

Generalized Domain Widening *überhaupt**

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1. Introduction and Background

In this article, I discuss the German adverb *überhaupt* and argue that its purpose is to remove restrictions present in the context. I relate this to the mechanism of domain widening, assumed in several recent analyses of the English negative polarity item (NPI) *any*, and propose that *überhaupt* may be analyzed as a generalized domain widener, which has the freedom to appear in a variety of contexts, and to combine with items of different syntactic categories, removing restrictions across the board. The family of accounts to NPIs that I discuss below ties domain widening to a strengthening condition, and can account for the German data even in non-NPI licensing contexts. I thus take the German data to be support for this family of accounts. In the light of these data, the English NPI *any* can be regarded a special instance of domain widening morphologically tied to existential indefinites.

1.1. Outline

In this section, I summarize some background literature on negative polarity *any*, in particular what I take to be the core of the analyses that assume a mechanism of domain widening. The following main section of this paper then turns to data from German, involving the adverb *überhaupt*. I first present cases equivalent to the English *any* ones, and illustrate distributional similarities between phrases with *überhaupt* and *any*. Then I will turn to the main difference between *überhaupt* and *any*, namely that *überhaupt* does not contain an indefinite determiner, but rather merely combines with one, while, in contrast, the semantic complexity overt in the German data is hidden in the English monomorphemic *any*. I show that the morphological freedom *überhaupt* has allows it to combine with elements other than indefinite determiners. I argue that for all data involving *überhaupt*, its purpose can be intuitively characterized as removing contextual restrictions, and that the intuition behind the domain widening analysis carries over to give a coherent account of these data.

1.2. Negative Polarity, Domain Widening, and Strengthening

In English, NPIs like *even* or *any* are restricted to certain contexts, for instance to the scope of negation, or the restrictor of a universal quantifier, though not its nuclear scope. (1) and (2) below illustrate this.¹

- (1) a. I hadn't ever been to Seattle before.
b. *I had ever been to Seattle before.
- (2) a. Every friend of mine who had ever been to Seattle liked it.
b. *Every friend of mine who liked Seattle had ever been to it.

*This paper improved through discussions with and comments from, among others, Angelika Kratzer, Chris Potts, my class mates at UMass Amherst, the UMass Semantics Reading Group, the audience of the Southern New England Workshop in Semantics (SNEWS) 2005, the audience of WCCFL 2006, Uli Sauerland, Ilaria Frana, Meredith Landman, Orin Percus and Bernhard Schwarz. Many thanks to them. The credit for all remaining shortcomings, though, is entirely mine.

¹I will set aside for this paper the free choice use of *any* and its relation to the negative polarity use.

Several proposals have been made as to what unifies different NPI-licensing environments. While some approaches assume a syntactic feature shared by the licensing environment, e.g. *affective* or *negative* (Klima 1964, Baker 1970), others propose more algebraically oriented solutions. Ladusaw (1979), for instance, characterizes the environments by their entailment patterns, calling the NPI licensing environments *downward entailing*, as defined in (3) below.²

- (3) An operator Op is downward entailing (DE) if and only if for any arguments X and Y , $X \subseteq Y \rightarrow Op(Y) \subseteq Op(X)$. It is upward entailing if and only if $X \subseteq Y \rightarrow Op(X) \rightarrow Op(Y)$. It is non-monotone otherwise.

In later proposals, the distribution of NPIS has been linked to their semantic contribution (Kadmon and Landman 1993, Krifka 1995, Lahiri 1998, Chierchia 2004). These proposals have investigated why NPIS seem to occur with ease in DE environments rather than elsewhere. They share the idea that NPIS are subject to a *strengthening requirement*, possibly imposed by a particular assertion operator related to emphatic items (see Krifka 1995), or by a particular closure operation over widened domains (see Chierchia 2004). Roughly speaking, an NPI under these views is compared to alternative items which it introduces and its use is licensed if and only if the proposition containing the NPI is semantically stronger than the corresponding propositions which involve the alternative items.³ Characterizing environments in terms of their entailment relations, in combination with the proposed semantics for each NPI, can explain how choosing an NPI over a regular item can lead to information gain in one environment while it might lead to a relative loss of information in an environment with opposite entailment pattern. Kadmon and Landman's example in (4) below serves as an illustration of this.

