German demonstrative *so* – intensifying and hedging effects[*]

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German *so* is a demonstrative expression which picks up degrees or properties and combines as a modifier with gradable as well as non-gradable expressions. Like other demonstratives it can be used deictically and anaphorically, and in addition occur 'out of the blue', without a demonstration gesture or antecedent. If an 'out of the blue' use of *so* is combined with a gradable expression it yields an intensifying effect, similar to the degree modifier *very*. But if it is combined with a non-gradable expression it appears like hedging, the speaker being uncertain whether the term she chose is appropriate. This paper focuses on the out-of-the-blue uses of *so* and addresses the question of how they relate to the deictic and anaphoric uses. Provided it is the same lexical item: Why can a demonstrative expression function as an intensifying device and a hedging device, respectively?

1   Introduction

German *so* is an extremely versatile expression occurring in a broad variety of uses. German grammars list *so* in various categories, for example as a modal adverb, degree adverb, adverbial connective, and subordinating conjunction (cf. the Duden, and Zifonun et al. 1997, see also Ehlich 1986, König et al. 1990). The primary use of *so*, however, is said to be its use as a demonstrative expression relating to a property or degree. Demonstrative *so* always occurs as a modifier combing with, e.g., nouns, verbs and adjectives and the corresponding maximal projections (NP, VP, AP). If the modified expression is gradable, like the adjective *groß* ('tall') in (1a), *so* relates to a degree. If it is non-gradable, like *Auto* ('car') in (1b), *so* relates to a property. Like any other demonstrative expression *so* can be used deictically as well as anaphorically. Thus the degree or property picked up by *so* can either be provided by a demonstrating gesture or by an antecedent in the preceding discourse. In the examples in (1) *so* is used deictically and the hearer has to infer the relevant degree or property – Marie's height or the make of Marie's car – from the referent of the demonstration gesture. In (2) *so* is used anaphorically relating to a degree or property (1,80 tall / equipped with a hatch) introduced in the preceding discourse.[1]

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[1] Due to limitations of space we will consider only adjectives and nouns, and skip complex types of antecedents like the propositional antecedents of manner modifier *so* discussed in Katz & Umbach (2006). Moreover, we will not go into the use of *so* in equative comparison which is argued in Umbach (2007) to be a cataphoric use of the demonstrative expression *so* relating to a degree or property provided by the subsequent *wie*-phrase, cf. (a). Similarly, *so* in result constructions can be viewed as a cataphor relating to a degree given by the subsequent *dass*-clause, cf. (b). For result clauses see Meier (2001).

(a)   Anna ist so groß wie Marie / hat so ein Auto wie Marie.
      'Anna is as tall as Marie / has the same car as Marie.'
(b)   Anna ist so groß, dass sie an das Regal kommt.
      'Anna is so tall that she can reach the shelf.'

There are many other uses of the expression *so* which will also be ignored in this paper, e.g., its use as a connective and as a discourse particle. For an overview see König et al. (1990).

(1) a.   (speaker pointing to a person:)
Anna ist so groß.
'Anna is that tall.'

  b. (speaker pointing to a car:)
Anna hat so ein Auto.
'Anna has a car like this.'

(2) a.   Marie ist 1,80 groß. Anna ist auch so groß.
'Marie is 1.80. Anna is that tall, too.'

  b.   Marie hat ein Auto mit Heckklappe. So ein Auto hat Anna auch.
'Marie has a car with a hatch. Anna has a car like this, too.'

In addition to the deictic and anaphoric uses, *so* can occur 'out of the blue'. As before it functions as a modifier and combines with either gradable or non-gradable expressions. But it is not accompanied by a demonstration gesture and there is no previously mentioned antecedent either. When it occurs 'out of the blue' and is combined with a gradable expression, *so* has an intensifying effect. In (3), for example, *so* seems to be equivalent to *sehr* ('very'). But when it occurs 'out of the blue' and is combined with a non-gradable expressions, *so* appears like hedging, the speaker being uncertain whether the term she chose is appropriate, cf. (4).

(3) (Aunt Martha talking about her eight-year-old nephew:)
Er ist so groß.
'He is so tall.'

(4) (Customer in a department store:)
Ich möchte so Klammern.
'I want like clips'

In this paper we will focus on the out-of-the-blue occurrences of *so* demonstrated in (3) and (4) and address the question of how these occurrences relate to the deictic and anaphoric uses. Assuming that intensifying *so* as well as hedging *so* are no distinct lexical entities and instead particular uses of the demonstrative *so*, why can a demonstrative expression function as an intensifying device and a hedging device, respectively?

In section two we will briefly go into the deictic and the anaphoric use of *so* shown in (1) and (2). In section three the intensifying function of *so* is analyzed making use of the distinction between relative and absolute adjectives suggested by Kennedy and McNally (2005). It will turn out that *so* may either boost or downgrade the degree of the modified expression. Thus the term 'intensifying' is slightly misleading, but we will nevertheless keep it for convenience. Section four presents an analysis of the hedging function of *so* based on the notion of pragmatic halos (Lasersohn 1999).

