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Negation and approximation of antonymic meanings as configuration construals in SPACE*

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Abstract

This article investigates native speakers' interpretations of negation in combination with BOUNDED antonymic adjectival meanings and also in relation to their interpretations of the approximating degree modifier, 'almost' in Swedish. The results of the this investigation are compared with a similar study by Paradis and Willners (2006), which includes 'not' with UNBOUNDED SCALE meanings and in relation to 'fairly'.

We propose that 'not' is a degree modifier and like all other degree modifiers it operates on the configurational contruals in SPACE. In combination with BOUNDED antonyms 'not' operates on the boundary and bisects a spatial structure. The combinations of 'not' and BOUNDED meanings are interpreted as synonyms of their antonyms. 'Almost closed' differs significantly from 'closed' but not from 'not open'. In contrast, in combination with UNBOUNDED antonyms, 'not' modifies the UNBOUNDED SCALE structure and evokes a range on the scale in SPACE in the same way as 'fairly' does. While the results for the UNBOUNDED meanings are very robust across all test items, the BOUNDED meanings are much more volatile and adaptive to alternative scalar interpretations.

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1. Introduction

Paradis and Willners (2006) investigated the interpretation of twenty UNBOUNDED (SCALAR) antonymic adjectives with and without negation, e.g. '(not) thin' – '(not) thick', and ten BOUNDED antonymic adjectives with and without negation, e.g. '(not) dead' – '(not) alive', as well as their interpretations with approximating degree modifiers: 'fairly' and 'almost'. The investigation was based on Swedish data and designed to test whether the negator was sensitive to the configuration of the adjective in terms of BOUNDEDNESS. The results of the experiments showed that negated UNBOUNDED adjectives did not evoke the interpretation of their antonyms, i.e. 'not thin' did not equal 'thick' but rather had an attenuating function similar to that of the degree modifier 'fairly'. For instance, 'fairly thin' was interpreted as similar to 'not thick'. The results of the UNBOUNDED adjectives were robust and the individual test items all behaved in the same way. The results of the experiments with BOUNDED adjectives, however, were more complex and inconclusive. Out of the five pairs included in the experiment, four different types of interpretational patterns of the antonym pairs emerged. Only a couple of the negated adjectives were interpreted as synonyms of their antonyms, e.g. 'not alive' equaled 'dead', while others readily lent themselves to be laid out on a scale. Due to the fact that there were only five pairs in the experiment with BOUNDED test items, the conclusions were necessarily cautious.

This paper revisits the issue of the semantics of negation and approximation of antonymic adjectives in Swedish. It brings forth three issues. Firstly, it takes another look at language users' interpretations of BOUNDED antonymic adjectives in order to confirm or disprove Paradis' and Willners' (2006) findings and thereby, hopefully, arrive at a more comprehensive and conclusive picture of how these adjectives are interpreted with and without negation and with 'almost'. It presents the results of a psycholinguistic experiment investigating the interpretation of BOUNDED antonymic adjectives and the role of negation and 'almost' with these adjectives. Two questions are central to the study (X and Y are assumed to be opposite values):

(i) Is BOUNDED (X) the same as *not* BOUNDED (Y), and *vice versa*?
(ii) Is *not* BOUNDED (X) the same as *almost* BOUNDED (Y), and *vice versa*?

Our hypothesis concerning the reading of the negator is semantic in nature and states that, when *not* combines with BOUNDED antonymic meanings, its function is to express the absolute opposite meaning, e.g. *not dead* equals *alive*, and the interpretations of *not,* as in *not alive*, and *almost*, as in *almost dead*, differ significantly. Secondly, the results from Paradis and Willners (2006) are assessed in relation to the outcome of the present study and the interpretation of the negator as a configuration construal of content structures in conceptual SPACE is discussed both with reference to sentential negation, morphological negation and the combination of the two in double negation, such as *not impossible* and *not unofficial*. Thirdly, broadly within the framework of Cognitive Semantics (Langacker 1987, Talmy 2000, Cruse 2002), this paper addresses the motivations and mechanisms behind various different interpretations of negation in the light of the theoretical implications of the results for meaning in language. It argues that the negator in combination with antonymic adjectives is a degree modifier. Negation is expressive of either totality with BOUNDED meanings or attenuation with UNBOUNDED SCALAR meanings.

2. Lexical meaning as ontologies and construals

The cognitive approach to meaning advanced in this paper takes concepts to form the ontological basis of lexical knowledge, which involves both encyclopedic and linguistic knowledge (Croft & Cruse 2004, Paradis 2005). The meaning of a lexical item is its use potential in conceptual SPACE (see also Allwood 2003 and Zlatev 2003 for similar ideas). Actual contextual readings of lexical expressions in language use are relevant portions of the meaning potential construed on the occasion of use.[1] Conceptual space is comprises to two types of ontological structure: *contentful structures* and *configurational structures* (Cruse & Togia, 1996, Paradis, 1997, 2001). Contentful meaning structures host encyclopedic knowledge, e.g. THING, EVENT, PROPERTY and configurational structures provide various configurational templates for the construal of meaning in human communication e.g. BOUNDEDNESS and SCALE. In addition to these conceptual pre-meaning structures, there is an operating system consisting of different types of *construals*, which are imposed on the pre-meanings by speakers and addressees at the time of use (Paradis 2004/2009, 2005, 2008a). Their role is to fix the final reading of lexical items in context. In our model, antonymy is treated as a construal that makes use of boundaries and scales in order to structure various content domains as opposites (Paradis & Willners submitted). A great deal of flexibility is built into our modeling of meaning in that configurational concepts such as BOUNDEDNESS and SCALE are considered to be free structures that are mapped on to different content domains. The advantage in the context of antonymic meanings is that it is a highly dynamic model in which we are able to treat both conventionalized and more *ad hoc* form-meaning couplings between configuration and content.

3. Antonymy, BOUNDEDNESS and DEGREE

A characteristic of antonyms is that they are construals of binary opposition. The members of the pairs are at the same time minimally different from one another, by way of content, and maximally different, by way of configuration (Willners, 2001: 17, Murphy, 2003: 43-45, Paradis 2008b). They denote the same contentful property, but they occupy opposite poles/parts of that structure. For instance, adjectives such as *long – short, good – bad* and *dead – alive* are considered to be typical members of the category and denote properties in the content spaces LENGTH, MERIT and EXISTENCE respectively (Paradis et al. submitted, Willners & Paradis forthcoming).[2]

Adjectival antonyms are thus basically of two kinds: UNBOUNDED (SCALAR) or BOUNDED antonyms (Paradis, 2001; Croft and Cruse, 2004: 164-92, Paradis & Willners 2007). UNBOUNDED antonyms such as *long* and *short* occupy opposite poles of a scale, which in this case is a scale of SIZE, and hence they are in the possession of more or less of the

[1] The model is usage-based which is to be understood both in terms of the importance of different kinds of observational techniques in linguistic inquiry that focus on how human beings make use of language (Paradis et al submitted) as well as the assumption that linguistic knowledge is usage-based in the sense that knowledge and use of words and constructions in discourse is based on generalizations over usage events (e.g. Langacker 1987: 46, Tomasello 2003: 1–8 , Croft & Cruse 2004: 3–4 , Verhagen 2005: 24, Goldberg 2006: 215).

[2] Following Gärdenfors (2000: 137), we define the term property as a region in one domain in conceptual space. In our case, the region is located in the contenful domain. Concepts, on the other hand, are regions based on several separable domains in conceptual space. In other words, properties are seen as special cases of concepts. They are independently defined and not only seen as parts of more complex concepts. Gärdenfors does not distinguish between content structures, such as LENGTH and configurational structures such as SCALE. He conflates the two and does not model schematic structures as free structures. He sees schematic structures as integral dimensions (2000: 24), since they do not occur on their own. Paradis (2005) models content structures and configurational structures separately and sees configurations as free structures that may apply to content structures more or less freely in different contexts, as this study will show.

conceptual content of that particular conceptual SPACE. They are counter-directional which means that when intensified they move away from one another in opposite directions of the scale. Extreme values of *long* and *short* only tend towards the extreme but actually never reach an end-point. This characteristic of being construed according to an UNBOUNDED SCALE is highlighted by the fact that *completely long* and *completely short* are infelicitous.