- (4) a. I have (*any) potatoes.
 b. I don't have (any) potatoes. [Kadmon and Landman 1993]

The widening/strengthening proposals assume that a DP headed by *any*, for instance *any potatoes*, is an alternative to a plain indefinite DP, like *potatoes*. Both indefinite DPs share a semantic core, existential quantification, but they differ in that *any* additionally invokes widening of the domain restrictor of the existential quantifier.⁴ The meaning of (4) above can be modeled using the logical representation in (5).

- (5) a. $(\exists x \in D) \text{ potato}(x) \wedge \text{have}(\text{speaker}_c, x)$
 b. $\neg(\exists x \in D) \text{ potato}(x) \wedge \text{have}(\text{speaker}_c, x)$

What differs in these translations depending on the use of *any* is the content of the quantifier domain, D . Without *any*, D corresponds to the regular, contextually supplied domain of individuals, which contains all and only individuals standardly under consideration in the current utterance situation for the particular quantifier. With respect to (4), this domain might for instance include regular cooking potatoes, but not decorative ones, or little crumply ones. When using *any* as a determiner, it is conveyed that this domain should be extended in some way to include potatoes not usually under consideration. Importantly, the widened domain corresponding to the *any* quantifier then is a superset of the domain of the alternative plain existential quantifier.

Since the alternative sentences differ only in their quantifier domains, with one domain always being a subset of the other, there is an entailment relation between the two corresponding propositions. In the positive context in (4a), the proposition corresponding to the *any* sentence will be entailed by the proposition corresponding to the plain indefinite sentence, and hence the strengthening condition will not

²Following the work by Ladusaw, other semantic characterizations of environments have been proposed, such as anti-morphic (AMO), anti-additive (AA), or non-veridical (NV). These environments are related, and are supposed to account for different subtypes of NPIS: $AMO \subseteq AA \subseteq DE \subseteq NV$ (see for instance van der Wouden 1994, sec 1.4).

³Where semantic strength is defined f.i. as in Krifka 1995, p. 219 recursively for all types that "end in t" (also Partee and Rooth 1983): α is semantically stronger than β ($\alpha \subseteq \beta$), (a) if α, β are of type t, then $\alpha \subseteq \beta$ iff $\alpha \rightarrow \beta$, or (b) if α, β are of type $\langle \sigma, \tau \rangle$, then $\alpha \subseteq \beta$ iff for all γ of type σ : $\alpha(\gamma) \subseteq \beta(\gamma)$. Krifka uses the subset symbol to denote semantic strength, and his definition mirrors the intuitive connection. In the rest of this paper I will use the symbol \subseteq for the familiar subset relation.

⁴On quantifier domain restrictors see e.g. Westerståhl (1984), von Stechow (1994), Stanley and Szabó (2000), Martí (2003).

be satisfied. In the negative context in (4b) however, the entailment pattern is reversed, the use of *any* will lead to a stronger statement, and is correctly predicted to be available. Abstracting away from the particular example, this is illustrated again below in (6).⁵

- (6) Where $D \subseteq D'$, for any P, Q ,
- a. $(\exists x \in D) P(x) \wedge Q(x)$ entails $(\exists x \in D') P(x) \wedge Q(x)$
 - b. $\neg(\exists x \in D') P(x) \wedge Q(x)$ entails $\neg(\exists x \in D) P(x) \wedge Q(x)$

In the remainder of this paper, I set aside two relevant topics. First, I will say nothing about whether or how all contexts that license NPI *any* can be subsumed under the notion of downward entailment. For the comparisons between *überhaupt* and *any* in the following section, I will simply take *any* licensing contexts, and show that *überhaupt* patterns alike. Second, I will not be concerned with the question of where the strengthening condition should be situated. Several speakers of German have expressed that *überhaupt* seems to add emphasis to a statement, which could suggest that these sentences should be treated as emphatic assertions with a particular assertion operator containing the strengthening condition, as argued for in Krifka (1995).⁶

