agent wants q* for *p in order to p* Sæbø (1991). This is done via a modification of the ordering source in the bouletic modal. The account preserves the intuition that *überhaupt* has a domain widening meaning in the stressed case, and extends it to the unstressed case.

The paper is structured as follows: In section 2, I present four accounts of *überhaupt* and review the predictions they make for the case of unstressed *überhaupt* in purpose clauses headed by *um*. In section 3, I argue that *überhaupt_u* is a focus-sensitive scalar particle. In section 4, I give a semantics for purpose clauses, based on a paraphrase by Sæbø (1991) for *p in order to q* which is *p because the agent wants that q*. In section 5, I make my proposal for the case of unstressed *überhaupt* in *um*-clauses and address the difference between the two variants, in the examples in (5). In section 6, I show how my account predicts the licensing of *überhaupt_u* as an NPI in purpose clauses. Section is concludes and Section 8 is dedicated to open issues.

2. Previous work on *überhaupt*

Previous work on *überhaupt* has either focused on the meaning of one variant (Anderssen 2006; Csipak and Zobel 2016 for *überhaupt_s*, Zobel 2020 for *überhaupt_u*) or treated the two variants as having distinct meanings (König, 1983). An exception is Rojas-Esponda (2014), who gives a unified account in a QUD framework, but excludes embedded cases. Embedded cases have received little attention in the literature on the whole. I review four accounts in regards to the predictions they make with respect to the use of unstressed variant in purpose clauses headed by *um* (\approx ‘in order to’).

2.1. König (1983)

König identifies three main uses of *überhaupt* depending on phonological stress and grammatical context. He notes that in UE contexts, the stressed variant has an effect of widening the perspective. In (6) the speaker expresses that Paul is not only sassy with his teachers but in general.³

- (6) Paul ist sehr frech zu seinen Lehrern. Er ist ÜBERHAUPT sehr frech.
Paul is very sassy to his teachers he is ÜBERHAUPT very sassy
‘Paul is sassy with his teachers. He is very sassy in general.’ König (1983: 161)

The sentence in (7) containing the superlative *schnellste* ‘fastest’ says that the race in question was not only the fastest race with respect to some restrictions provided by the context, but in general.

- (7) Dieses war der schnellste 400m Lauf ÜBERHAUPT.
this was the fastest 400m race ÜBERHAUPT
‘This was the fastest 400m race of all.’ König (1983: 161)

Formally, König analyses this use of *überhaupt_s* in affirmative contexts as a universal quantifier of viewpoint adjuncts, paraphrasable by “in jeder Hinsicht” ‘in every regard’ (i.e. *Paul is sassy in every regard, This was the fastest race in every regard.*)

König notes that in DE contexts the effect of stressed *überhaupt* changes to an existential one, paraphrasable by English *at all*. In (8), *überhaupt_s* appears in the antecedent of a conditional. In (9) it is embedded under the verb *verhindern* ‘prevent’. Both give rise to a DE environment.

- (8) Wenn er ÜBERHAUPT kommt, dann (kommt er) spät.
if he ÜBERHAUPT comes then (comes he) late
‘If he comes at all, he will be late.’ König (1983: 161)
- (9) Wir müssen verhindern, dass er sich ÜBERHAUPT einmischt.
we must stop that he himself ÜBERHAUPT involves
‘We have to stop him from getting involved at all.’ König (1983: 161)

³All translations and glosses of König’s example are by me, all errors as well.

Note that (9) does not mean that we have to stop him from getting involved in a general way, but that we have to stop him from getting involved in any way at all. König attributes this flip in meaning of the stressed variant (universal to existential) to the monotonicity of the context.⁴

For the unstressed variant, König describes its meaning as expressing a precondition to a contextually given issue. In (10) participating is a precondition to winning a medal, which is expressed by the use of *überhaupt_u*. The English paraphrase has *even* in its likeliest reading.

- (10) (Hast du eine Medaille gewonnen?) – Ich bin froh, dass ich überhaupt TEILnehmen
 have you a medal won – I am glad that I ÜB. participate
 durfte.
 was-allowed
 ‘(Did you win a medal?)’ – ‘I am glad I was even allowed to PARTICIPATE.’
 (König, 1983: 161)

This notion of precondition however is too strict. In cases like (11b) in the context of (11a), the ordering must be of a different nature, as beer is not a precondition to champagne.

- (11) a. Context: *Your friend was tasked with the shopping for a fancy dinner party. Champagne is the preferred drink. However, due to an unusual high demand for alcoholic drinks most stores were sold out. Your friend comes back.*
 b. Hast du Champagner dabei? – Ich bin froh, dass ich überhaupt BIER
 (Have you Champagne with-you) – I am glad that I ÜBERHAUPT beer
 bekommen habe.
 got have
 ‘(Did you bring Champagne?)’ – ‘I’m glad I even got BEER.’

Rather than a ranking according to precondition, the ordering in (11) is based on how much the alcohol is desired. As beer is less desired for a fancy dinner party the use of *überhaupt_u* is licensed. Turning to the use of unstressed *überhaupt* in purpose clauses with *um*, we can see that the notion of precondition is applicable in (12), but not in (13).

- (12) (Hast du eine Medaille gewonnen?) – Um überhaupt TEILzunehmen, hab’
 Have you a medal won – in-order ÜBERHAUPT participate have
 ich die letzten fünf Jahre trainiert.
 I the last five years trained.
 ‘(Did you win a medal?)’ – ‘In order to even PARTICIPATE, I trained for the last five years.’
- (13) (Hast du Champagner dabei?) – Um überhaupt BIER zu bekommen, hab’
 Have you champagne with-you – in-order ÜBERHAUPT beer to get have
 ich die ganze Stadt abgesucht.
 I the whole city searched.
 ‘(Did you get champagne?)’ – ‘In order to even get BEER, I searched the whole city.’