Both the intensifying and the hedging occurrences of *so* will be shown to involve an implicit demonstration to an object the speaker has in mind and can be regarded as cases of Bühler's *Deixis am Phantasma*, which is distinct from genuine deixis (*demonstratio ad oculos*) and also from anaphora (cf. Bühler 1934, Jarvella and Klein 1982). Thus the intensifying as well as the hedging effect is performed by using the demonstrative expression *so* instantiating the third of Bühler's three modes of pointing.

2   Deictic and anaphoric uses of demonstrative *so*

As shown in the examples above the demonstrative expression *so* can be used deictically and anaphorically, and it can modify gradable as well as non-gradable expressions. In (1) *so* is used deictically, accompanied by a demonstration gesture. Like other demonstrative expressions *so* has to carry an accent in this usage (*Anna ist SO groß.* / *Anna hat SO ein Auto.*). In the (a) example *so* modifies a gradable adjective and thus has to pick up a degree. In the (b) example *so* modifies a non-gradable expression and thus has to pick up a property. But you cannot point to a degree or property in the absence of an object exemplifying the degree or property. Although *so* is a demonstrative expression, the demonstration gesture cannot directly refer to the value – the degree or the property – picked up by *so*. According to Ehlich (1986) one has to identify the object exemplifying the value in order to identify the value denoted by *so*. We will thus assume that the referent of the demonstration gesture is an object and the hearer has to infer the intended degree or property from the referent of the demonstration.[2]

In (1a) the demonstration gesture refers to a person. Since *so* modifies *groß* ('tall') the hearer knows that the relevant feature is height and she can infer Anna's height from the height of the person referred to. The inference is based on a similarity relation: Anna is similar to the referent of the demonstration gesture with respect to height. Instead of pointing to a person, the speaker can also indicate Anna's height by holding her hand at a certain distance from the ground. What would be the referent of the demonstration in that case? Is it a degree, thereby contradicting our claim that demonstrations refer to objects instead of degrees or properties? However, such iconic demonstration gestures have to respect the spatial orientation of the object (cf. Lang 1989) – the size of a school kid requires a vertical distance whereas the size of a baby has to be indicated by a horizontal distance gesture – and thus cannot refer to an arbitrary degree of length.

In (1b) the demonstration gesture points to a car. Since *so* modifies *Auto* ('car') the hearer knows that the relevant feature is a car property, e.g. its make. As in the gradable case, the hearer has to infer the make of Anna's car from the referent of the demonstration gesture by similarity. In contrast to the gradable case, the relevant feature is not fixed by the head noun – it could be performance or color instead of make – leaving it to the hearer to find out the intended one.[3] But if the speaker uses, e.g., (5) *so* modifying *Farbe* ('color') the relevant feature must be the color of the car.[4]

(5)   (Speaker pointing to a car)
       So eine Farbe hat Annas Auto (auch).
       'Anna's car is this color, too'

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[2] Ehlich (1986) argues that in (a) (his example (6)) the hearer first has to identify an object which is white before he can recognized the particular degree of whiteness.
(a)   Fritz zeigt Otto seine mit Kernseife gewaschene Wäsche und sagt: *So weiß wäscht Kernseife, guck mal*!
       'Fritz showing Otto a piece of laundry washed with curd soap: *Look, curd soap washes white like this.*'
Similarly, Fricke (2007) subsumes modal deixis under local deixis because, as in the local case, the demonstration is obligatory and the types of gestures are the same as in the local case.
[3] While dimensional adjectives like *tall* specify a single dimension, nouns like *car* (and adjectives like *clever*) are many-dimensional comprising multiple aspects or features.
[4] Three additional remarks: First, nouns can, of course, also be gradable, cf. Bolinger (1972). Secondly, we assume that *so* combines with the noun although it precedes the determiner (*so ein Auto*) since definite determiners and quantifier expressions are excluded in this construction. Note that in *so viele Kinder* ('so many kids'), *so* modifies *viele*, i.e. [[so viele] Kinder]. Thirdly, *so* can also be combined with, e.g., verbs and will then pick up a manner (provided that the verb is not gradable). Combination with verbs will not be considered in this paper.

Let us now consider the anaphoric use of the demonstrative expression *so*. As in the deictic use it may combine with gradable as well as non-gradable expressions. Again, the crucial question is the question of how *so* achieves its value. What is the nature of the antecedent of *so*? In the deictic case we argued that *so* cannot directly refer to a degree or property, since you cannot point to degrees or properties. But you can talk about degrees (of some dimension) and properties. We do find such entities as discourse referents even if we are reluctant to accept them as real world entities. In (6a) (= (2a)) *so* modifies a gradable adjective and thus must retrieve a degree. Since there is a measure phrase in the preceding sentence we might think that the denotation of the measure phrase serves as the antecedent. But note, that you cannot switch between dimensions – (6b) is unacceptable.[5] Thus it seems reasonable to assume that the antecedent is given by the entire adjectival phrase *1.80 groß* ('1.80 tall'). The relation between the anaphor and the antecedent can, of course, not be identity, because the anaphor is a modifier of the adjective *groß* ('tall'). As in the deictic case we have to assume that the value denoted by *so* is inferred from the antecedent: Anna's height is similar to Marie's height (that is, in (6a), at least 1.80).