2. Widening quantifier domain restrictions

In this section I start to investigate the German adverb *überhaupt*. I chose the German case because of the resources available to me, though a preliminary survey by Hagit Migron (Migron 2005) indicates that similar items seem to be available in a wide variety of languages.⁷

The following subsection shows cases where *überhaupt* and some form of indefinite DP act like *any* DPs in English, illustrating that the assumed semantic complexity hidden in the monomorphemic *any* is morphologically transparent in German. I propose that *überhaupt* should be thought of as corresponding to the domain widening part of *any*, while the indefinite DP contributes a regular existential meaning.

2.1. *Überhaupt and indefinite DPs*

The following examples illustrate the parallels between German *überhaupt* and English *any*. (7) below are translations for Kadmon and Landman's examples in (4). As with *any*, *überhaupt* can be used in a DE context, such as (7b), but not in the corresponding positive case in (7a).⁸

- (7) a. Ich habe (*überhaupt) Kartoffeln. b. Ich habe (überhaupt) keine Kartoffeln.
 I have *überhaupt* potatoes I have *überhaupt* no potatoes
 'I have potatoes.' 'I don't have (any) potatoes (at all).'

The examples in (8) below illustrate the same point. *Überhaupt* here combines with an existential indefinite pronoun *etwas* (*something*), to yield a meaning analogous to English *anything*. Again, *überhaupt* can be used in the scope of a DE element, like rarely, but not in the contrasting non-DE context.

- (8) a. Von solchen Leuten kann man selten (überhaupt) etwas lernen.
 from such people can one rarely *überhaupt* something learn.
 'It's rare that you can learn anything at all from such people.'
 b. Von solchen Leuten kann man häufig (*überhaupt) etwas lernen.
 from such people can one often *überhaupt* something learn.
 'You can often learn something from such people.'

⁵From Chierchia (2004, pp. 71f.).

⁶However, see Chierchia (2004) for a more local approach and arguments for it.

⁷See also Krifka (1995, pp. 233ff.) on *at all*.

⁸These examples are slightly complicated by the fact that the German negative indefinite *kein* is not indicative of the semantic scope of negation, but agrees with a negative operator with wider scope (see Penka and von Stechow 2001).

The combination *überhaupt etwas* is furthermore licensed in various other *any* licensing contexts, for instance in antecedents of conditionals, in questions, or when embedded under certain verbs, as illustrated in (9a-d).

- (9) a. Falls du (überhaupt) etwas sagst, überleg dir gut was.
if you *überhaupt* something say, think about to you well what
'If you say anything at all, think twice what you will say.'
- b. Hast du (überhaupt) etwas zu trinken im Haus?
have you *überhaupt* something to drink in the house
'Do you have anything to drink at all in the house?'
- c. Ich hoffe, dass (überhaupt) etwas passiert.
I hope that *überhaupt* something happens.
'I hope that anything will happen at all.'
- d. Ich fürchte/denke/glaube, dass (*überhaupt) etwas passiert.
I fear/think/believe that *überhaupt* something happens.
'I fear/think/believe that something will happen.'

In the domain widening analyses of English *any*, *any* is assumed to be semantically complex, containing an indefinite and a domain widening element. This complexity however is not morphologically visible in English. In the corresponding German examples, on the other hand, we can identify the familiar indefinite element independently. I will therefore examine the hypothesis that *überhaupt* corresponds to the domain widening element. Under this hypothesis, the semantic complexity hidden in English *any* would be morphologically overt in German. In the next paragraph, I summarize one particular analysis of *any*, and show how it can be adapted for the German cases.