⁴Another polarity sensitivity particle with a very similar meaning is Hebrew *bixlal* (cf. Greenberg and Khrizman 2012; Greenberg 2019, 2020)

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In short, following König (1983), the stressed variant can be seen as a polarity sensitive view-point quantifier with universal force in UE contexts and existential force in DE context. He claims, the unstressed variant marks the focused element as a precondition to a contextually given issue. I have provided evidence that suggests that the notion of precondition is too strict. Crucially, König (1983: 160) claims that the meanings of *überhaupt* are too different to be unified.

2.2. Anderssen (2006)

Anderssen proposes a domain widening account for the stressed variant. He shows that, similar to English *any*, *überhaupt_s* results in a widening of the relevant domain of interpretation (cf. Kadmon and Landman 1993). His account builds on the parallels between the two expressions.⁵

- (14) a. Ich habe keine Kartoffeln.
I have no potatoes
'I don't have potatoes.'
- b. Ich habe ÜBERHAUPT keine Kartoffeln.
I have ÜBERHAUPT no potatoes
'I don't have any potatoes at all.'⁶ Anderssen (2006: 60)

Whereas the domain of negation in (14a) is subject to implicit contextual restrictions (potatoes considered under normal circumstances), *überhaupt_s* in (14b) widens this domain and includes also marginal cases (e.g. plastic potatoes) in the domain. Restrictions from the context are removed. The result is a stronger statement.

Anderssen shows that *überhaupt_s* removes restrictions not only on quantifiers like *keine* 'no'. The example in (15) involves the manner adverb *politisch* 'politically'.

- (15) A: Politisch war die Entscheidung eine Dummheit.
politically was the decision a stupidity
'The decision was stupid under a political perspective.'
- B: Die Entscheidung war ÜBERHAUPT eine Dummheit.
the decision was ÜBERHAUPT a stupidity
'The decision was stupid under any perspective.'
- Anderssen (2006: 63)

In short, Anderssen analyzes the meaning of *überhaupt_s* widening the domain of interpretation of its scope. Implicit or explicit restrictions on this domain are removed, in consequence, an 'in general'-reading arises. Anderssen (2006)'s account is limited to the meaning of the stressed variant and thus makes no predictions for the unstressed variant.

⁵Following (Anderssen, 2006: 61), the difference between *any* and *überhaupt_s* is that *any* is morphologically complex and combines an existential and a domain widening component. *überhaupt_s* corresponds only to the domain widening component and has no existential meaning. This is how he explains that *any*, but not *überhaupt_u* is restricted to DE contexts.

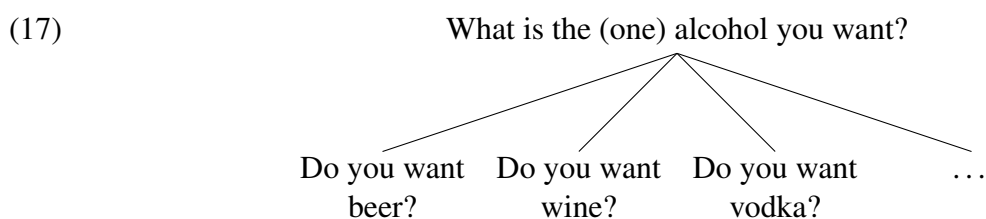
⁶Stress in this example was added by me.

2.3. Rojas-Esponda (2014)

Rojas-Esponda proposes a unified account for the meaning of both variants of *überhaupt*. Set in a question-under-discussion framework (cf. Roberts 2012), the core of her idea is that both variants of *überhaupt* constitute a move to a higher up QUD.⁷ Consider the conversation in (16), where A asks B questions of the sort *Do you want x-alcohol?* and B answers negatively.

- (16) A: Möchtest du ein Glas Wein?
 ‘Would you like a glass of wine?’
 B: Nein, danke.
 ‘No, thank you.’
 A: Hättest du gerne ein Bier?
 ‘Would a beer appeal to you?’
 B: Nein. Ich TRINKE überhaupt keinen Alkohol.
 ‘No. I drink ÜBERHAUPT no alcohol.’ Rojas-Esponda (2014: 3)

In Rojas-Esponda’s view, B’s response including *überhaupt_u* says that a precondition to the higher QUD doesn’t hold. She gives the following representation of a QUD structure for (16) in (17).



The idea is that *überhaupt_u* signals a move to the higher QUD: *What is the (one) alcohol you want?* This question carries a working assumption by A. The working assumption is: *You drink alcohol.* By uttering *überhaupt_u* in combination with negation in (16), B denies this working assumption, and thereby ends the line of inquiry by A. Rojas-Esponda translates B’s response as *I don’t actually DRINK alcohol.*

In a response to Rojas-Esponda (2014), Zobel (2020) shows that certain cases like (18b) in the context of (18a) cannot be captured by Rojas-Esponda (2014)’s account.

- (18) a. Context: *The restaurant is packed, the waiters are barely keeping up with orders. A is taking meal orders from a new table. When A turns to head to the kitchen, he realizes that he hasn’t asked about drinks and does not know whether the customers already ordered them. A turns back to the table.*
 b. Was hätten Sie überhaupt gerne zum Trinken?
 what have you ÜBEHAUPT gladly to drink
 ‘What would you ÜBERHAUPT like to drink?’ Zobel (2020: 9)

⁷Rojas-Esponda (2014) considers the use of *überhaupt* in polar-questions, in combination with a universal quantifier and in combination with negation. She does not aim to account for embedded cases or wh-questions.