(6) a. Marie ist 1.80 groß. Anna ist auch so groß.
'Marie is 1.80 tall. Anna is that tall, too.'

   b. # Marie ist 1.80_1 groß. Der Tisch ist (auch) so_1 lang.
'Marie is 1.80 tall. The table is that long (too).'

In the example in (7a) there is no explicit degree mentioned in the preceding sentence and instead the adjective occurs as an unmodified positive. It may actually be questioned whether *so* in (7a) is an anaphor – it could also be considered as an instance of the intensifying use of *so*. Still, the assumption that the denotation of the preceding AP provides the antecedent of *so* allows a straightforward anaphoric interpretation. Following the standard analysis of gradability (cf. e.g. Kennedy & McNally 2005) the unmodified positive form relates to a contextually given standard of comparison provided by the comparison class. This standard of comparison has to be exceeded for an entity to count as, e.g., tall. Assuming that the unmodified positive in (7a) provides the antecedent, the degree picked up by *so* will simply be the standard given by the comparison class. This interpretation predicts, first, that Anna need not have the same height as Marie – she just has to exceed the same contextually given standard of comparison. This is confirmed by the fact that (7b) is a perfect continuation of the (a) sentence. The assumption that *so* picks up the contextually given standard moreover predicts that Marie and Anna belong to the same comparison class. In fact, if Marie were a mouse and Anna were an elephant (7a) would not be acceptable (# *Maus Marie ist groß. Elephant Anna ist auch so groß* 'Mary, the mouse, is big. Anna, the elephant, is big, too').[6]

(7) a. Marie ist groß. Anna ist auch so groß.
'Marie is tall. Anna is tall, too.'

   b. … Marie ist 1.80 und Anna sogar 1.90 / immerhin 1.75.
'… Marie is 1.80 and Anna is even 1.90 / still 1.75.'

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[5] A switch of dimensions will be licensed if the spatial dimensions of the objects are sufficiently close, for example *Der Tisch ist so breit wie die Tür hoch ist*, cf. Bierwisch 1989, Lang 1989.
[6] (7a) is possible if Anna is Marie's mother – *Marie ist groß. Ihre Mutter Anna ist auch so groß.* Kennedy (2007) discusses an example where the standard of comparison varies with a quantificational subject – *Everyone in my family is tall.* – and suggests a functional interpretation of comparison classes such that they may vary with a bound variable. Analogously, the comparison classes in the daughter-mother example seem to be functionally dependent.

Finally, (8a) and (b) provide two examples of the anaphoric use of the demonstrative *so* modifying a non-gradable expression. Analogous to the gradable case, we will consider the entire noun phrase in the preceding sentence as the antecedent and assume that the property picked up by *so* is inferred from the antecedent by similarity. This explains why there need not be an explicit modifier in the preceding sentence. In (8b) the modifying property is provided by the fact that a BMW Cabrio is a subtype of cars. It also explains the unacceptability of (8c), since it predicts that whenever *so* modifies *Auto* ('car'), the modifying property has to be a car property.[7]

(8) a. Marie hat ein Auto mit Heckklappe. So ein Auto hat Anna auch.
    'Marie has a car with a hatch. Anna has a car like this, too.'

   b. Marie hat einen BMW Cabrio. So ein Auto hat Anna auch.
    'Marie has a BMW cabrio. Anna has the same kind of car.'

   c. ?? Marie hat ein Auto mit Diebstahlsicherung. Anna hat so ein Motorrad.
    'Marie has a car with an automatic alarm. Anna has such a motorbike.'

To conclude, the deictic as well as the anaphoric use of the demonstrative *so* systematically combine with gradable and with non-gradable expressions. They differ in the way the modifying degree or property is provided – by a demonstration gesture or by an antecedent. But in either case the actual degree or property has to be inferred making use of a similarity relation such that there is a feature with respect to which the demonstrated object or antecedent is similar to the entity modified by *so*. This, of course, raises the question of how to spell out the notion of similarity, which will not be pursued in this paper. We will, instead, focus on the question of how the 'out of the blue' uses of the demonstrative *so* –intensifying and hedging – relate to the deictic and anaphoric uses.