BOUNDED antonyms such as *dead* and *alive*, on the other hand, represent another type of configurational construal. They are complementaries in the sense that they are absolute and divide some conceptual domain into two distinct parts. *She is dead*, entails that *she is not alive* and *she is alive* entails that *she is not dead*. Because of this absolute divide, the expression *she is neither alive nor dead* comes across as paradoxical. It should be noted, however, that it is a general feature of most BOUNDED adjectives that they for more or less *ad hoc* purposes can be played around with and laid out on a scale (Paradis, 1997: 48-66, 2008a). For instance, *very dead* comes across as less conventional than *wide open.* Because of this flexibility that language offers, an alternative interpretation of *she is neither alive nor dead* could be 'almost dead' or 'half alive'. These interpretations presuppose both a scale and a boundary (Paradis, 1997: 65, Holleman & Pander Maat (in press)). Scalar adjectives, however, are normally not associated with a boundary and do not bisect a domain in an 'either-or' fashion. They are laid out on a scale, and there is a pivotal area between the two sides which makes the expression *this road is neither wide nor narrow* perfectly acceptable and natural.

Scalar readings of adjectives combine with UNBOUNDED, scaling degree modifiers such as '*very* wide' or '*fairly* wide', while BOUNDED readings expressing a notion of 'either-or' go with BOUNDED and absolutive modifiers such as '*totally* dead' or *'almost* dead'. It should be noted that when the antonymic relation between two adjectives is made salient some pairs appear to map on to both a BOUNDED and a SCALE structure. Such double configurations may be basically BOUNDED but with a scale attached to the boundary, e.g. *(totally/almost) empty* and *(completely/almost) full.* These meanings are objective in the sense that they can be calibrated and language users would agree on their application, i.e. 'an empty glass' would be empty for everyone (Warren 1992: 19). When the focus is on one meaning of a pair of antonyms, i.e. either 'empty' or 'full', they are both BOUNDED in the sense that they are associated with a definite limit, but when they are combined, a scale is construed between the two boundaries.

Furthermore, there are also items that are basically scalar but located at the very end of the extreme of the scale, e.g. *(absolutely) terrific* and *(totally) disgusting*. They are primarily scalar and evaluative-subjective meanings for which language users may disagree on their application. A terrific meal for one speaker might very well be a disgusting experience for somebody else. The term that has been used for these adjectives is 'extreme adjectives'. Unlike primarily BOUNDED meanings such as 'empty', these basically scalar meanings are infelicitous with *almost* (Paradis 1997: 56). As in Paradis & Willners (2006), we take the individual adjective as the point of departure for the categorization of adjectives as BOUNDED meanings and disregard the antonymic construal, and the criterion for inclusion in the test set is that it harmonizes with BOUNDED degree modifiers.

In sum, the constraints underlying the construals of boundaries or absence of boundaries, and indeed of all linguistic production and interpretation, are multifarious and varying in strength and stability across uses (Cruse 2002). One very basic constraint is the human cognitive capacities in terms of conceptualization and cognitive processing (outlined in our model of meaning above) and there are constraints related to memory and attention. Secondly, construals are constrained by the nature of reality in which some experiences more naturally lend themselves to certain construal configurations than others, e.g. 'dead' and 'alive' as BOUNDED or 'long' and 'short' as UNBOUNDED. Thirdly, there are contextual

constraints of various kinds on linguistic processing, e.g. previous discourse, cultural and personal knowledge, communicative and situational aspects. Finally, there are constraints of conventionalization of linguistic expression, i.e. how certain content structures (situations and entities) are habitually construed in a linguistic community and the patterns of routinized forms-meanings pairings. Again, all such constraints affect all aspects of linguistic expression. Our focus in this paper, however, is restricted to the interpretation of antonyms with and without negation and with 'almost' in terms of BOUNDEDNESS.

4. Negation of antonyms

Turning now to the negator as a polarity item, we note that in traditional literalist semantics, negation is an operator expressing the absolutive opposite proposition; given the truth of *p*, ¬*p* is false. If we see negation as an absolutive operator, we may argue that its role is to apply a definite boundary to the meaning of the element within its scope. Negated antonymic adjectives differ from antonymic adjectives qualified by degree modifiers in that the oppositeness relation is in focus. Negated propositions are assumed to evoke two contrasting spaces, a factual space and the counterfactual space, which makes interpretations of negated expressions more complex (Langacker, 1991, Fauconnier & Turner, 2002; Verhagen 2005, Hasson & Glucksberg, 2006). For instance, if we compare *totally dead* and *not dead*, it is obvious that the focus in *totally dead* is on 'total death' as opposed to some kind of partial death, while *not dead* is 'life' as opposed to 'death'. This means that if the negated BOUNDED adjective is antonymic, the interpretation of the expression is in some sense synonymous to the lexically coded antonym, i.e. *not alive* equals 'dead' and *not dead* equals 'alive'.

Paradis and Willners (2006) criticize the literalist account and claim that the function of negation is crucial for our understanding of negation in natural discourse.[3] It is obvious from Paradis' and Willners' (2006) treatment of the negator that it has a potential to operate on both BOUNDED and UNBOUNDED meaning structures, and as has already been discussed, adjectival meanings are, strictly speaking, not either BOUNDED or UNBOUNDED. True, some meanings have a strong bias towards one or the other, e.g. 'identical' is strongly BOUNDED and 'long' is strongly UNBOUNDED. Expressions such as ?'very identical' and ?'totally long' come across as infelicitous or strange. But, it is also true that there are very many meanings that do not have a strong bias for one or the other reading. On the occasion of use, coercion of an adjective with a weak bias towards a BOUNDED reading into a scalar reading is readily at hand. These BOUNDED or UNBOUNDED readings become fixed when adjectives are qualified by degree modifiers, e.g. 'absolutely clear' with an 'either-or' reading of clear and 'very clear' with an UNBOUNDED SCALAR reading of *clear*. When weakly biased adjectival meanings are modified by *quite*, which is a degree modifier that may take on either a scaling function similar to that of 'fairly' or an 'either-or' reading similar to 'totally', contextual cues are crucial to the interpretation. This means that out of context the interpretation of *quite clear* is vague.

Like *quite*, *not* has been shown to be capable of invoking BOUNDEDNESS as well as UNBOUNDEDNESS in the adjectives it modifies, and like *quite*, *not* is both possible and natural with either UNBOUNDED or BOUNDED readings of adjectives. In combination with UNBOUNDED adjectives, *not* gives rise to various different interpretations along the scale of WIDTH. *Not*

[3] For a criticism of *the standard pragmatic view* which proposes that people must analyze the literal meaning of 'indirect' utterances before the pragmatic information is called upon to infer the non-literal content see e.g. Gibbs (2002), Giora (2003) and the untenablitiy of disregarding encyclopaedic meaning in semantic analysis, e.g. Paradis (2003, 2005).

long may not necessarily mean 'short' but may position itself somewhere in between 'long' and 'short', e.g. as near synonyms of 'fairly long' or perhaps 'fairly short'. However, since scalarity may be eliminated in favor of a BOUNDED reading with the aid of negation, *not long* may also very well be interpreted as synonymous with its antonym 'short' occupying the opposite end of the scale of WIDTH. It is precisely to these problems that the present paper is devoted. We question the literalist view that negation functions as a logical operator. The explicit questions are: How do speakers interpret BOUNDED antonyms with and without negation as well as with 'almost'?

Negation is a powerful instrument in natural discourse as a hedging device (Tottie & Paradis 1982, Colston 1999, Holleman 2000) and a metaphorization trigger and an implicature facilitator, e.g. *I am not your maid* (Giora et al. (in press), Giora et al. (forthcoming). Verhagen (2005: 1) points out that although the expressions *it is possible* and *it is not impossible* logically entail one another, they are not functionally equivalent in language use. He deals with negated constructions in a communicative model of perspectivization and intersubjectivity. Similarly to Paradis' (2005, 2008a) model of lexical meaning, Verhagen (2005: 22) treats linguistic expressions as triggers of contextualized meaning structures. Lexical items do not 'have' meanings and understanding is not primarily a process of decoding but an interactive course of events of (invited) inferencing and negotiation that lead to adequate cognitive and conversational moves. Thus the meanings of linguistic expressions are not completely fixed but can be adapted to their contexts in order to support the purposes of the interlocutors. The meanings of linguistic entities are established via 'meetings of minds' (Gärdenfors 2007, and this volume).