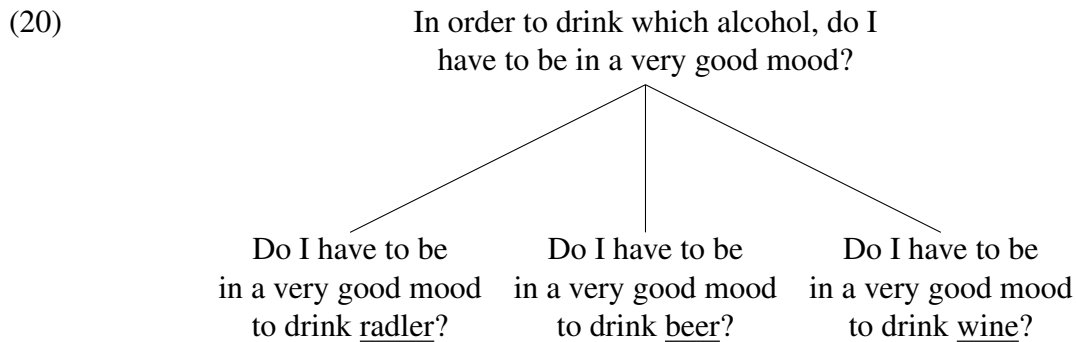
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Zobel notes that in these cases unstressed variant marks the questions as one, which should have come earlier in the discourse. Crucially, neither the line of inquiry nor a precondition on the current QUD is apparent in (18). Zobel suggests that an incorporation of the notion of ‘earlier in the discourse’ into Rojas-Esponda’s account would account for these cases.

Turning to embedded cases, I show below that the unstressed variant has a scalar effect, which cannot be captured by the account by Rojas-Esponda (2014). Consider (19), which is an equally conceivable as an answer to a line of inquiry as in (16).

- (19) Um überhaupt RADLER zu trinken, muss ich schon sehr gut drauf sein.
 In-order ÜBERHAUPT Radler to drink, must I SCHON very good on-it be
 ‘To even drink RADLER, I have to be in a very good mood.’

In (19) the speaker expresses that Radler,⁸ is the one alcohol she would drink, if any. A QUD structure for (19) is given in (20).



The crucial point is that in this case the alternatives on the bottom are ranked. A possible ranking might be according to likelihood or amount of alcohol, as in (21), where the alternative involving Radler ranks lowest.

- (21) Ich muss sehr gut drauf sein,
 I must very good on-it be
 ‘I must be in very good mood...’
- a. ... um Wein zu trinken.
 ‘... in order to drink wine’
 - b. ... um Bier zu trinken
 ‘... in order to drink beer’.
 - c. ... um Radler zu trinken.
 ‘... in order to drink Radler’

A representation like (20) crucially lacks the scalar component expressed in (19). The sub-questions are not ordered to each other. Rather than targeting the precondition to the current QUD the effect of *überhaupt_u* in (19) is to target the lowest ranked alternative. This scalarity is not part of the QUD-model by Roberts (2012) assumed by Rojas-Esponda, hence the scalar effect of unstressed *überhaupt* in (19) can not be captured by the QUD account.

⁸Radler is a drink with less alcohol than wine or beer.

2.4. Csipak and Zobel (2016)

Csipak and Zobel note that the stressed variant in shortened conditionals has a scalar effect. The element qualified by *überHAUPT*⁹ is taken to be low in absolute terms, on a contextually determined scale.

- (22) Er war mittelmäßig, wenn überHAUPT.
 he was mediocre if ÜBERHAUPT
 ‘He was mediocre, if that.’ Csipak and Zobel (2016: 56)

The scale with which *überHAUPT* interacts in (22) is one of achievement. Stressed *überHAUPT* signals that the scalar element in the consequent, *mittelmäßig* ‘mediocre’, is at the low end of a scale in absolute terms and at the same time the highest possible value which can be said to hold true. This explains the oddity of (23).

- (23) # Er war der Beste, wenn überHAUPT.
 he was the best if ÜBERHAUPT
 ‘He was the best, if that.’ Csipak and Zobel (2016: 56)

The DP *der Beste* ‘the best’ represents the maximal value of an achievement based scale. It is thus incompatible with being placed at the low end of a scale. These data show, that *überHAUPT* in shortened conditionals has a scalar effect. In the next section I provide further evidence for the scalar nature of unstressed *überhaupt* in embedded cases.

3. Unstressed *überhaupt* as a scalar focus-sensitive particle

The scalar component identified by Csipak and Zobel (2016) can also be found in other embedded cases, like *before*-clauses as in (24) or excessive constructions with TOO ADJ TO, as in (25). In both cases the element in focus cannot be *die beste* ‘die Beste’.

- (24) Bevor Lu überhaupt (#die BESTE/MITTELMÄßIG) ist, muss sie noch lange üben.
 before Lu ÜB. (#the best/mittelmäßig) is, must she yet long train
 ‘Befor Lu is even (# the BEST/mediocre), she has to train for a long time.’
- (25) Lu ist zu faul, um überhaupt (#die BESTE/MITTELMÄßIG) zu werden.
 Lu is too lazy to ÜB. (#the best/mediocre) to become
 ‘Lu is too lazy to even become (#the best/mediocre).’

In (24) and (25) the scale on which *überhaupt_u* operates is made explicit by the scalar elements *der/die Beste* ‘the best’ and *mittelmäßig* ‘mediocre’. But *überhaupt_u* interacts with non-scalar elements as well. Consider (26), where *überhaupt_u* appears in an *um*-clause, and qualifies the noun *Brot* ‘bread’.

⁹They note that the particle has stress on the second syllable in this case, but Sarah Zobel (p.c.) pointed out to me that in this case, stress might be obligatory due to independent phonological constraints. It could be that it is the unstressed variant that is actually at play in (22) and that it receives phonological stress due to its position in the sentence. I will not explore this option further.