3   Intensifying *so*

When *so* occurs as a modifier of adjectives, nouns, etc. and there is neither a demonstration gesture accompanying the utterance nor a suitable antecedent in the preceding discourse it will induce either an intensifying effect or a hedging effect. Since its syntactic behavior is the same as in the deictic and anaphoric uses discussed in the previous section, there is no a priori reason to assume that the intensifying and hedging uses make use of distinct lexical items.[8] We will instead presume that the intensifying use and the hedging use are instances of the demonstrative use of *so*. Thus the question arises of how the demonstrative *so* can bring about an intensifying and a hedging effect, respectively, and how these uses are related to the deictic and anaphoric uses.

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[7] The idea that anaphoric *so* takes the whole NP as its antecedent when combined with non-gradable expressions is similar to the analysis of the English identifier *such* suggested by Carlson (1980). Carlson interprets identifier *such* as a pro-modifier referring to kinds. It takes NPs as its antecedent such that the referent of the NP must be a sub-kind of the kind corresponding to the noun modified by *such*. The restriction to kinds (instead of arbitrary properties) and the sub-kind requirement explains why only kind denoting NPs are licensed as antecedents of *such*. There seem to be similar restrictions for German *so*.

[8] Likewise, in Thurmair (2001) the intensifying use of *so* is subsumed under the comparison-based deictic and anaphoric cases. In contrast, van Os (1989) considers intensifying *so* as an intensifier expressions like *sehr* ('very'), *wirklich* ('really'), *absolut* ('absolutely') etc. and analyses it as a pro-form relating to a result clause.

The intensifying effect occurs only if the expression modified by *so* is gradable – adjective or noun or verb. In (9a) (repeated from above) and (b) *so* seems roughly equivalent to the intensifying adverb *sehr* ('very'), in (9c) it might be substituted by an intensifying adjective, e.g. *enorm* ('enormous'). The intensifying use of *so* is usually deaccented.[9]

(9) a. (Aunt Martha talking about her eight-year-old nephew:)
    Er ist so groß.
    'He is so tall.'

 b. (Speaker apologizing for being late:)
    Es hat so geregnet.
    'It rained quite heavily.'

 c. (Speaker complaining about Uncle John:)
    Er ist so ein Pedant.
    'He is such a prig.'

If – and only if – the expression modified by *so* is not gradable (and there is no demonstration or antecedent), *so* will invariably induce a hedging effect such that the speaker appears uncertain whether the term she used is appropriate, compare (10a,b).[10] With color adjectives we find both effects (cf. Thurmair 2001), intensification coinciding with a gradable and hedging coinciding with a non-gradable interpretation of the modified expression, cf. (10c,d). Thurmair moreover observes that gradable adjectives like *lang* ('long') and *dick* ('fat') facilitate a hedging effect if combined with the suffix *–lich*, which seems due to the fact that the suffix turns them into non-gradable adjectives (*länglich* 'lengthy', *dicklich* 'pudgy').

(10) a. Das Wasser ist so warm.
    'The water is rather warm.'

 b. Das Wasser ist so lauwarm.
    'The water is like lukewarm.'

 c. Der Himmel ist so blau.
    'The sky is very / intensively blue.'

 d. Das Kleid ist so blau.
    'The dress is like blue.'

Although the use of *so* in (9) – gradable head, no demonstration, no antecedent – is generally termed 'intensifying', a closer look reveals that it does not always intensify the meaning of the gradable. It has to be observed, first, that intensifying *so* frequently conveys the impression that there is an implicit result clause.[11] B's answer in (11a) might, for example, be interpreted such that the sofa offered by A is so big that it fills most of the tiny apartment of the speaker, that is, it is considered big by B, even if it is in fact a dainty two-seater. Obviously, by using *so*

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[9] It will be accented if elongated: *Es war SOOO schön.*

[10] It has been objected that *so* may have a hedging effect even if combined with a gradable, for example: *Was hat er denn für ein ein Auto? Na, ja so ein großes.* However, in examples like this *so* does not modify *groß* but *großes Auto*, which is clearly non-gradable.

[11] See Meier (2001) for the interpretation of result clauses. The basic idea is that the result clause provides a degree which is the minimal degree in order to achieve the result. For example, the result clause in *The sofa is so big that it fills the apartment* is interpreted as "If the sofa is at least d-big, it fills the apartment.", where d-big is a degree given by the result clause.

the threshold for the sofa to count as big is set according to some ad hoc criterion the speaker has in mind and might be lower than the standard threshold given by the sofa comparison class. In contrast, if the speaker uses the unmodified positive, as in (11b), the sofa has to exceed the standard threshold, and if she uses the intensifier *sehr* ('very'), as in (11c), it has to exceed an increased threshold.[12] In the (b) as well as the (c) example A might reject B's answer by a denial: *No, it is not (very) big*, while a plain denial would not be acceptable as a rejection of the (a) example, cf. (11d), thereby confirming the view that *so groß* is not equivalent to either *groß* or *sehr groß*.[13]

(11) A: Willst du mein Sofa haben?
      ' Do you want my sofa?'

    a. B: Ich weiß nicht, ... es ist so groß.
        'I don't know, ... it is so big.'

    b. B': Ich weiß nicht, ... es ist groß.
        'I don't know, … it is big.'

    c. B'': Ich weiß nicht, ... es ist sehr groß.
        'I don't know, ... it is very big.'

    d.   B: Ich weiß nicht, ... es ist so groß.
          'I don't know, ... it is so big.'
    ?? A': Nein, es ist nicht groß.
        'No, it is not big.'