Chierchia (2004) proposes that *any* differs from other existential quantifiers in that it is interpreted with respect to a widened domain. He further proposes that no particular widened domain should be preferred, and hence makes the variable over widened domains subject to universal closure at a higher level. For Kadmon and Landman's example in (4), Chierchia would assume a representation as in (10).^{9,10}

$$(10) \quad (\forall D' \supseteq D) \neg(\exists x \in D') \text{ potato}(x) \wedge \text{have}(\text{speaker}_c, x)$$

This representation can be derived for the German cases as follows. The variable introducing the contextual restriction on the quantifier needs to be made available to object language operators. Some mechanism for this is needed independently, since various researchers have shown that these variables can be bound by object language expressions (Stanley and Szabó 2000, Martí 2003). I will use a type shifting operation as defined in (11) to make the variable available for binding, but other ways could be chosen to achieve the same. *H* here represents a quantifier with a contextual domain restriction *C*. The operation merely corresponds to abstraction over this operator in order to make the variable available for modification or binding by object language expressions such as *überhaupt*.

$$(11) \quad \lambda P_{(et)}. \lambda Q_{(et)}. H_C(P)(Q) \Rightarrow \lambda C_{(et)}. \lambda P_{(et)}. \lambda Q_{(et)}. H_C(P)(Q)$$

Überhaupt can then be modeled as in (12). It takes a shifted quantifier *H* as its first argument and returns a meaning of the type of regular generalized quantifiers.¹¹ The resulting construction exhibits the same context dependency as the corresponding plain quantifier, which correctly predicts that the free

⁹Chierchia implements quantification over domains that are supersets of the contextually supplied domain by proposing that *any* introduces a variable over domain-widening functions (*g* below) that has to be universally bound. As far as I can see, both quantifying over domains larger than that contextually supplied one and quantifying over domain-expansion functions that apply to the contextually supplied domain will lead to the same result $\{\{D' \mid \exists g. D' = g(D)\} = \{D' \mid D' \supseteq D\}$ by definition of *g* as a variable ranging over all domain widening functions, i.e. functions that map a domain *D* to a domain *D'* such that $D' \supseteq D$). Hence, I will simply use quantification over domains in the examples here.

¹⁰Chierchia assumes that no quantification is possible without contextual restriction, and explicitly restricts the closure operator as well. For ease of reading, I will omit the contextual restriction variable on the closure operator in the representations.

¹¹The way in which *überhaupt* combines with the quantifier meaning is similar to items like English *almost*.

domain variable (here C) is still available for binding by a higher operator. Under these assumption, the representation in (13) can be derived for the German translation of Kadmon and Landman’s (4). As desired this corresponds to (10).

$$(12) \quad [\text{überhaupt}] = \lambda H_{\langle et, \langle et, \langle et, t \rangle \rangle} . \lambda P_{\langle et \rangle} . \lambda Q_{\langle et \rangle} . \forall C'_{\supseteq C} . H(C')(P)(Q)$$

$$(13) \quad (\forall C'_{\supseteq C}) \neg(\exists x_{\in C'}) \text{ potato}(x) \wedge \text{have}(\text{speaker}_C, x)$$

2.2. *Überhaupt and universal quantifiers*

Überhaupt, being a free morpheme, is able to combine with elements other than indefinite determiners. The following data in (14) illustrate another case where *überhaupt* can be used. Here, *überhaupt* combines with the universal quantifier *jede* (*every*).

- (14) a. Meine Mutter kennt (überhaupt) jeden in Mindelheim.
my mother knows *überhaupt* everybody in Mindelheim
‘My mother knows (absolutely) everybody in Mindelheim.’
b. Meine Mutter kennt nicht (*überhaupt) jeden in Mindelheim.
my mother knows not *überhaupt* everybody in Mindelheim
‘My mother doesn’t know everybody in Mindelheim.’

In contrast to classical NPI licensing accounts, the family of accounts assumed here, where domain widening is licensed under strengthening, immediately predicts the observed pattern, as the entailments in (15) hold; that is, domain widening leads to strengthening in the non-negative environment, but not in the negative one.

- (15) Where $D \subseteq D'$, for any P, Q ,
a. $(\forall x_{\in D'}) P(x) \rightarrow Q(x)$ entails $(\forall x_{\in D}) P(x) \rightarrow Q(x)$
b. $\neg(\forall x_{\in D}) P(x) \rightarrow Q(x)$ entails $\neg(\forall x_{\in D'}) P(x) \rightarrow Q(x)$

The compositional analysis given for the existential cases in the previous subsection extends straightforwardly to the universal case above. The fact that NPI *any* is restricted to downward entailing contexts is then merely an accident of its morphological ties to the existential quantification.