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(26) Context: *A remote village deep in the mountains in Europe, where bread is an everyday food.*

A: Kannst du mir japanische Algenblätter für meine sushi Rolls besorgen?
can you me Japanese seaweed for my sushi rolls get
'Can you get me Japanese seaweed leaves for my sushi rolls?'

B: Um überhaupt an BROT zu kommen, muss ich bis ins nächste Dorf
in-order ÜBERHAUPT at bread to come must I until in-the nearest village
fahren!
drive

'In order to get even BREAD, I have to drive to the next village.'

I propose that the scale on which *überhaupt_u* is operating in (26) is one, where elements are ranked according to how much work it is to get them.¹⁰ In this scenario, Japanese seaweed is harder to come by than bread. Unstressed *überhaupt* ranks the focused element *Brot* lowest on this scale.

I have shown that *überhaupt_u* has a scalar meaning. It associates with scalar (e.g. *mittelmäßig* 'mediocre') and non-scalar elements (e.g. *Brot* 'bread'). It ranks the element in focus lowest on a contextually provided scale. I show below that *überhaupt_u* is a focus-sensitive particle.

The scalar meaning of *überhaupt_u* changes with the place of focus similar to other focus-sensitive operators like *even* or *only*. Consider the two purpose clauses with unstressed *überhaupt* (27a) and (27b), where only the place of focus changes.

- (27) a. Um überhaupt BLUMEN zu pflanzen, habe ich Erde gekauft.
In-order ÜBERHAUPT flowers to plant, have I soil bought
'In order to even plant FLOWERS, I bought soil.'
- b. Um überhaupt Blumen zu PFLANZEN, habe ich Erde gekauft.
In-order ÜBERHAUPT flowers to plant, have I soil bought
'In order to even PLANT flowers, I bought soil.'

What is the contrast between (27a) and (27b)? The distinction between (27a) and (27b) becomes evident when considering two scenarios licensing the use of either. The utterance in (27a) could be used in a scenario, where the speaker plans to remodel her garden. She wants to plant trees, bushes and a new lawn along with new flowers. The scale of alternatives is given below.

¹⁰Since purpose clauses involve some kind of desire or goal related modal, an intuition could be that the ranking is in fact about desirability, and the least desired thing is marked by *überhaupt_u*. This can be shown to not be the case. In (i), flowers are more desired than trees, still *Blumen* 'flowers' can be in focus. I thank an anonymous reviewer for this point:

- (i) Ich will Blumen pflanzen, und vielleicht später noch Bäume. Bei den Bäumen bin ich mir nicht
I want flowers plant and maybe later also trees for the trees I am to-me not
sicher, aber um überhaupt BLUMEN zu pflanzen, habe ich Erde gekauft.
sure but in-order ÜBERHAUPT flowers to plant have I soil bought.
'I want to plant flowers and maybe later trees as well. For the trees I'm not sure yet, but to plant ÜBERHAUPT flowers have I bought soil.'

- (28) (In order to) plant a new lawn,... < (In order to) plant trees,... < (In order to) plant bushes,... < (In order to) plant flowers,...

By uttering (27a), the speaker says that flowers are the lowest element on a scale of how much work it is to plant them and that she bought soil, to plant flowers.¹¹

An appropriate scenario for (27b), where focus lies on the verb *pflanzen* ‘to plant’ is this: The speaker plans to become rich through a flower business. The scale for (27b) might include the various steps needed in order to reach success. It might look like this:

- (29) (In order to) sell flowers,... < (In order to) harvest flowers,... < (In order to) plant flowers, ...

As in (28) the focused element is taken to require the least amount of work. The alternatives entail each other, each one requires its lower ranked alternatives to be true and therefore requires more work than the preceding alternative.

I have shown that *überhaupt_u* has a scalar meaning sensitive to the place of focus. I have argued that in purpose clauses this ranking is according to amount of work required.

4. The meaning of *um* ‘in order to’

In German, the infinitival complementizer *um* is used to express a purpose clause as in (30), corresponding to English ‘in order’.

- (30) Bo_i hat eine Tablette genommen, um PRO_i zu schlafen.
Bo_i has a pill taken in-order PRO_i to sleep
‘Bo took a pill in order to sleep.’

What are the truth conditions of (30)? In a scenario where Bo held no desire to go to sleep, (30) is unacceptable, this suggests an element of desire is crucial. Sæbø (1991) notes that *p in order to q* is well explained by a paraphrase involving a causal relation between an agent’s

¹¹An anonymous reviewer points out that evidence for ranking by amount of work, comes from the fact, that addition of *können* ‘be able to’ does not seem to change the meaning, as in (1). I think this is often the case with purpose clauses. I am unsure what the effect of *können* ‘be able to’ is in (2)

- (1) Um überhaupt Blumen PFLANZEN zu können, habe ich Erde gekauft.
in-order ÜBERHAUPT flowers plant to be-able, have I soil bought.
‘In order to even be able to plant flowers, I bought soil.’
- (2) Ich habe ein Fahrrad gekauft, um eine Tour zu machen/ machen zu können.
I have a bike bought in-order a tour to make/ make to be-able.
‘I bought a bike, in order to go on a bike tour/ be able to go on a bike tour.’

desire for q ¹² and the main clause proposition p : *p because the agent wants q*.¹³ Following Sæbø's paraphrase I assume (31) as a lexical entry for *um* as a function taking two propositional arguments. The main clause proposition p and the embedded proposition q .

$$(31) \quad \llbracket \text{um} \rrbracket^w = \lambda q_{\langle s,t \rangle} . \lambda p_{\langle s,t \rangle} . [\forall w' \in \text{MAX}_{\text{BOUL}_{x,w}}(\text{CIRC}_w) : q(w')] \Rightarrow_C p(w)$$