(11) demonstrates that the so-called intensifying *so* in fact just shifts the standard given by the comparison to an ad hoc standard the speaker has in mind, and can, in particular contexts, have a downgrading effect. Thus, strictly speaking, the term 'intensifying *so*' is misleading. (We will nevertheless keep it because it is well-established in the literature.)

    The downgrading effect of the intensifying *so* can also be observed with adjectives like *full*. Following Kennedy & McNally (2005) relative adjectives, like *big*, have to be distinguished from absolute adjectives, e.g., *wet* and *full*. Relative adjectives make use of an open scale and the standard threshold for something to count as *big* is given by the comparison class. In contrast, absolute adjectives employ a (partially) closed scale and the threshold coincides with either the minimum or the maximum of the scale. *Wet*, for example, is minimum standard – something counts as wet if it is minimally wet. *Full* is maximum standard – something counts as full only if it is completely full.[14] The same applies for the German counterparts *nass* and *voll*.

    Interpreting 'intensifying *so*' as a means to ad hoc shift the standard threshold yields the prediction that in the case of absolute minimum adjectives it should always have an intensifying effect – if the standard threshold is at the minimum, any other threshold must be higher. For absolute maximum adjectives, however, a downgrading effect is predicted, since any other threshold must be lower than the maximum of the scale. In fact, *so* combined with

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[12] For the interpretation of *very* see Kennedy & McNally (2005).

[13] If *groß* ('tall') is interpreted as a predicate of personal taste such as *lecker* ('tasty'), a plain denial as in (11d) could be viewed as acceptable, cf. Lasersohn (2005).

[14] The fact that the judgement that x is full may differ in granularity (*The cup is full* vs. *The pool is full*) does not make it a relative adjective. Even if explicitly defined (*A beer glas is full if the calibration mark is reached*) it does not turn into a relative adjective – if a beer glas is filled according to the calibration mark it would not be adequate to say that it is full for a beer glas.

nass has an intensifying interpretation, the lawn in (12a) must be very wet. But when combined with *voll* there is only a downgrading interpretation – (12b) entails that the fridge is not full.[15]

(12) a. (A: Let us sit on the lawn.)
      B: Lieber nicht, der ist so nass.
         ' I would rather not, it is so wet.'

   b. (A: Put the apples in the fridge.)
      B: Lieber nicht, der ist so voll.
         'I would rather not, it is pretty full.'

Assuming that intensifying *so* brings in an ad hoc threshold for an object to count as being in the denotation of the modified expression raises, of course, the question of the nature of the ad hoc threshold. We suggest to interpret it as a degree modifier THIS-DEGREE that achieves its value from a silent demonstration. The silent demonstration may be considered as referring to an object or to a situation or property as suggested by the paraphrases in (13a) and (b).[16] The value of THIS-DEGREE is provided by the referent of the silent demonstration setting the threshold according to the speaker's needs and valuation in the particular situation. It might be objected that THIS-DEGREE is just an arbitrary free parameter. But the speaker cannot have a plain degree in mind – the degree has to be inferred from some object or situation. It seems reasonable, therefore, to trace it back to a silent demonstration in the sense of Bühler's *Deixis am Phantasma*[17].

(13) a. Das Sofa ist so groß [wie der Schreibtisch]
       'The sofa is as big [as the desk].'

   b. Das Sofa ist so groß [dass es fast das ganze Zimmer füllt]
       'The sofa is so big [that it fills most of the room].'

According to this analysis the intensifying use of *so* has the same interpretation as the deictic and the anaphoric uses when combined with gradables – it is a demonstrative degree modifier. The difference between the three uses – deictic, anaphoric, intensifying – lies in the way the degree is provided: in the deictic use it is inferred from a demonstration gesture, in the anaphoric use it is inferred from the antecedent, and in the intensifying use it is inferred from a silent demonstration. This is shown in (14) (where we assume a standard degree analysis of gradable adjectives, cf., e.g. Kennedy & McNally 2005).

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[15] Note that the same effect arises with *sehr* 'very' – if something is *sehr voll* 'very full' it is not full.

[16] In the genuine deictic case we argued that you cannot point to a property and instead have to point to an object manifesting the property. In the anaphoric case you can refer to a property because you can talk about properties. Can you refer to a property in the case of the silent demonstration? It's unclear. But if reference were restricted to objects, examples like (13b), where the speaker clearly has a property (or situation) in mind, could not be explained.