Verhagen's (2005) socio-cognitive communicative model of intersubjectivity is of particular interest to a usage-based treatment of negation. He argues that the primary function of negation in natural language has to be seen in terms of cognitive coordination, not primarily in terms of the relation between language and the world, or the language user and the world but in view of systematic aspects of its use in regulating relations between different mental spaces rather than between language and the world. Moreover, within this model Verhagen is able to formulate an important difference between sentential and morphological negation that we will return to in the discussion of the individual test items. In order to demonstrate the difference, Verhagen coordinates a negated construction with a contrasting construction using *on the contrary* to guarantee the opposition. Consider examples (1) and (2) (examples (3) and (5) in Verhagen (2005: 31-35)).

(1) Mary is not happy. On the contrary, she is feeling really depressed.

(2) *Mary is unhappy. On the contrary, she is feeling really depressed.

In both (1) and (2) the function of *on the contrary* is to reinforce the setting up of opposing conceptual spaces. In (1) *she is feeling really depressed* is contrasted to *Mary is not happy* in a coherent and well-formed construction. The contrast is made possible because *Mary is not happy* evokes two distinct mental spaces, i.e. both *p* and ¬*p*, of which *Mary is not happy* is the opposite of *she is feeling really depressed*. In (2), however only one space is opened up, i.e. the affirmation that *Mary is unhappy*. From these facts, Verhagen concludes that (1) is coherent because two different mental spaces with two different epistemic stances towards the same proposition are evoked. Morphological negation reverses the scale associated with *happy*, but it does not invite the addressee to consider-and-abandon the thought of applying the scale with the non-negated orientation. Verhagen's take on sentential negation is that it operates primarily in the dimension of intersubjective co-ordination. Sentential negation is

used by the speaker to direct the addressee's inferences in the direction that the speaker wants, while morphological negation operates at the propositional, ideational level.

5. Aim and hypothesis

The aim of this study is to account for the role of the negator of BOUNDED antonyms as well as to match the role of the negator *inte* 'not' with the role of the degree modifier *nästan* 'almost'. Subsequently, we compare the results with a similar experiment of BOUNDED antonyms as well as the role of the negator and *ganska* 'fairly' with UNBOUNDED antonyms in Swedish. Our main hypotheses and its corollary predictions are as follows:

5.1 Hypotheses

Negation and approximation are sensitive to BOUNDEDNESS. When they combine with a BOUNDED antonym, they operate on the boundary configuration. Negation results in an absolute opposite construal and approximation falls short of the boundary. Negation and modification of the adjectives will take significantly longer to assess than bare adjectives.

5.2 Predictions

- there will be consistency within the group of BOUNDED antonyms with respect to the participants' judgments that 'X' = 'not Y' and 'Y' = 'not X'
- the negated BOUNDED antonyms 'not dead' and 'not alive' will not correspond to 'almost alive' and 'almost dead' respectively
- the response times for 'not' + antonym as well as 'almost' + antonym will be longer than the response times for bare antonyms

6. Experiment design and procedure

Twenty-nine participants, 20 women and 9 men between 19 and 73 years of age, took part in a judgment experiment. All of them were native speakers of Swedish. The experiment was carried out online. The real purpose of the study was not revealed to the participants, who instead were asked to participate in a readability test. The experimental software was E-prime, which is a commercially available Windows-based presentation program with a graphical interface, a scripting language similar to Visual Basic and response collection.[4] E-prime conveniently logged the ratings as well as the response times in separate files for each of the participants. The information and the tasks were presented on the computer screen in the following order:

- questions about personal data (name, age, sex, occupation, native language and parents' native language)
- practical instructions such as how to use the mouse to proceed
- two practice trials
- the judgment experiment: 60 test items + 48 distracters = 108 items

The screen layout is shown in Figure 1. The sentence at the top of the screen is the test sentence that contains the test item to be assessed by the participants i.e. *Dörren till köket var inte stängd* 'The door to the kitchen was not closed' and *inte stängd* 'not closed' is the test item in this case.

[4] For more information about E-prime see http://www.pstnet.com/products/e-prime/.

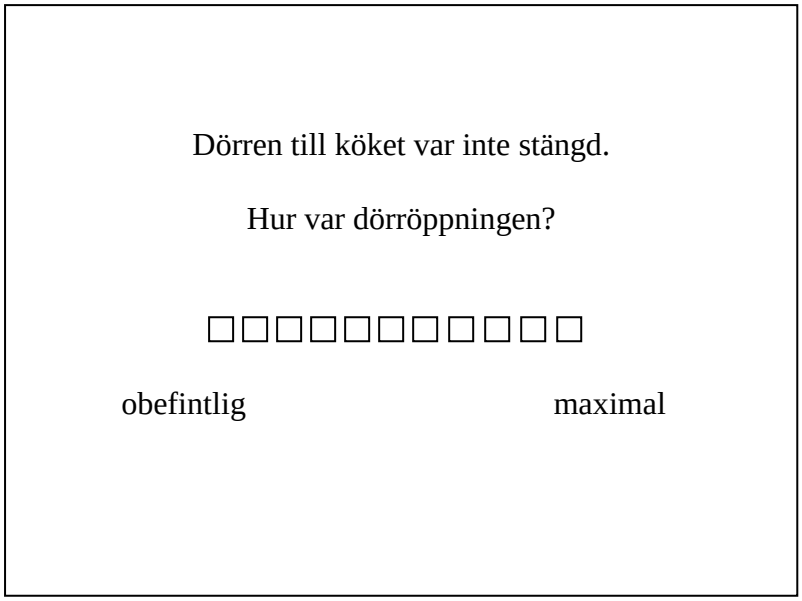

Figure 1. An example of a task from the experiment (screen dump)

All test sentences consisted of a noun phrase followed by a copula and an adjective with or without negation. The statement was followed by a question, e.g. *Hur var dörröppningen*? 'How was the gap?', as shown in Figure 1. The task of the participants was to make a judgment of interpretation of the test item on an eleven-point scale. We deliberately avoided using either of the antonyms, i.e. in this case neither *closed* nor *open* in the question or as endpoints of the scale. The scale end-points were designated with tags such as *obefintlig* 'non-existent' and *maximal* 'maximal'. None of the end-points were numerical. No global context was provided, and no attempt was made to control individual contextual interpretations. The participants were asked to respond to the out-of-global-context statements expressed by the top sentence in combination with the two end-points on the eleven-point scale. In other words, the participants had to imagine a more specific context themselves, which means that the contexts were bound to differ across the individual participants. The structure of the distracters was not the same as for the test set, because we did not want to make the experiments monotonous. *Selma hatar Otto* 'Selma hates Otto' is an example of a distracter. The question asked was *Hur är Selmas känslor för Otto?* 'What are Selma's feelings for Otto', and the end-points of the scale were *kalla* 'cold' and *varma* 'hot'.

The test set included ten pairs of antonyms, all of which were different from the ones used in Paradis' and Willners' experiment. The experiment was self-paced, but the procedure was constrained in the sense that the participants could only move forward and never go back and change their judgments.

Table 1. Ten Swedish BOUNDED adjectives and their antonyms in the left columns. *X* corresponds to meanings 'lacking' in the designated property and *Y* for adjectival meanings 'having' the designated property. Their corresponding endpoints are given in the right column[5]

X	*Y*	Endpoints □□□□□□□□□□□ *X* Y	
falsk 'false'	*sann* 'true'	*inte alls* 'not at all'	*helt* 'totally'
olika 'different'	*likadana* 'identical'	*inte alls* 'not at all'	*helt* 'totally'
nyktra 'sober'	*onyktra* 'non-sober'	*inte alls* 'not at all'	*totalt* 'totally'
urusla 'lousy'	*perfekta* 'perfect'	*botten* 'the worst'	*toppen* 'the best'
hela 'whole'	*trasiga* 'torn'	*botten* 'the worst'	*toppen* 'the best'
stängd 'closed'	*öppen* 'open'	*obefintlig* 'non-existent'	*maximal* 'maximally'
inofficiell 'unoffcial'	*officiell* 'official'	*inte alls* 'not at all'	*helt* 'totally'
omöjligt 'impossible'	*möjligt* 'possible'	*inte alls* 'not at all'	*helt* 'totally'
torr 'dry'	*genomblöt* 'soaking wet'	*minimalt* 'minimally'	*maximalt* 'maximally'
frusen 'frozen'	*upptinad* 'defrosted'	*stenhård* 'hard as brick'	*helt mjuk* 'totally soft'