The truth conditions for *um* in (31) have three parts: (i) A bouletic modal relativized to a circumstantial modal base and a bouletic ordering source: $\forall w' \in \text{MAX}_{\text{BOUL}_{x,w}}(\text{CIRC}_w) : q(w')$, (ii) the truth of the main clause proposition in the evaluation world: $p(w)$ and (iii) a causal link, connecting the desire for embedded proposition q to the main clause proposition p : \Rightarrow_C .¹⁴ (31) will return 1 iff the embedded proposition q is true in all realistic worlds that make most of x 's desire in w true (i.e. iff x has the desire that q) and this is a cause for the main clause proposition p in the actual world w . In (30) q the embedded proposition is $\lambda w. \text{Bo sleeps in } w$ and the main clause proposition p is $\lambda w. \text{Bo takes a pill in } w$. So (30) will be true iff Bo held the desire to sleep and this was a cause for him to take a pill.

Taking a closer look at the desire component, we find a universal quantifier of possible worlds that are realistic given a circumstantial modal base (CIRC_w) and make the highest number of propositions of a bouletic ordering source ($\text{BOUL}_{x,w}$) true. The ordering source in *um* will include propositions denoting the desires of x in w . As I will show shortly, modification of the bouletic ordering source will be crucial in determining the meaning of constructions with *um* and unstressed *überhaupt*.

In the next section, I develop my proposal, taking into account the following observations: (i) stressed *überhaupt* has a domain widening meaning (following Anderssen 2006), (ii) The meaning of the unstressed variant is both scalar and focus-sensitive and (iii) *um* involves universal quantification over bouletic alternatives.

5. The Proposal

My claim is that the unstressed variant, similar to the stressed variant, produces a domain-widening effect, but in an indirect way. I claim that in the case of *um* + unstressed *überhaupt*,

¹²The agent can be implicit, as constructions without overt agent can serve as antecedent. In (i), the agent is understood to be the one responsible for the bridge's height.

- (i) The bridge is so high in order that ships may pass beneath it. Sæbø (2011: 1433)

¹³Frühauf (2022) notes that the two statements are not the same, as (iia) and (iib) are not equivalent. The paraphrase thus works only in one direction.

- (ii) a. Susi hat ihr Smartphone in den See fallen lassen, weil sie auf dem schwankenden Boot ein Selfie machen wollte.
 'Susi dropped her phone in the lake because she wanted to make a selfie on the bobbing boat.'
 b. Susi hat ihr Smartphone in den See fallen lassen, um auf dem schwankenden Boot ein Selfie zu machen.
 int.: 'Susi dropped her phone in the lake in order to make a selfie on the bobbing boat.'

Frühauf (2022: 288)

¹⁴The exact notion of 'cause', will not be explored in this paper.

the set of worlds quantified over by the bouletic modal in *um* will be larger than in constructions involving *um* alone. The set will be larger because *überhaupt_u* interacts with the ordering source $BOUL_x$. The interaction is this: *überhaupt_u* excludes all higher ranked focus alternatives to q from $BOUL_x$. In the case of *um* alone, the ordering source will include all of x 's desires in w , as in (32a). In the case of *um überhaupt* the ordering source will be modified, as in (32b).

- (32) a. $BOUL_{x,w}$
 b. $BOUL_{x,w} \setminus \{q' : q' \in ALT(q) \wedge q' >_{a.o.w} q\}$

The set obtained by (32b) is the ordering source minus a set of certain propositions. These propositions are in the set of focus alternatives of q and are also ranked higher than q . In the case of purpose clauses, this ranking involves amount of work required (abbreviated 'a.o.w' above). All higher ranked focus alternatives on this scale are explicitly excluded. The meaning of *um überhaupt* is given in (33).

- (33) $\llbracket um\ überhaupt_u \rrbracket =$
 $\lambda q_{\langle s,t \rangle} \cdot \lambda p_{\langle s,t \rangle} \cdot [\forall w' \in MAX_{BOUL_x \setminus \{q' : q' \in ALT_F(q) \wedge q' >_{a.o.w} q\}} (CIRC_w) : q(w')] \Rightarrow_C p(w)$

As the ordering source places restrictions on the worlds entering the restrictor set of the universal quantifier, the set will contain more worlds, if the restrictions are lowered (i.e. taking out propositions from $BOUL_{x,w}$). The effect will be that also less-ideal worlds will be part of the set quantified over. Namely, those worlds, where only q but none of its higher ranked alternatives are true. The causal link will also hold if the embedded proposition is true in less-ideal desire-worlds as well. Consider once more the example from (27a) repeated in (34).

- (34) Um überhaupt BLUMEN zu pflanzen, habe ich Erde gekauft.
 In-order ÜBERHAUPT flowers to plant, have I soil bought
 'In order to even plant FLOWERS, I bought soil.'

In (34), the embedded proposition q is in (35a). Focus lies on *Blumen* 'flowers'. Accordingly, the focus alternatives of q will be as in (35b), where *flowers* is replaced by an element of the same type (cf. Rooth 1985).

- (35) a. $q = \lambda w. I\ plant\ flowers\ in\ w$
 b. $ALT_F(q) = \{\lambda w. I\ plant\ a\ lawn\ in\ w > \lambda w. I\ plant\ trees\ in\ w > \lambda w. I\ plant\ bushes\ in\ w > \lambda w. I\ plant\ flowers\ in\ w\}$

Following (32b) the ordering source $BOUL_{x,w}$ in the case of (34) is reduced by the following set: the set of all propositions of $ALT_F(q)$ that are ranked higher than q . The resulting set of propositions is in (36).