One additional remark: THIS-DEGREE is in no way related to Kaplan's *dthat* operator. While THIS-DEGREE represents a value inferred from a silent demonstration gesture, *dthat* turns a description into a demonstrative (cf. Kaplan 1989). But of course THIS-DEGREE as well as the deictic and anaphoric interpretations of *so* affect the content of the utterance instead of its denotation.

[17] Note that there will be a speaker-hearer asymmetry here: the speaker knows the referent she has in mind, the hearer does not. Still, speaker and hearer can communicate without problems. Such speaker-hearer asymmetries are well-known also from discussions on specific indefinites (cf. e.g. Fodor & Sag, 1982).

(14) a. Unmodified positive:
$[[\text{Anna ist groß}]] = \text{TALL}(\text{anna}) \geq d_C,$ where d_C is the threshold given by the comparison class

   b. Deictic use of *so*:
$[[\text{Anna ist SO groß}]] = \text{TALL}(\text{anna}) \geq d_G,$ where d_G is the degree inferred from the demonstration gesture

   c. Anaphoric use of *so*:
(Marie ist 1.80 groß.)
$[[\text{Anna ist auch so groß}]] = \text{TALL}(\text{anna}) \geq 1.80$
where 1.80 is the degree inferred from the antecedent *1.80 groß*

   d. Intensifying use of *so*:
$[[\text{Anna ist so groß.}]] = \text{TALL}(\text{anna}) \geq \text{THIS-DEGREE}$
where THIS-DEGREE is inferred from the referent of a silent demonstration gesture

Interpreting intensifying *so* as picking up a degree provided by a silent demonstration answers the question of how it relates to the deictic and the anaphoric use of *so* – it is the same demonstrative expression just exploiting a different mode of pointing. It moreover answers the question of why a demonstrative expression can induce an intensifying effect – it doesn't. It just shifts the threshold of what counts as falling under the denotation of the gradable expression modified by *so*, yielding either an intensifying or a downgrading effect.[18]

4 Hedging *so*

Although rare in written text the hedging use of *so* is ubiquitous in spoken language. Like the intensifying *so*, the hedging use of *so* occurs out-of-the-blue – no demonstration gesture, no antecedent – and it has to be deaccented. Unlike the intensifying *so*, hedging *so* can not only combine with lexical heads, but also with phrases. The crucial constraint is a semantic one: the meaning of the entity it combines with must not be gradable. When combined with a gradable expression out-of-the-blue *so* will invariably be interpreted as intensifying, cf. the examples in (10) in the previous section.

The notion of 'hedging' has been introduced by Lakoff (1973) denoting expressions like *sort of* and *loosely/strictly speaking*, whose job it is to "make things fuzzier or less fuzzy". Lakoff interpreted hedging expressions in a fuzzy logic framework, as manipulating a fuzzy membership function. In his framework, German hedging *so* would loosen the membership function, similar to English *sort of*. In the literature on *so* the hedging function is only mentioned in passing, e.g. in Thurmair (2001, 34), who describes the hedging function of *so* as a metalinguistic approximation without going into details.

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[18] One of the reviewers pointed out that the intensifier *so* cannot be combined with the aspectual adverb *erst* ('only') while it is perfect with *schon* ('already') – *Der Junge ist *erst / schon so groß* – and asked for an explanation on the basis of the interpretation suggested here. Such restrictions are, however, not specific for the use of the intensifier *so*. They also apply, e.g., to the unmodified positive form: *Der Junge ist *erst / schon groß*. Surprisingly, this restriction does not apply to *noch* (which is the other dual of *schon*, cf. Löbner 1989): *Der Wäscheberg ist noch (so) groß*. The combination of gradable adjectives with aspectual adverbs is in fact an intriguing topic. For an analysis of *noch* in comparative constructions (*noch grösser* 'still taller') cf. Umbach (2009).

Siegel (2002) investigates the English hedge *like* which is very close to German hedging *so*. She characterizes *like* as a discourse particle signaling a possible slight mismatch between word and meaning, and cites one of her informants paraphrasing the meaning of *like* as "What I'm about to say is the best way I can come up with to word what I want to say, but I'm not really sure it's exactly right." (Siegel 2002, 39). This is exactly what we find in the examples in (15). In (a) the speaker wanted to buy foldback clips but didn't know the correct term (actually, there is no German equivalent, you have to use the English term). Similarly, in (b-d) the speaker has a certain denotation in mind – the scaffold in front of the wall, the pictures in the exhibition, the required action – but isn't sure how to describe it. The example in (e) is slightly different in that the speaker appears indifferent about the precise arrival time and uses the hedge to widen the tolerance range of *drei [Uhr]* ('three o'clock'). Still, what is indicated by *so* is that there might be a mismatch between the expression and the intended denotation.