Table 1 lists all the test items and phrases used as end-points for each pair. The test items were tested across six conditions: (*inte*/*nästan*/*Ø*) ADJECTIVE X and (*inte*/*nästan*/*Ø*) ADJECTIVE Y; i.e. ADJECTIVE X and ADJECTIVE Y with and without negation and with 'almost'. All the X items are items that are seen as 'lacking' in the property asked about in the question on the screen, and all the Y items are items that express maximally 'having' the property. For instance, 'The statement made by the politician was false.' 'How trustworthy was it?' At either end of the eleven-point scale were 'not at all' and 'totally'. 'False' is lacking in trustworthiness, while 'true' expresses trustworthiness. The test items are all natural and compatible with totality modifiers, such as *helt* 'totally' and some of them are natural in combination with *nästan* 'almost', e.g. *nästan sant* 'almost true', while others are less good and sometimes contrived e.g. *nästan falskt* 'almost false' but possible given an appropriate contextual construal (Paradis, 2001: 50). Apart from the 60 test sentences (10*6) with non-negated and negated BOUNDED adjectives and with modification by *nästan* 'almost', there were 48 distracters. See Appendix A for the full list of sentences used as test items. Henceforth only the English equivalents will be used. The overall differences of the ratings and the response times across the conditions were tested in two separate analyses of variance using repeated-measures ANOVA: one by item and one by subject followed by Post Hoc comparisons, using Bonferroni's procedure. The same procedure was used for the response times.

7. Results

The averages of the ratings are shown in Table 2. The mean rating of the 'X' member of the antonym pair is 1.6, and the rating for its negated antonym 'not Y' is 2.8, 'not X' is 7.4 and 'Y' is 9.5. In between are 'almost X' with the mean 3.7 and 'almost Y' with 6.8.

[5] The English equivalents are rough and ready translations and should be considered as glosses. For instance, the Swedish word *hela* is notoriously difficult to translate. Idiomatically, it corresponds to something like *alright, whole, in perfect shape* or *like new*. We opted for *whole* because it is a single word translation. *Whole* in English is contextually more restricted than *hela.* The antonym pairs in Swedish are all natural opposites in everyday language and the members of the pairs are symmetrical and stylistically similar.

Table 2. Ratings of the six conditions of BOUNDED adjectives

Condition	Mean	Std. Deviation
X	1.6	0.5
not Y	2.8	0.7
almost X	3.7	0.8
almost Y	6.8	0.9
not X	7.4	1.0
Y	9.5	0.7

It is clear from Table 1 that the standard deviations across the conditions are low. They range from 0.5 to 1.[6] The overall differences across the six conditions were significant in both the subject analysis ($F_1[5,140]=430.429$, $p<0.001$) and the item analysis ($F_2[5,50]=66.989$, $p<0.001$). The Post Hoc comparisons, however, showed that 'X', 'not Y', 'not X' and 'Y' should be regarded as two different subgroups, as is shown in Figure 2.

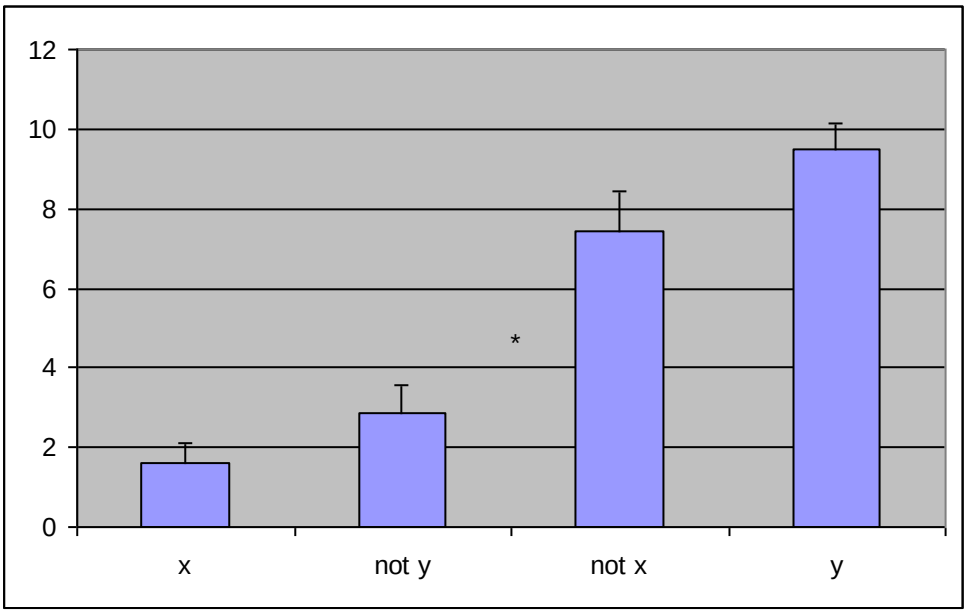

Figure 2. Ratings of the antonymic adjectives with and without negation

The Post Hoc analysis also showed that there were significant differences between 'X', 'almost X', 'almost Y' and 'Y', as shown in Figure 3.

[6] Again, it deserves be pointed out that *nästan* 'almost' combines more naturally with some of the test items than with others, but all of them are possible to construe given an appropriate context. Like in English, some of the test items are more natural with *knappast* 'barely' or 'hardly', but *knappast* has the effect of orienting the addressee towards negative conclusions, while *nästan* 'almost' has positive orientation (e.g. Horn forthcoming Verhagen 2005: 45 – 50). We decided to use *nästan* for all test items for two reasons. Firstly, we wanted to be consistent across the test items and, secondly, we wanted to be able to compare with Paradis' & Willners' (2006) results for *ganska* 'fairly' as the modifier of UNBOUNDED antonymic meanings. Like their English counterparts *almost* and *fairly*, neither *nästan* nor *ganska* have negative orientation. The potentially contrived readings of combinations such as 'almost lousy' and 'almost unofficial' may however have the effect of prolonging the response times. This issue is brought up again in the discussion in Section 7.

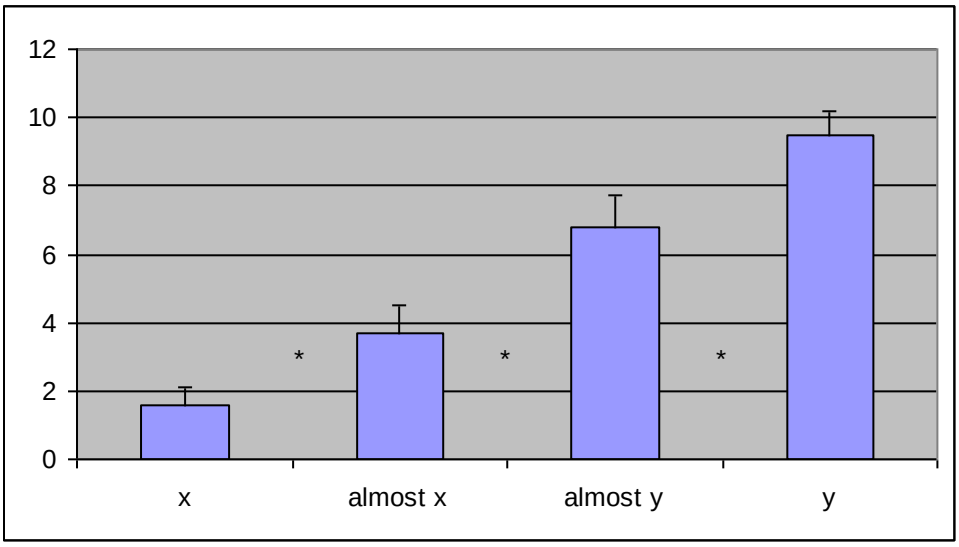

Figure 3. Ratings of the antonymic adjectives with and without the modifier 'almost'

The relative locations of all six conditions on the scale are shown in Figure 4. There were no significant differences between 'X' and 'not Y', 'not X' and 'Y', 'not Y' and 'almost X', 'almost Y' and 'not X', but significant differences between 'almost X' and 'almost Y'.