- (36) $BOUL_{x,w} \setminus \{\lambda w. I\ plant\ a\ lawn\ in\ w > \lambda w. I\ plant\ trees\ in\ w > \lambda w. I\ plant\ bushes\ in\ w\}$

We have now excluded all higher ranked focus alternatives of q from $BOUL_x$. In this way, we lower the requirements possible worlds have to meet to be accepted into the set quantified over

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by *um*. We thereby obtain a larger set of worlds quantified over universally by *um*. In an indirect way, we arrive at a wider domain, as the set of worlds is bigger than before. As the restrictor set for the universal quantifier becomes bigger, we obtain a stronger statement.¹⁵

Let us now consider the variant of example (34) where focus lies on the verb *pflanzen* ‘to plant’ in (37) repeated from (27b). In this case, it is the planting that is considered to require the least amount of work.

- (37) Um überhaupt Blumen zu PFLANZEN, habe ich Erde gekauft.
 In-order ÜBERHAUPT flowers to plant, have I soil bought
 ‘In order to even PLANT flowers, I bought soil.’

Analogous to (34) the embedded proposition is given in (38a). As focus lies on the verb in this case, the contents of $ALT_F(q)$ differ to the ones in (35b), they are given in (38b). As the alternatives entail each other, each one will required more work than its weaker alternative. They are again, ranked according to amount of work.

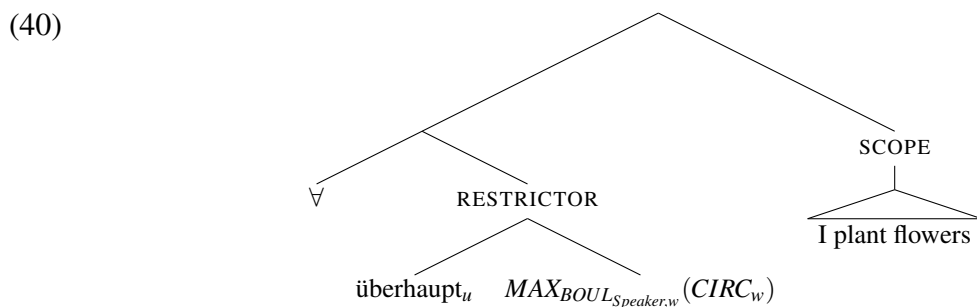
- (38) a. $q = \lambda w. I \text{ plant flowers in } w$
 b. $ALT_F(q) = \{ \lambda w. I \text{ sell flowers in } w > \lambda w. I \text{ harvest flowers in } w > \lambda w. I \text{ grow flowers in } w > \lambda w. I \text{ plant flowers in } w \}$

Again, the set of focus alternatives ranked higher than q will include all propositions except q itself. The ordering source will be reduced in the following way:

- (39) $BOUL_{x,w} \setminus \{ \lambda w. I \text{ sell flowers in } w > \lambda w. I \text{ harvest flowers in } w > \lambda w. I \text{ grow flowers in } w \}$

Less propositions in the ordering source means that we accept more worlds in the set quantified over by the desire component of *um*. The restrictions are lowered. Not only is q now true in the set of worlds, that make the most propositions of the ordering source true, but crucially, q will also be true in worlds that make only q and none of its higher ranked alternatives true. Then, *um* says that q being true in those less-ideal worlds is causally linked to p .

Structurally, I assume *überhaupt_u* in *um* to combine with $MAX_{BOUL_x}(CIRC_w)$. In other words: The restrictor set of the bouletic modal. (40) is a representation of the structure of the bouletic modal.



¹⁵This is a desired result as any statement with unstressed *überhaupt* entails its *überhaupt*-less counterpart.

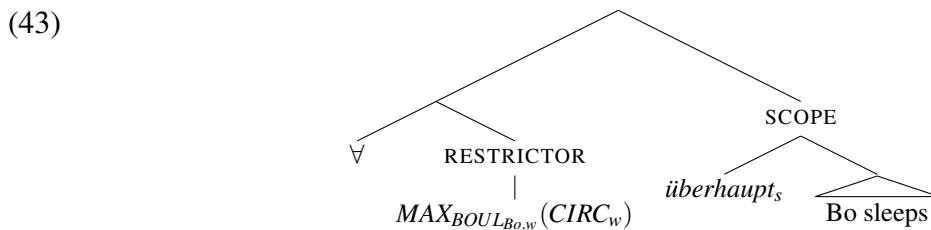
I have claimed that *überhaupt_u* removes all higher ranked alternatives to *q*, the embedded proposition from the ordering source. This exhaustification on the alternatives is supported by the data in (41). The sentence in (41) shows that a purpose clause with *überhaupt_u* can be supplemented with the exclusive particle *nur* ‘only’ without a change in meaning.

- (41) Su hat einen starken Kaffee getrunken, um überhaupt (nur) AUFZUSTEHEN.
 Su has a strong coffee drank in-order ÜB. (only) get-up
 ‘Su had a strong coffee, in order to even get up.’

So what is the difference between the stressed and the unstressed variant? I claim that whereas *überhaupt_s* removes restrictions provided by the context directly, *überhaupt_u* leads to domain widening in an indirect way via modification of the ordering source of the bouletic modal as part of *um*. Consider first the case of *überhaupt_s* in a purpose clause as in (42b) in the context (42a).

- (42) a. Context: *Bo likes to sleep in air-conditioned rooms. It is in the middle of summer and very hot. Bo is in a hotel, where the air-conditioning is broken.*
 b. ... also hat Bo eine Tablette genommen, um ÜBERHAUPT zu schlafen.
 ... so has Bo a pill taken, in-order ÜBERHAUPT to sleep
 ‘... so Bo took a pill, in order to sleep at all.’