(15) a. (Customer in a department store)
          Ich möchte so Klammern haben.
          'I want like clips.'

      b. (The major apologizing for the fact that the historic wall painting in the city hall
           was hidden by a scaffold)
          Leider steht da jetzt so'n Gestell.
          'Unfortunately, there is like a rack now.'

      c. (A: What kind of pictures did they show in the exhibition?)
          B: Na ja, so kubistische.
             'Like cubistic'

      d. (A: What to do with this piece?)
          B: Hmm, es muss so reingeklemmt werden.
             'You have to like squeeze it in.'

      e. Marie kam so um drei.
          'Mary arrived at about three o'clock.'

Siegel (2002) provides an analysis of the hedging use of *like* in the framework of Lasersohn's *Pragmatic Halos* (Lasersohn 1999) such that *like* may (but need not) widen the denotation of the modified expression.[19] We will basically follow her analysis making use of pragmatic halos. Still, German *so* is, unlike English *like*, a demonstrative expression, and since we presume that the hedging use is an instance of the demonstrative expression *so*, we have to explain how the demonstrative can induce a hedging effect.

The basic idea of Lasersohn's (1999) theory of *Pragmatic Halos* is that utterances may be false but close enough to truth for practical purposes. Some deviation from the truth is acceptable because discourse participants may find it convenient to ignore irrelevant distinctions. What counts as relevant and how much deviation from the truth is acceptable depends on the utterance context. An expression α is assigned a denotation relative to a model and a context, $[[\alpha]]^{M,C}$, and in addition a halo $H_C(\alpha)$ which is a set of objects of the same type as the denotation of α, differing only in ways which are pragmatically ignorable in the

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[19] Siegel, moreover, points out that *like* has the effect of "weakening" strong determiners such that they may occur in existential *there* constructions and in sluicing constructions, which is explained by the fact that, according to her analysis, *like* introduces a variable.

context.[20] The denotation of α is always included in its halo, and the halos of complex expressions are derived compositionally. The elements of a halo are partially ordered according to their similarity to the core denotation (cf. also Morzycki (to appear), where Lasersohn's idea of Pragmatic Halos is implemented by way of a scale/degrees of imprecision).

Lasersohn characterizes slack regulators and hedges on the basis of halos. Slack regulators are expressions like *exactly* and *perfectly*. Contrary to what one might expect they do not cut-off the halo of the term they modify but only shrink it since, following Lasersohn, "even the word *exactly* sometimes leaves a little pragmatic slack" (p.529). In fact, taking his example in (16b), even in the case of *exactly three o'clock* there will be some deviation from the truth licensed in the context, since it is unclear how to determine the exact denotation of *three o'clock* – in milliseconds or microseconds or nanoseconds?

Hedges, on the other hand, do not, as one might expect, expand the halo of the term they modify but instead widen the term's denotation. Suppose that, in the context of utterance, *three o'clock* in (16a) has a halo including the times from 2.55 to 3.05. Adding the hedging expression *roughly*, as in (16c), yields a denotation spanning from 2.55 to 3.05.[21] Thus adding the hedging expression has the effect that what was in the halo of an expression before is now in the denotation of the expression. If Mary came at 3.03 then (16a) uttered in the above context would be false but close enough to truth for practical purposes. (16c), however, would be uttered truthfully in this context.

(16)   a.   Mary arrived at three o'clock.   (= (1) in Lasersohn 1999)
       b.   Mary arrived at exactly three o'clock.   (halo tightened)
       c.   Mary arrived at roughly three o'clock.   (denotation widened)

At first sight, Lasersohn's halo theory looks perfectly suited for the interpretation of the German hedging *so*. The example in (15e), which is very close to (16c), may be true even if Mary arrived some minutes before or after three o'clock. Similarly, (15a) may be true even if the speaker wants something that is not included in the denotation of *Klammern* but close to it. So denotation widening appears to be an adequate interpretation of hedging *so*.

There is, however, a problem. First note that the hedging use of *so* is very close to the deictic/anaphoric use if we take belated gestures/phrases into account. If, for example, the speaker in (17) feels that the addressee has no idea what she means by *so Klammern*, she may belatedly point to such an object or add a verbal specification (like the subscripts in (17a,b)). Even if she does not add a gesture or verbal specification, it seems plausible to assume that there is a silent demonstration in the sense of Bühler's *Deixis am Phantasma* referring to an object or kind the speaker has in mind, and the value to be instantiated for *so* is inferred by similarity from the referent of the silent demonstration[22].

In this way, an interpretation of the hedging use of *so* is facilitated and it differs from the deictic/anaphoric cases only in that it is *Deixis am Phantasma* instead of *demonstratio ad oculos* or genuine anaphoricity. At the same time the interpretation of the hedging use of *so* is analogous to the case of the intensifier *so*, which was also said to make use of a silent demonstration in the sense of Bühler's *Deixis am Phantasma*. But while the intensifying *so* picks up a degree – we called it THIS-DEGREE – the hedging *so* must pick up a property, since it

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[20] Note that the elements of the halo will be sets if α has a set denotation.