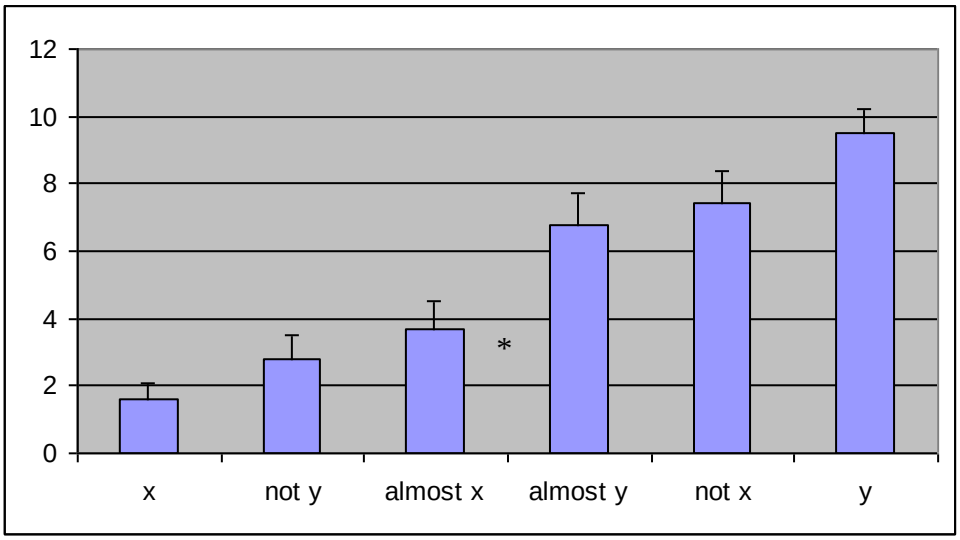

Figure 4. Ratings of the antonyms with and without negation and with and without 'almost'

However, when we carried out a repeated-measures ANOVA by subject followed by Post Hoc comparisons using Bonferroni's procedure for each individual pair across the conditions, three different negated types emerge from the results of the experiment:

(i) **x = not y** and **y = not x** (see Figure 5)

'closed'	=	'not open'	'open'	=	'not closed'
'different'	=	'not identical'	'identical'	=	'not different'
'false'	=	'not true'	'true'	=	'not false'
'frozen'	=	'not defrosted'	'defrosted'	=	'not frozen'
'unofficial'	=	'not official'	'official'	=	'not unofficial'
'sober'	=	'not non-sober'	'non-sober'	=	'not sober'

(ii) **x = not y** and **y ≠ not x** (see Figure 6)

'impossible'	=	'not possible'	'possible'	≠	'not impossible'
'whole'	=	'not torn'	'torn'	≠	'not whole'

(iii) **x ≠ not y** and **y ≠ not x** (see Figure 7)

'lousy'	≠	'not perfect'	'perfect'	≠	'not lousy'
'dry'	≠	'not soaking wet'	'soaking wet'	≠	'not dry'

While 'X' and 'not Y' were judged to be in the boxes on the left side of the screen as viewed by the participants and 'Y' and 'not X' on the right hand side of the screen for the test items in groups (i) and (ii) (see Figure 5 and 6), the test items in group (iii) display a different order. 'X' and 'not X' were placed on the left side of the screen and 'not Y' and 'Y' on the right side (see Figure 7).

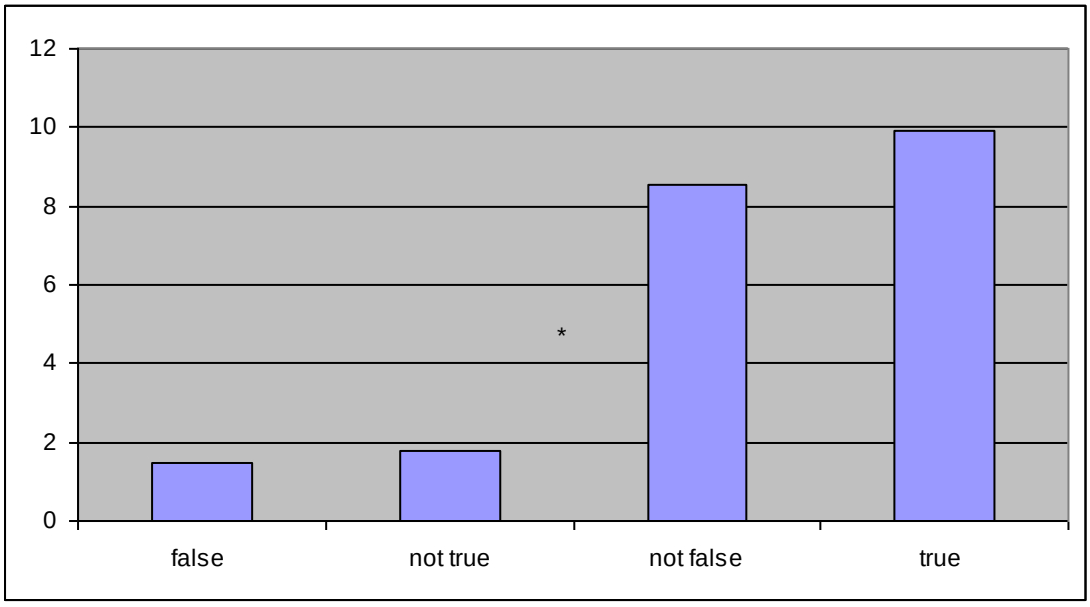

Figure 5. Ratings for group (i) and their negated antonyms[7]

[7] The 'not X' – 'X' order is true of 'open' and 'closed' and 'official' 'unofficial' but not of the other members of the group, which have the order 'X' – 'not X'. The difference between the two conditions 'not X' and 'X' is not statistically significant, which means that sequencing is irrelevant .

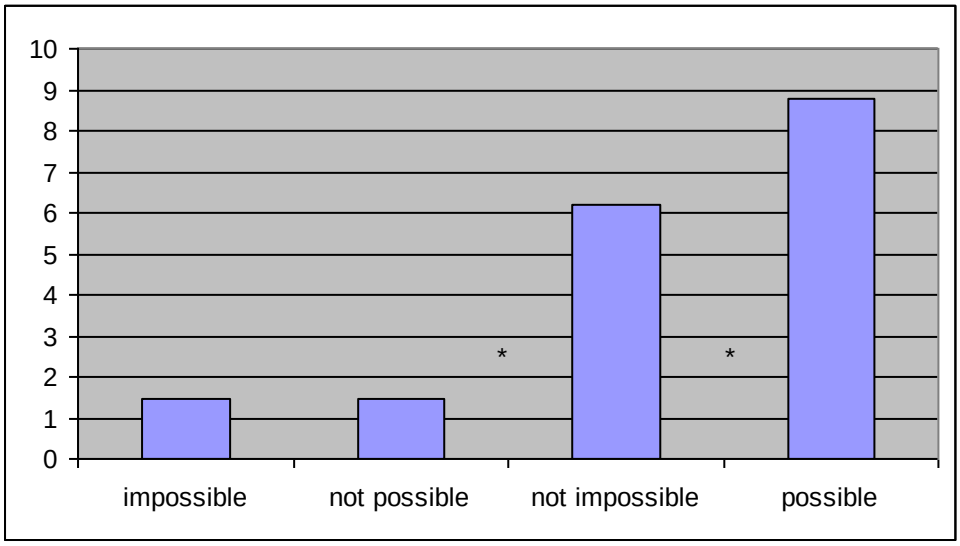

Figure 6. Ratings for group (ii) and their negated antonyms

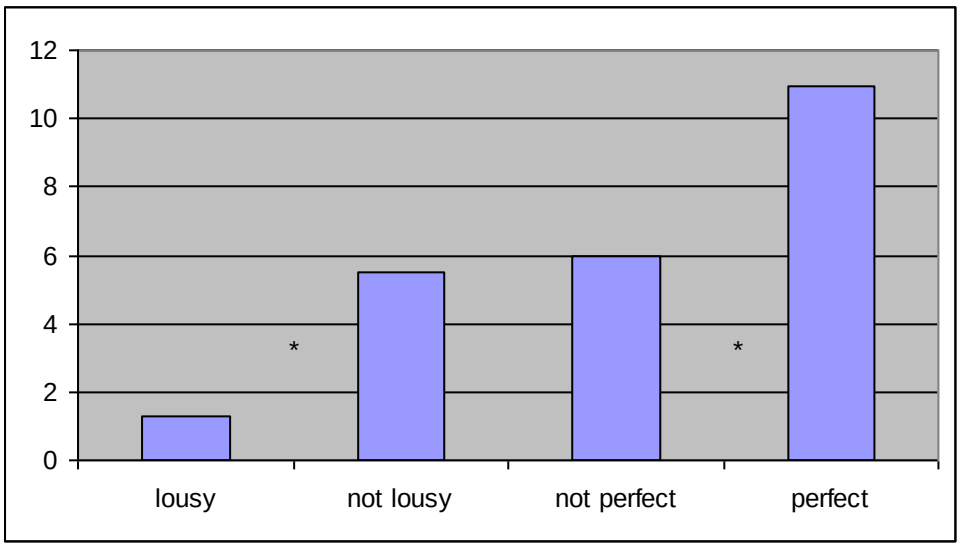

Figure 7. Ratings for group (iii) and their negated antonyms

Furthermore, Table 3 and Figure 8 show the response times for the six conditions. The Post Hoc analysis reveals that there are no significant differences between any of the neighboring conditions except between 'Y' and 'almost Y'.