In the stressed case, I follow Anderssen (2006) in that *überhaupt_s* removes restrictions provided by the context. In (42) the restriction removed is *in air-conditioned rooms*. We move from a more constrained desire (*sleep in a/c rooms*) to a broader one (*sleep*). A paraphrase including any is ... *in order to get any sleep*. The structure of the desire component of (42b) is given in (43). The stressed variant scopes over the embedded proposition *q*, which in (42) is $\lambda w. Bo\ sleeps\ in\ w$.



The denotation of (42b) is given in (44).

- (44) $\llbracket(42b)\rrbracket^w =$
 $\llbracket \forall w' \in MAX_{BOUL_{Bo,w}}(CIRC_w) : Bo\ sleeps\ in\ w' \rrbracket \Rightarrow_C Bo\ took\ a\ pill\ in\ w$
 $= 1$ iff *Bo sleeps* is true in all circumstantially accessible worlds which make the most desires of Bo in *w* true and this is a cause for Bo to take a pill.

In other words, (42b) will be true iff the proposition Bo sleeps is a super set to his bouletic alternatives, and this causes the proposition Bo takes a pill to be true in the actual world. Now let us turn to the unstressed case, consider (45b) in the context (45a).

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- (45) a. Context: *Bo wants to dig up his childhood. He wants to start writing a dream journal and keep track of his dreams. He then wants to talk to his therapist about his dreams and finally understand his childhood and his inner workings. On the first night of this project, Bo had drunk six cans of Red Bull. He is now lying in bed wide awake.*
- b. ...also hat Bo eine Tablette genommen, um überhaupt zu SCHLAFEN.
 so has Bo a pill taken, to ÜBERHAUPT to sleep
 '...so Bo took a pill in order to even SLEEP.'

In the unstressed case, the embedded proposition is (46a), the focus alternatives vary are provided by the context and are given in (46b).

- (46) a. $q = \lambda w. Bo \text{ sleeps in } w$
- b. $ALT_F(q) = \{\lambda w. Bo \text{ understands his childhood in } w > \lambda w. Bo \text{ talks to his therapist in } w > \lambda w. Bo \text{ writes down his dreams in } w > \lambda w. Bo \text{ dreams in } w > \lambda w. Bo \text{ sleeps in } w\}$

The ordering source as part of *um* will be modified by excluding from it all propositions ranked higher than $\lambda w. Bo \text{ sleeps in } w$ from $ALT_F(\lambda w. Bo \text{ sleeps in } w)$. The truth-conditions of (45b) are given in (47).¹⁶

- (47) $\llbracket(45b)\rrbracket =$
 $[\forall w' \in MAX_{BOUL} \setminus \{q': q' \in ALT_F(BS) \wedge q' > BS\} (CIRC_w) : BS(w')] \Rightarrow_C BP(w)$
 $= 1$ iff *Bo sleeps* is true in all circumstantially accessible worlds which make the most desires except all stronger alternatives of *Bo sleeps* of Bo in *w* true and this is a cause for Bo to take a pill.

In sum, this paper aimed to provide an explanation for the meaning of German *überhaupt* in purpose clauses, which takes into account its focus-sensitive scalar meaning but also preserves its domain widening meaning (cf. Anderssen 2006). Specifically, my claim is that in purpose clauses, unstressed *überhaupt* modifies the ordering source included in the desire component of *um*. By ruling out all the higher-ranked focus alternatives of the embedded proposition *q* in the construction *p in order to q*, the requirements for possible worlds to be in the set quantified over universally is lowered. In consequence more worlds are accepted in the set of worlds quantified over. We therefore obtain a wider set, in the case of unstressed *überhaupt*.

6. Licensing unstressed *überhaupt*

As noted by König (1983), there is good reason to treat *überhaupt_u* as an NPI. The contrasts below are further evidence. The unstressed variant is fine in questions as in (48a) but not good in declaratives as in (48b).

¹⁶For the sake of clarity I use *BS* to represent the proposition $\lambda w. Bo \text{ sleeps in } w$ and *BP* to represent the proposition $\lambda w. Bo \text{ took a pill in } w$.

- (48) a. Hast du überhaupt ANGEFANGEN?
 Have you ÜBERHAUPT start
 ‘Did you even Start?’
 b. # Paul hat überhaupt ANGEFANGEN.
 Paul has ÜBERHAUPT started.
 #‘Paul even started.’¹⁷

In (49a) we find that *überhaupt_u* in the restrictor of the universal quantifier *jeder* is acceptable. In the nuclear scope of *jeder* however, it is bad, as in (49b).

- (49) a. Jeder, der es überhaupt VERSUCHT, kriegt eine Medaille.
 Every-one who it ÜBERHAUPT tries gets a medal
 ‘Everyone who even TRIES, gets a medal.’
 b. # Jeder, der es versucht, kriegt überhaupt eine MEDAILLE.
 Every-one who it tries gets ÜBERHAUPT a medal
 #‘Everyone who tries, gets even a medal.’

Naturally the question arises, how its use is licensed in the case of purpose clauses, as they are non-DE as the non-entailment from (50a) to (50b) shows.¹⁸

- (50) a. Bo stellt sich beim Kiosk an, um Eis zu kaufen.
 Bo puts himself at-the kiosk on in-order ice-cream to buy
 ‘Bo gets in line at the kiosk in order to buy ice cream.’
 b. \nRightarrow Bo stellt sich beim Kiosk an, um Schokoeis zu kaufen.
 Bo puts himself at-the kiosk on in-order chocolate-ice-cream to buy
 ‘Bo gets in line at the kiosk in order to buy chocolate ice cream.’

The licensing of *überhaupt_u* in purpose clause follows from my account in the following way: The restrictor of a universal quantifier is known to license the use of NPIs, as in (51a), where the NPI *ever* is fine, as opposed to (51b), where *ever* appears in the nuclear scope of *every*.

¹⁷The relevant reading is the one where *even* has its most-likely reading.