[21] Lasersohn in addition postulates that the denotation of the modified expression is not included in the widened denotation. This seems plausible for a hedge like *loosely speaking* because ' Loosely speaking, John is king.' entails that John is not the king. But it is clearly inadequate in the case of '*Mary came at roughly three o'clock*' because that would not be false if Mary came at (exactly) three o'clock. We will therefore disregard this requirement.

[22] Again, a speaker-hearer asymmetry arises. Cf. footnote 17.

combines with non-gradable expressions. The property picked up by hedging *so* will be called THIS-PROPERTY.

(17) a. Ich möchte so Klammern [wie die im Büro].
   'I want like clips [like the ones in the office].'

   b. Ich möchte so Klammern [man kann sie zurückklappen].
   'I want like clips [you can fold them back].'

The implementation of the halo widening idea in Lasersohn (1999) is such that the denotation of an expression modified by a hedge is the union of the halo elements of the expression in the particular context of utterance (minus the core denotation, cf. footnote 21), for example $[[\textit{loosely speaking } \Phi]]^{M, C} = \cup H_C (\Phi) - [[\Phi]]^{M, C}$ (cf. Lasersohn 1999, 545). Thus the widened denotation includes any halo element licensed in the utterance context, and there is no way to select particular halo elements.

Now suppose that (17) is uttered in a context such that *Klammern* denotes paper clips and includes in its halo foldback clips, stapler clips, clothes-pegs etc. Then the widening strategy would result in a denotation of [[*so Klammern*]] including foldback clips, stapler clips, clothes-pegs etc. in addition to paper clips. But this is not what we want. The speaker in (17) didn't ask for any type of clips but for a particular one – the one characterized by the silent demonstration. So instead of subsuming arbitrary halo elements the denotation should be constrained by the property inferred from the silent demonstration, that is, THIS-PROPERTY. Suppose that THIS-PROPERTY specifies foldback clips. Then the denotation of [[*so Klammern*]] should consist of foldback clips only. So instead of unselective denotation widening hedging *so* facilitates a denotation shift. This interpretation can easily be spelled out in the Pragmatic Halo theory, cf. (18).[23]

(18) $[[\textit{so Klammern}]] = \cup X \in H_C(\textit{Klammern}) \cap \{y \mid \text{THIS-PROPERTY} (y)\}$

The difference between *Klammern* and *so Klammern* is again a matter of truth value. If *Klammern* denotes paper clips and the speaker wants foldback clips the sentence *Ich möchte Klammern* ('I want clips') is strictly speaking false although it may be pragmatically licensed in the utterance context. But the sentence *Ich möchte so Klammern* will be true.

5   Conclusion

We have shown in this paper that the intensifying use and the hedging use of German *so* can be analyzed as occurrences of the demonstrative expression *so* – there is no need to postulate distinct lexical items. According to this analysis the intensifying use and the hedging use have the same interpretation as the deictic and the anaphoric use: *so* is a modifier combining with gradable as well as non-gradable expressions, obtaining its value via similarity from the referent of a demonstration or an antecedent. The differences thus lie in the way the value is provided: while the deictic use is accompanied by an overt demonstration gesture and the anaphoric use requires a suitable antecedent, the intensifying use as well as the hedging use come with a silent demonstration. In the intensifying use – naturally restricted to gradable expressions – the silent demonstration provides a degree which serves as an ad hoc threshold

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[23] There is, of course, the question of how to derive this interpretation in a compositional way – why does this interpretation make use of the halo of the modified expression instead of its denotation?

(and may have either an intensifying or a downgrading effect). In the hedging use, which is restricted to non-gradable expressions, the silent demonstration provides a property shifting the original denotation.

It might be objected that the values provided by silent demonstrations are just arbitrary free parameters. We argued, however, that silent demonstrations are licensed by Bühler's *Deixis am Phantasma*, which is the third mode of pointing in addition to genuine deixis and anaphoricity. But even if one doubts this argument, by assuming silent demonstrations the intensifying use and the hedging use can be systematically related to the demonstrative *so* applied to gradable and non-gradable expressions, respectively.

There is a long list of relevant issues we did not consider. We did not discuss restrictions on antecedents (cf. Carlson 1980 and footnote 7). We skipped the use of demonstrative *so* as a manner modifier. We did not go into equative comparison constructions and result clauses (cf. footnote 1), which clearly rest upon the demonstrative expression *so*. Finally, we ignored the use of *so* as a connective and as a discourse particle – is the use of *so* in *So, jetzt müssen wir gehen.* ('We have to leave now.') related to the demonstrative *so*?

The analysis we suggested makes a systematic distinction between *so* combined with gradables and *so* combined with non-gradables. This seems appropriate when looking at the deictic and anaphoric cases because the modified expressions are either gradable or non-gradable and we would not like this difference to be blurred. Still, the question has to be raised of why *so* inevitably has an intensifying (or downgrading) effect when combined with gradables and occurring 'out of the blue' – why don't we find hedging uses with gradable expressions? Could it be that intensification will turn out to be a form of hedging if we employ a different interpretation of gradability?

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