Table 3. Mean response times (in s) for the six conditions

Condition	Mean	Std.
X	6.99	3.27
Y	7.14	2.10
almost Y	8.67	2.32
not Y	8.99	3.08
almost X	9.20	3.20
not X	9.58	3.36

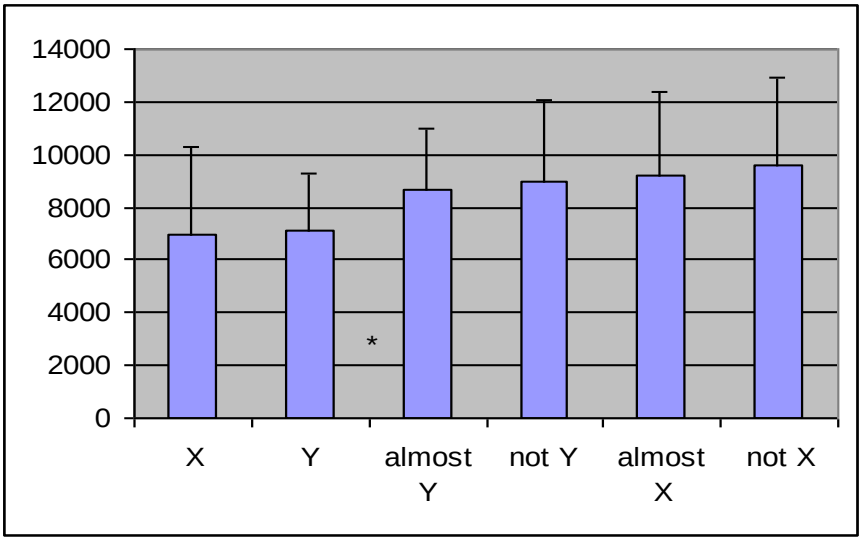

Figure 8. Mean response times (s) for all six conditions

The response times for the modified and negated adjectives were significantly longer than for the bare antonyms. The experiment was not designed to put pressure on the participants to respond as quickly as possible, and as a result of that the response times are long across the board.

8. Discussion

The goal of this study was to repeat and extend Paradis' and Willners' (2006) study of BOUNDED antonyms in order to test the BOUNDEDNESS hypothesis which predicts that negation is sensitive to the configuration construal of BOUNDEDNESS of the element it combines with: (i) BOUNDED (ADJECTIVE X) has the same reading as the 'not' BOUNDED (ADJECTIVE Y), and *vice versa*, and (ii) that 'not' BOUNDED (ADJECTIVE X) has a different reading from 'almost' BOUNDED (ADJECTIVE Y), and *vice versa*. The third prediction under investigation stated (iii) that the response times for 'not' + ADJECTIVE as well as for 'degree modifier' + ADJECTIVE are longer than the response time for bare antonyms. In Paradis and Willners (2006), results of the readings of the UNBOUNDED adjectives were robust and consistent across the test items, but the BOUNDED test set was relatively small and for that reason the results were not as consistent and reliable as for the UNBOUNDED ones. From now onwards, the results of the present study are assessed in relation to the results from Paradis and Willners (2006).

8.1 Negation in combination with BOUNDED meanings

The BOUNDEDNESS hypothesis was corroborated in the overall results of this study, i.e. BOUNDED (ADJECTIVE X) has the same reading as the *not* BOUNDED (ADJECTIVE Y), and *vice versa*. The result of the individual BOUNDED adjectives in Paradis and Willners (2006) fall

into four subgroups, three of which are consistent with the groups in the present study. They also obtain a group with the 'X ≠ not Y and Y = not X' pattern for 'bound' – 'free'. All the test items from Paradis and Willners (2006) and the test items of this study are presented in Table 4. Group (ii) holds all members with both = and ≠, which means that we disregard whether the adjectives are X or Y adjectives.

Table 4. The participants' interpretations of the non-negated and the negated antonyms

I X = not Y : Y = not X	II X = not Y : Y ≠ not X (i) X ≠ not Y : Y = not X (ii)	III X ≠ not Y : Y ≠ not X
closed – open	impossible – possible (i)	lousy – perfect
identical – different	whole – torn (i)	dry – soaking wet
false – true	wrong – right (i)	empty – full
frozen – defrosted	sterile – fertile (i)	
unofficial – official	bound – free (ii)	
sober – non-sober		
dead – alive		

Recall that the members of group (III) were differently distributed on the eleven-point scale than all other antonyms. On the surface it looks like they behaved in the same way as the UNBOUNDED adjectives did, i.e. 'short' ≠ 'not long' and 'long' ≠ 'not short'. This was not the case, however, since neither 'not empty' nor 'not full' were located on the opposite side of the scale by the participants and thus were given very different scores. The order of the four conditions on the eleven-point scale for the UNBOUNDED meanings was 'X' – 'not Y' – 'not X' – 'Y' for all of the test items both in this study and in Paradis and Willners' (2006) study, except for the test items in (III) where the order was 'X' – 'not X' – 'not Y' – 'Y' with significant differences between the conditions.[8] It also deserves to be mentioned that there was no significant difference between 'not lousy' and 'not perfect' and 'not dry' and 'not soaking wet', while 'not empty' and 'not full' differed significantly. The same results may also be presented in terms of the individual test items rather than the pairings as in Table 5.

[8] As was mentioned before, for two of the test items in this experiment (none in Paradis & Willners 2006) 'not Y' preceded 'X': 'not official' received lower scores than 'unofficial' and the same was true of 'not open' and 'closed'. The differences were however not significant.

Table 5. The lists of individual adjectives in relation to their negated antonyms

ADJECTIVE = *not* ANTONYM	ADJECTIVE ≠ *not* ANTONYM
closed	right
open	possible
false	bound
true	perfect
unofficial	empty
official	soaking wet
non-sober	torn
free	fertile
whole	lousy
sterile	dry
identical	full
different	
frozen	
defrosted	
sober	
dead	
alive	
impossible	
wrong	

The left column in Table 5 contains adjectives which obtained the same scores as their negated antonyms in terms of identity or lack of resistance of being laid out on a scale, i.e. 'closed' was interpreted as being synonymous with 'not open', while the test items in the right columns do not, e.g. 'right' was not understood to be synonymous with 'not wrong'. In other words, the prediction that ADJECTIVE = *not* ANTONYM was borne out for the majority of the test items. That is the 19 test items in the left columns were interpreted as BOUNDED meanings. The 11 test items in the right columns, however, were not interpreted as BOUNDED meanings. On the contrary, the participants interpreted them as SCALAR meanings.

8.2 Modification by 'almost'

Our second prediction stated that the negation of BOUNDED adjectives would be different from modification by 'almost', i.e. 'not dead' ≠ 'almost alive' and 'not alive' ≠ 'almost dead'. This prediction was not borne out. For all the test items taken together, there were no significant differences between 'not Y' and 'almost X', and 'almost Y' and 'not X'. This should be compared to the interpretations of UNBOUNDED meanings which showed that 'not X' was judged to equal 'fairly Y', i.e. 'not narrow' = 'fairly wide' and 'not wide' = 'fairly narrow'. However, in the case of the UNBOUNDED meanings, the negated adjectives differed significantly from the bare adjectives, which was not the case for the BOUNDED antonyms.