¹⁸Note that the addition of a necessity modal in the matrix clause makes them DE, as the entailment in (i) shows.

- (i) a. Lu muss sich am Kiosk anstellen, um Eis zu kaufen.
 Lu must herself at-the kiosk get-in-line in-order ice-cream to buy
 ‘Lu has to get in line at the kiosk in order to buy ice cream.’
 b. \Rightarrow Lu muss sich am Kiosk anstellen, um Schokoeis zu kaufen.
 Lu must herself at-the kiosk get-in-line in-order chocolate-ice-cream to buy
 ‘Lu has to get in line at the kiosk in order to buy chocolate ice cream.’

(i) has a paraphrase as a so called anankastic conditional (cf. Bech 1983; von Stechow et al. 2006; Sæbø 1985; Sæbø 2020; von Fintel and Iatridou 2005). The use of *überhaupt_u* as an NPI in this case will be licensed by the conditional nature of the construction *If Lu wants (NPI) to get ice cream, she has to get in line at the kiosk*. I will put this issue aside and focus on modal-less purpose clauses.

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- (51) a. Every [boy, who ever went to Paris,]_{Restrictor} [liked it.]_{scope}
b. # Every [boy, who went to Paris,]_{Restrictor} [ever liked it.]_{scope}

In parallel to an overt universal quantifier in (51), I propose that *überhaupt_u* is licensed in purpose clauses by virtue of its position in the restrictor of a universal bouletic modal.

$$(52) \quad \forall w' \in \textit{überhaupt}_u(\text{BOUL-ALT}_{x,w}) \subseteq q(w')$$

(52) represents the desire component of a purpose clause with *überhaupt_u* where q is the embedded proposition. Note the parallels between (52) and (51a). In both cases the NPI is in the restrictor of a universal quantifier.¹⁹

7. Conclusion

I aimed to provide an explanation for the meaning of German *überhaupt* in purpose clauses, which takes into account its focus sensitive scalar meaning but also preserves its domain widening meaning (which has been argued for the stressed variant by Anderssen 2006). Specifically, my argument is that in purpose clauses, unstressed *überhaupt* modifies the ordering source included in the desire component of *um*. By ruling out all the higher-ranked focus alternatives of the embedded proposition q in the construction *p in order to q*, the requirements for possible worlds to be in the set quantified over universally is lowered. In consequence, more worlds are accepted in the set, leads to a wider domain, we thereby arrive at a domain widening effect, in an indirect way. Further, I have shown evidence for the NPI-status of *überhaupt* and argued that its use in *um*-constructions is licensed due to its position in the restrictor of the bouletic modal as part of *um*, which – like other universal quantifiers – allows for NPIs in its restrictor.

8. Open Issues and Problems

Assuming a position for unstressed *überhaupt* in the restrictor of the bouletic modal provides an explanation for the licensing problem. On the other hand, there are issues this assumptions raises. The first problem pertains to the syntactic assumptions and compositionality. If we take seriously the idea, that *überhaupt_u* combines directly with the ordering source as a set of propositions of type $\langle st, t \rangle$, we predict *überhaupt_u* as a modifier of sets of propositions to be of type $\langle \langle st, t \rangle, \langle st, t \rangle \rangle$, a function introducing some restrictions on a set of worlds. A generalization to account for its flexible combinatorial potential does seem more suitable, as occurs in many non-modal contexts. A generalization building out the intuition of Anderssen (2006) that the particle removes restrictions in different contexts, seems to be a promising line. In this way, restriction on the ordering source could be removed in the same way that restrictions are removed in the domain widening case.

There is moreover a question which concerns the focus-sensitivity of *überhaupt_u*. As a modifier

¹⁹Covert universal quantification has also been argued to be the licensing factor for NPIs in the case of *before*-clauses by Condoravdi and Beaver (2003). Whereas *before*-clauses involve universal quantification over time points, *after*-clauses involve existential quantification (cf. Anscombe 1964).

of the ordering source, the particle is not in a position to scope over the focused material in *q*. Following Beaver and Clark (2003: 142), elements like *even* or *only* conventionally associating with focus, need to have the focused material in their syntactic scope. If the focus-sensitivity of *überhaupt_u* is parallel to that of *even* (as the paraphrases suggest) a higher position might be better suited.

Further, in assuming a position in the restrictor of the universal bouletic modal for *überhaupt_u* predicts that this position should be able to host other NPIs. So we should expect other NPIs such as *auch nur* or *jemals* to be fine in purpose clauses. This is borne out for *auch nur* as in (53). However *um*-clauses with the NPI *jemals* ‘ever’ are odd, as in (53)

- (53) Gil hat jahrelang trainiert, um (*jemals/ auch nur) den dritten Platz zu holen.
 Gil has for-years trained in-order (ever /AUCH NUR) the third place to get
 ‘Gil trained for years, in order to (*ever/AUCH NUR) win third place.’

This problem can be attributed to the semantics of *jemals*, which prevents the sentence of being interpreted with respect to a reference time (Krifka, 1991: 172). As purpose clauses are episodic, the infelicity of *jemals* in purpose clauses can be accounted for.

Another interesting observation is that *um-überhaupt*-constructions are much more common and preferred when there is a necessity modal in the main clause as in (54), with the modal *muss* ‘have to’.

- (54) Um überhaupt/ÜBERHAUPT zu schlafen, muss Bo eine Tablette nehmen.
 in-order ÜBERHAUPT to sleep must Bo a pill take.
 ‘In order to (even sleep/sleep at all) Bo has to take a pill.’

These constructions can be paraphrased as a so called anankastic conditional of the following form: *If Bo wants to sleep, he must take a pill.* Since the conditional licenses the use of NPIs in its antecedent, NPIs might be preferred in these structures.

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