3. Removing restrictions cross-categorically

As an adverb, *überhaupt* does not only combine with DPs, but also with phrases of other categories, as discussed in the following sections. In all these cases, *überhaupt* removes restrictions present in the context. I show how an account in terms of domain widening might capture this, and account for distribution and meaning of *überhaupt*.

3.1. *Modifying comparison classes*

Gradable adjectives are sensitive to contextual information as well, as illustrated by examples like (16) below.

- (16) The Mars Pathfinder mission is expensive. [Kennedy 1997]

(16) may be false in some contexts, for instance when considering various space missions so far, and true in others, for instance when comparing objects that we deal with on a regular basis. One family of accounts to positive gradable adjectives has been making use of contextually supplied comparison classes (see for instance Klein 1980). Comparison classes are defined as sets of objects by which some standard of comparison is determined that will serve to partition the ordered domain of the adjective into those objects that lie above the standard and those that don’t. For the example above, for instance, the objects in the domain of expensive are ordered by their price, say as in (17a). For illustration, we may assume that the standard value corresponds to the median price of the comparison class. If (16) is evaluated with

respect to the comparison class in (17b), it is evaluated as true, since the Mars Pathfinder mission lies above Kyle's BMW on the scale in (17a). If however the comparison class in (17c) is considered, (16) comes out false as the Mars Pathfinder mission lies below the Mars Phoenix mission on (17a).¹²

- (17) a. ⟨... , this pen, ... , my cheap bookshelf, ... , my friend's A/C, ... , next year's textbooks, ... , Kyle's BMW, ... , that guy's HumVee, ... , AirForce One, ... , the Mars Pathfinder Mission, ... , a manned Mars mission, ... ⟩
 b. {this pen, my friend's A/C, Kyle's BMW_{median}, AF One, the Mars Pathfinder mission}
 c. {Mars Pathfinder, Deep Impact, Mars Phoenix_{median}, Mir, manned Mars mission}

Assuming that comparison classes are usually contextually supplied arguments of rather similar type to quantifier domain restrictions (see again Stanley and Szabó 2000, pp 233f.), it fits well into the picture drawn of *überhaupt* that it can grab hold of these arguments as well. (18) below illustrates a case in favor. (18b) says that, in contrast to (18a), Richard is tall not only for somebody who has not yet grown up, but that he is quite generally tall.

- (18) a. Richard ist ganz schön groß für einen noch nicht Ausgewachsenen.
 Richard is quite tall for a yet not grown-up
 'Richard is quite tall for somebody who is still growing up.'
 b. Richard ist überhaupt ganz schön groß.
 Richard is *überhaupt* quite tall
 'Richard is quite tall in general.'

To account for this, the variable over comparison classes needs to be available to *überhaupt*, which can then in turn quantify over it. Similar to the quantifier cases above, this can be achieved with a similar type shift, as in (19) and consecutive modification, as in (20).

- (19) $\lambda x_e . f_C(x) \Rightarrow \lambda C_{(et)} . \lambda x_e . f_C(x)$
 (20) $[[\text{überhaupt}]] = \lambda H_{(et,et)} . \lambda x_e . \forall C'_{\supseteq C} . H(C')(x)$

The example in (18b) above then is translated as (21) below.

- (21) $(\forall C'_{\supseteq C}) . \text{tall}(C')(r)$, with C and C' being variables over comparison classes.

Since the threshold values corresponding to different comparison classes are ordered, we also have an ordering of the comparison classes. This translates into an ordering by semantic strength. In the case above, if the comparison class is widened to include people above the height of not yet grown-ups, the relevant standard will rise, and the resulting proposition will entail the one with the smaller comparison class, thus licensing the use of domain widening.