8.3 Response times

Our final prediction stated that the response times for antonyms modified by the negator or by the degree modifier 'almost' would be longer than the response times for the bare antonyms. Part of the prediction was proven right in that there was a significant difference between the bare test items on the one hand and the test items with 'almost' and 'not' on the other. However, there was no significant difference between the test items modified by 'almost' or

'not'. The results of the response times in Paradis and Willners (2006: 1073) showed a similar pattern: the bare antonyms were judged faster than the antonyms modified by 'fairly', 'almost', which in turn were judged faster than the negated antonyms, but like in the present study only the differences between the bare test items and the negated ones were significant. These tendencies for response times have also been confirmed by Kaup and Zwaan (2003), MacDonald and Just (1989), Giora, Balaban et al. (2005), Hasson and Glucksberg (2006) and Kaup et al. (2006). The response times for the adjectives negated by 'not' were also shown to be significantly longer than the morphologically negated antonyms, which is a result that may be interpreted to support Verhagen's (2005: 32–35) claim that sentential and morphological negation are functionally different. The longer response times in both these studies for negated antonyms may be explained by the necessity for the language user to construe both a factual and a counterfactual space (Langacker 1991, Fauconnier & Turner 2002, Verhagen 2005). This investigation examines the resulting interpretations only, and does not in any way attempt at explanations of reasoning or reasoning strategies.

8.4 Functional-communicative explanations for speaker interpretaitons

The results of Paradis and Willners (2006) and of the present investigation support an analysis of the negated meanings in terms of BOUNDEDNESS, which is a general type of configuration applicable to all kinds of meaning construals in language (Paradis 2001). It has a particularly clear effect on combinations of 'not' + adjectives and 'degree modifiers' + adjectives. In the case of UNBOUNDED meanings of adjectives, the role of the negator is to point up a range on a scale. The function of 'not' is to attenuate the force of the modified adjective in a similar way to attenuating degree modifier 'fairly'. In combination with strongly BOUNDED antonymic meanings, on the other hand, the negator is interpreted in the same way as a logical operator in formal literalist approaches to meaning, i.e. expressing the absolute opposite *p* versus ¬*p*. However, on closer inspection, the results for the individual test items are not at all as robust and straightforward as the results for the UNBOUNDED meanings. There is quite a lot of variation across the individual test items.

There are various possible functional-communicative explanations of conventionalized usage patterns for some of the BOUNDED – SCALAR asymmetries of the adjectival antonyms. There are at least three different types of communicative explanations. Firstly, for the 'bound' – 'free' type, as in *The horse was not bound = The horse was free* but *The horse was not free ≠ The horse was bound*, the explanations for the participants' interpretations may be that a horse is 'not free' because it is in a field with a fence or it is in fact free when it is in a field because it is not tied to a pole, much in the same way as free-range chickens are free but fenced in. Secondly, there are BOUNDED meanings such as 'empty' – 'full', 'lousy' – 'perfect', 'dry' – 'soaking wet' that are absolutives but when they are opposed their configuration construal is one of a SCALE with two BOUNDED end-points. Horn (1989: 242) says that "[t]wo expressions may denote the same objective reality but differ in terms of the conclusions they can be used to argue for; cf. *The glass is half empty* (→ we should fill it, or buy another) vs. *The glass is half full* (→ we should, or can, empty it). This difference […] is brought out on the scale reversal: a glass which is not half empty is more full than a glass that is not half full, since *not* here […] equates 'less than'." It has been empirically demonstrated by Holleman and Pander Maat (in press) that it is possible to create situations that promote different perspectives on 'emptiness' and 'fullness'. The third type of explanation concerns people's tendency to express themselves using hedged positive evaluative items for pairs such as 'wrong' – 'right' and 'impossible' – 'possible'. A plausible explanation for the judgments of 'right' and 'wrong' may be that speakers use the positive alternative for a more negative fact (Colston 1999, Holleman 2000). This is part of speakers' knowledge of the interpretations of

subjective-evaluative words such as 'right' and 'wrong'. Speakers use 'not right' instead of 'wrong' to be less offensive. The same is true of 'impossible' = 'not possible, but 'possible' ≠ 'not impossible' in which case the double negative 'not impossible' expresses a cautious but optimistic attitude to the possibility of something.

In order to investigate the effect of double negation, i.e. 'not unofficial', 'not impossible', a number of antonym pairs whereof one of the members of the pair is morphologically negated were included as test items in the present study: 'different' – 'identical', 'sober' – 'non-sober', 'unofficial' – 'official', 'impossible' – 'possible'.[9] This analysis provides preliminary evidence for further analysis of double negation. The result of the present investigation shows that the four morphologically negated antonyms are not members of the same subtypes of negated antonyms. 'different' – 'identical', 'sober' – 'non-sober', 'unofficial' – 'official' all behave as predicted for BOUNDED antonyms, i.e. neither is 'X' ≠ 'not Y' nor is 'Y' ≠ 'not X', while that is not the case for 'impossible' – 'possible' whose patterning is: 'X' = 'not Y' but 'Y' ≠ 'not X', i.e. 'impossible' = 'not possible' but 'possible' ≠ 'not impossible'. The former three doubly negated antonymic adjectives were interpreted in the same way as most of the BOUNDED adjectives, but 'impossible' was not. We interpret this as an indication of functional differences in language use between 'impossible' and the other morphologically negated adjectives.

Strictly speaking, it is correct to say that the expressions *it is possible* and *it is not impossible* entail one another. However, as has been shown in many of the studies mentioned in this paper 'X' and 'not Y' are not functional equivalents in language use. There are various socio-cognitive and communicative reasons for why we use *not impossible* instead of *possible* in communication. *Not impossible* invites further discussion than the more definite *possible* both in Swedish and English and is vaguer and lower in speaker commitment. The use of *not impossible* can be compared to the use of *not bad* instead of *good* in response to *How are you? Not bad* is vaguer and invites further small talk than the more definite *good*, and the use of understatement is a conventionalized way of responding to questions that concern health and state of mind. There are ample examples in natural conversation where the function of negation is not to discard the affirmation but has totally different functions. Consider examples (3)[10] and (4):

(3) A time for tea # would you like some#
B yes# yes#
A thanks for your invitation you throwing a party#
B yes# …well#
A that's good#
B I don't know# **I don't know whether I drink coffee or tea at this time of day**# if there were any tea

(S.1.4 – TUs 7-18, emphasis added)

[9] Note that in Swedish one of the members are morphologically negated by *o-* och *in-* as in *olika, onyktra, inofficiell* and *omöjlig,* (see Table 1).

[10] The example is from the London-Lund Corpus of English Conversation. These texts are also available in print Svartvik & Quirk (1980). S.1.4. is the text identification TU is the tone unit identification. For information about the LLC, see Greenbaum & Svartvik (1990) and http://khnt.hit.uib.no/icame/manuals/LONDLUND/INDEX.HTM.

(4) Garth No way, Wayne
Wayne Way, Garth

(Giora 2006)

In (3) the negated sequence serves a function of softening the decline of the offer and *I know* is not the corresponding affirmative opposite (Tottie & Paradis 1982). Similarly, in (4) there is not a conventionalized opposite for the function of *no way* that is just *way*. It is however possible to derive an opposite for effect. The difference in function of a large number of negated expressions are not derived or functionally related to their affirmative equivalents. For instance, the opposite of *I don't give a shit* is not *I give a shit* (Giora et al. 2007), the opposite of *don't worry!* is not *worry!* (Stefanowich & Gries 2003) and the function of *not to mention*…is not *to mention* but has the function of introducing an explicit list of all that is advisable for the addressee to note rather than to ignore, and its function is one of reinforcement (Giora et al 2007). It is a commonly held view that negation is considered to be derived from affirmation, i.e. the default is that a negated meaning presupposes an affirmative counterpart. It should be clear from the above examples that this is far from always the case.

This also raises the question about another difference between morphological negation and sentential negation. As already mentioned, Verhagen (2005: 31 – 32) argues that there is an important difference between sentential negation and morphological negation in that the former opens up two mental spaces while the latter does not. This claim can be taken to be supported by the longer response times for negated antonyms in Paradis and Willners (2006) and in the present study. Antonyms formed by a negating prefix such as the ones included in this study do not invoke a counterfactual construal of the consider-and-abandon type. Unlike Horn (1989: 304) who seeks the answer to the puzzle about double negation in Gricean pragmatic principles, Verhagen (2005: 70 – 77) seeks the answer to the question of why the double-negation constructions are not redundant in the specific properties of sentential negation as the configurational construal of two mental spaces and two distinct epistemic stances to the same idea. He argues that the function of sentential negation is to invalidate inferences through a consider-and-abandon process of contrasting mental spaces rather than invalidating the idea itself. Verhagen presents a thought-provoking analysis of sentential negation as coordination at the intersubjective level, while the primary dimension for morphological negation (and antonyms based on different roots) is at the objective level (Verhagen 2005: 76).

Our model of meaning accords with Verhagen (2005: 22) in that linguistic expressions are primarily cues for making inferences, and understanding is not primarily a process of decoding and decomposing the exact content of expressions. Much more important is inference-making that promote adequate reasoning and communicative behavior. Like Verhagen, we argue that this approach to meaning in language frees the expressions from being completely conventionally fixed. In fact, like quite a few other scholars (e.g. Cruse 2002, Traugott & Dasher 2005), we argue that meanings are negotiated in context. Lexical meanings do not 'have' meanings but function as triggers of meaning that evoke the relevant portions of conceptual structure that support the implicational purposes and the inferential reasoning by speakers and addressees in the communicative situation (Paradis 2005, Paradis 2008a).

9. Conclusion

This study set out to extend Paradis' and Willners' (2006) study and synthesize the results of the present study with their findings in order to be able to present a more comprehensive and reliable analysis of language users' interpretations of negation in the context of UNBOUNDED

(SCALAR) and BOUNDED antonymic meanings and in relation to moderating 'fairly' and approximating 'almost'. The same two questions were posed in both studies: (i) Is 'X' the same as 'not Y', and *vice versa*? and (ii) Is 'not X' the same as 'fairly/almost Y', and *vice versa*?, and the conclusions are made on the basis of the findings in both studies.

First, the results for the UNBOUNDED antonyms were very robust showing that 'X' is not the same as 'not Y' and *vice versa*, i.e. 'short' was not judged to be synonymous with 'not long' and 'long' was not synonymous with 'not short' (Paradis & Willners 2006). In the case of the BOUNDED antonyms, a more complex scenario emerged. For most of the antonyms 'X' was interpreted as 'not Y' and 'Y' as 'not X', i.e. 'dead' and 'not alive' were judged to be synonyms and so were 'alive' and 'not dead'. Yet, a fair number of the BOUNDED antonymic test items were laid out on a scale and interpreted in the same way as the test items in the UNBOUNDED test set. With focus on the test items as antonym pairings, three different types of pairs emerged from the experiments, i.e. (I) X = not Y : Y = not X, (II) X = not Y : Y ≠ not X or X ≠ not Y : Y = not X and (III) X ≠ not Y : Y ≠ not X. [11]

Second, 'not' in combination with antonymic adjectives is a degree modifier of scalarity or totality depending on the configuration construal of the modified adjectival meaning. Just like *quite*, it can perform both these functions. The result for the UNBOUNDED test set in Paradis and Willners (2006) revealed no significant difference between the antonymic adjectives modified by 'not' or by 'fairly'. This means that the function of negation in combination with UNBOUNDED meanings is to moderate the grading force of the adjectival meaning with the same force as 'fairly'. The interpretations of the negator and 'almost' in the context of the BOUNDED meanings do not differ significantly either. There is, however, a difference between the two meaning types in that the negated antonyms equal the bare antonyms in the BOUNDED set, which is not the case for the UNBOUNDED meanings, and, more importantly, the BOUNDED results are not as reliable as the UNBOUNDED ones because of the combinatorial infelicities for some of the BOUNDED test items due the polarity effect of 'almost'.

On a more general note, we have given evidence that indicates that interpretations of linguistic expressions on all occurrences of use are shaped both by competing constraints and constraints working in unison. Interpretations are shaped by the human cognitive system of conceptual representations and cognitive processes, as modeled in Section 3, by the nature of reality, by their pragmatic function in a particular context and by conventionalization in language. The strength and the stability of these constraints vary across uses. It was shown that the interpretations of negated adjectival meanings are sensitive to whether these meanings are based on BOUNDED or UNBOUNDED configuration construals and that negation operates differently on those structures in conceptual SPACE.

The results also highlight the flexibility of language in use and the varying strength and stability of the constraints as revealed by the participants' willingness to interpret some of the negated test items in the BOUNDED test set as partial meanings, which we interpret as an indication of there being competing constraints. For instance, contextual constraints compete with conceptual constraints when participants choose to view 'not perfect' as closer to 'perfect' than to 'lousy' or conventional constraints such as the possible preference for 'not impossible' over 'possible' in language use. It was also shown through the response times that it takes longer to judge negated sentences than non-negated sentences. Moreover, judgments of sentences with negator and adjective, e.g. 'not official', 'not possible', 'not sober' took longer to judge than morphological negation such as, 'unofficial' and 'impossible'. Yet, in

[11] This division of dimensional meanings into one UNBOUNDED type and three BOUNDED types has recently been shown to hold in a recent, not yet published study (Savardi et al. submitted).

order to be able to draw any strong conclusions based on response times, more sophisticated methods using strict time control are needed. The strength and the stability of the judgments of the individual test items varied both at the level of configurational types in that all the test items in the UNBOUNDED test set were judged in the same way while the test items in the BOUNDED test set fell into three subtypes.

Finally, meaning differences such as the ones evoked by the combination of opposite meanings expressed through lexicalized antonyms as well as negated antonyms can be best explained through a comprehensive model of meaning which takes language users' constructs of meanings seriously in favor of ill-founded assumptions about the appropriateness of the notion of literalness. Our model has the advantage of being capable of explaining meaning flexibility. Alternating readings of lexical items are formed in context through configuration construals of contentful meanings in conceptual SPACE. In the context of gradable adjectives, this means that on the occurrence of use, meanings may be construed on the basis of scales and/or boundaries due to the contextual requirements that form the current readings. Contextual readings are construed on the basis of the relevant portion of the meaning potential of the lexical items shaped by context, conventionalization and communicational demands. The negator does not have two meanings or two functions, one literal and one non-literal. The negator gives rise to different readings in combination with UNBOUNDED meaning structures and BOUNDED meaning structures. The negator is best seen as a pragmatically motivated configuration construal of a SPACE structure, whose differences cannot simply be explained away as 'marked' *versus* 'un-marked' or 'default' *versus* 'non-default' but have clear repercussions on meaning modeling with the consequence that a definite boundary between semantics and pragmatics cannot be maintained in any strict sense.

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Appendix A: The test sentences

Statements	**Questions**
Påståendet från politikern var falskt/sant. 'The statement from the politician was false/true'.	*Hur pålitligt var det*? 'How trustworthy was it?'
Gardinerna i fönstren var olika/likadana. 'The curtains in the windows were different/identical.'	*Hur väl överensstämde gardinerna*? 'How well did the curtains match?'
Passagerarna i Volvon var nyktra/onyktra. 'The passengers in the Volvo were sober/non-sober.'	*Hur alkoholpåverkade var de*? 'How alcohol-affected were they?'
Svaren på mattetentan var urusla/perfekta. 'The answers on the maths exam were lousy/perfect.'	*Hur var standarden på svaren*? 'What was the standard of the answers?'
Byxorna på stolen var trasiga/hela. 'The trousers on the chair were torn/whole.'	*I vilket skick var byxorna*? 'In what condition were the trousers?'
Dörren till köket var stängd/öppen. 'The door to the kitchen was closed/open.'	*Hur var dörröppningen*? 'How was the gap?'
Diskussionen om ordförandens avgång var inofficiell/officiell. 'The discussion about the chairperson's resignation was unofficial/official.'	*Hur känd var diskussionen*? 'How open was the discussion?'
Köpet av bilen var omöjligt/möjligt. 'The purchase of the car was impossible/possible.'	*Hur tänkbart var köpet*? 'How likely was the purchase'
Handduken på strecket var torr/genomblöt. 'The towel on the clothesline was dry/soaking wet.'	*Hur mycket vatten var det i handduken*? 'How much water was there in the towel?'
Sockerkakan på diskbänken var frusen/upptinad. 'The sponge cake on the counter was frozen/defrosted.'	*Hur var kakan*? 'How was the cake?'