In addition, this account predicts that in some cases where a comparison class that already imposes a high standard value is widened, the result will be odd. This prediction is born out as illustrated by examples like (22), where *sogar* (*even*) marks the statement as unlikely. As noted by Krifka (1995, pp. 227f.), in the case of ordered alternatives, there is a connection between semantic strength and likelihood, with the least likely alternative being semantically strongest. Hence if *sogar* marks a particular comparison class as unlikely, we will have entailment relations between the alternative propositions, and the oddity is explained.

- (22) Sogar für einen Basketballspieler ist er (#überhaupt) ganz schön groß.
 even for a basket ball player is he *überhaupt* quite tall
 'He's quite tall, even for a basket ball player.'

¹²For a critical, more detailed discussion and references see Kennedy (1997, pp. 88ff.).

- (26) a. B: Ich habe mir überhaupt kein Geld von Fritz geliehen.
 I have to me *überhaupt* no money from Fritz borrowed.
 B: ‘I didn’t borrow any money from Fritz at all.’
- b. B’: Ich kenne Fritz überhaupt nicht.
 I know Fritz *überhaupt* not.
 B’: ‘I don’t even know Fritz.’

In a context where (25) is uttered, the speaker could respond with (26a), stating that (25) is not true, because the speaker did in fact not borrow any money at all from Fritz. What is under debate here is the amount of money borrowed, and (26a) states that, even considering small amounts of money, the speaker didn’t borrow any. This falls under the category of examples where *überhaupt* combines with an existential in downward entailing contexts, as discussed in the beginning of the previous section. If the speaker however responded with (26b), the discourse would still be felicitous, though no longer regarding the amounts of money borrowed. Instead the speaker would have stated that (25) didn’t even stand a chance of being true, since some pre-condition for borrowing money, namely knowing that lender, has not been satisfied.¹⁴

There is an intuitive connection between these items and the ones discussed above, through regarding presuppositions as restrictions on the discourse. *Überhaupt* can then be thought of as removing these restrictions, thus widening the context set. However, this case of domain widening must be handled with greater care than the previous ones. Universally quantifying over all widened context sets would, for instance, be clearly inappropriate in this case, as it would effectively clear the common ground. Rather, *überhaupt* selectively removes some proposition that is prominent in the discourse from the common ground. While this fits the intuition behind the proposal above, investigating the details and modifying the implementation or the proposal so that it can capture the data discussed here is left open for future research.

4. Summary and open ends

I have argued that the German adverb *überhaupt* is an item that modifies the denotation of expressions it combines with by removing restrictions present in the context. I have related this to the notion of domain widening proposed in recent accounts of negative polarity items. I have shown that extending these accounts to the *überhaupt* data does not only capture the use of *überhaupt* with existential quantifiers in downward entailing contexts, but also correctly captures its availability with universal quantifiers in upward entailing contexts, something that traditional accounts of NPIS could not have captured. Further, I have shown that *überhaupt* can modify items of diverse syntactic categories, in each case removing restrictions on those items present in the context. I take this to be an argument for the existence of these frequently covert restrictors at the object language level.

I could not investigate several interesting properties of *überhaupt*, in particular details of its syntax, as well as its relation to intonation and pitch accents. Also the connection drawn in Krifka (1995) to emphatic particles and emphatic assertion is left unexplored at this point. Finally, as indicated in the last section, more pragmatic uses of *überhaupt*, relating to propositions presupposed in the context, provide a variety of data that could only partially be taken into account at this point.

¹⁴In the example above, the main sentence accent lies on *kenne*, rather than on *überhaupt* as in most other cases discussed. This is characteristic of many examples in this category. In general pitch accent seems to be used to disambiguate ambiguous readings of *überhaupt*. These observations warrant a more careful investigation, but will have to be set aside for the purposes of this paper.

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| (i) | b. | B’: I kenne Fritz überhaupt nicht.
I know Fritz <i>überhaupt</i> not
B’: ‘I don’t know Fritz at all.’ | c. | B’’: I kenne Fritz überhaupt nicht.
I know Fritz <i>überhaupt</i> not
B’’: ‘I don’t know Fritz at all.’ |
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