The Interpretation of the German Specificity Markers *bestimmt* and *gewiss*

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Abstract We closely investigate two specificity markers in German, namely *bestimmt* and *gewiss* by discussing their commonalities and differences wrt. matters of identification and scope-taking properties in connection with negation, nominal quantifiers, conditionals and intensional operators. Eventually we propose to analyze both markers as uniformly contributing the information that some salient agent is in possession of identifying knowledge of the referent that is introduced by the modified indefinite. The crucial differences between the two markers are that in case of *gewiss* 1.) this agent must be the speaker and 2.) this information is contributed as a conventional implicature, whereas in the case of *bestimmt* 1.) the agent must not necessarily coincide with the speaker and 2.) the information is contributed as at-issue meaning, which will allow for interaction of this meaning component with other operators in the sentence.

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1 Introduction

German has two markers that at first sight seem to indicate specificity in the sense of a strong tendency to scope over intensional (and other scope taking) operators contained within the same sentence: *bestimmt*, and *gewiss*. Both markers can be used with bare plurals or in DPs headed by the indefinite article *ein*[1], marginally also in DPs headed by a numeral. This article will mostly be concerned with the use of *bestimmt*, and *gewiss* in combination with the indefinite article *ein*. Note that we will translate both *bestimmt* and *gewiss* with English *certain*, where possible. This is only meant as an approximation, since – as we shall see below – neither *bestimmt* nor *gewiss* parallels *certain* with respect to all aspects of meaning.

(1)   a. Peter sucht   eine bestimmte CD / zwei bestimmte CDs /
           Peter searches a   bestimmt   CD   two   bestimmt   CD
              bestimmte CDs.
              bestimmt   CDs

      'Peter is looking for a certain CD/two certain CDs/certain CDs.'

      b. Peter sucht   eine gewisse CD / zwei gewisse CDs /
          Peter searches a   gewiss   CD   two   gewiss   CDs
              gewisse CDs.
              gewiss   CDs

      'Peter is looking for a certain CD/two certain CDs/certain CDs.'

      c. Peter sucht   eine CD/zwei CDs/CDs.
          Peter searches a   CD two   CDs CDs

      'Peter is looking for a CD/two CDs/CDs.'

In (1a,b) the only available interpretation is one according to which the respective indefinites take scope over the intensional verb *suchen* ('search'), i.e. it is not the case that Peter would be happy with any CD whatsoever. In the case of (1c), in contrast, the versions with *ein* and *zwei* are ambiguous in this respect, while the one with the bare plural only receives a narrow scope reading (see Carlson, 1977 and Chierchia, 1998 for discussion). Dubbing the two markers specificity markers thus has some initial plausibility. Intuitively, in all the cases of (1a) and (1b) there has to be some further knowledge about the CD(s) under discussion. But there is some intuitive difference between the *gewiss*- and the *bestimmt*-cases as to the

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[1] *Ein* is ambiguous between an interpretation as the indefinite determiner and an interpretation as the numeral *one*.

question who has to be the holder of that information. While *gewiss*-indefinites seem to require that the speaker has to have additional information about the referent under discussion (the CD(s) in case of example (1)), *bestimmt*-indefinites appear more liberal and seem to allow for other agents as information-holders, here: Peter (see section 3.1 for more discussion on this issue).

The paper is structured as follows: in section 2 we will investigate syntactic properties and the combinatoric potential of the two items. Section 3 contains a host of data concerning semantic and pragmatic effects, in particular pertaining to identifiability and scope. In Section 4 we summarize observations on other specificity markers like English *certain,* French *certain*, or the Russian indefinite pronouns *–to* and *koe-* from the literature in order to see where they parallel the German specificity markers. Section 5 contains our own proposal and section 6 concludes our findings.

2 The Syntax of *bestimmt* and *gewiss*

Concerning more complex indefinite DPs where the respective article is further modified, there is an interesting difference between *bestimmt* and *gewiss*: *bestimmt* can in principle be combined with both downward entailing quantifiers like *weniger als drei* ('less than three') and upward entailing quantifiers like *mehr als drei* ('more than three'), though the results are somewhat marginal for some of the speakers we consulted (more so with the downward entailing quantifiers than with the upward entailing ones). Combining *gewiss* with these quantifiers, in contrast, leads to unacceptability for most speakers. The following examples illustrate these findings. Here and in the following we will conflate the three variants of sentences (ie. with *bestimmt*/with *gewiss*/without specificity marker) into one example with a single number (n) and refer to the variants by (n-*b*), (n-*g*), and (n-ø), respectively, for reasons of space.

(2)   Niemand sollte   weniger als   drei bestimmte/*gewisse/ø   CDs
        Nobody should less   than three bestimmt/gewiss/ø   CDs
              von Madonna besitzen.
              of   Madonna own.

        'Nobody should own less than three (bestimmt/gewiss/ø) CDs
         by Madonna.'

(3)   Wer mehr als   drei bestimmte/*gewisse/ø   CDs   von
        Who more than three bestimmt/gewiss/ø   CDs   of

> Madonna besitzt, ist ein echter   Fan.
> Madonna owns,   is a   real   fan.

'Who(ever) owns more than three bestimmt/gewiss/ø CDs
   by Madonna is a real fan.'

Concerning the examples in (2-ø) and (3-ø), the strongly preferred readings are ones according to which the indefinites have narrow scope with respect to the other operators. (2-ø) thus receives a reading that can be paraphrased as follows: in all worlds which fulfil some desirable norms there is nobody who owns less than three CDs by Madonna, no matter which CDs. (3-ø) is interpreted as saying that in order to be considered a Madonna fan, it is sufficient to own more than three of her CDs, no matter which ones. In the case of (2-*b*) and (3-*b*), matters are different. In both cases, the narrow scope reading is unavailable for the indefinite. But, crucially, it is also not simply the indefinite quantifier in its entirety that takes wide scope. (2-*b*) is not interpreted as saying that there are less than three particular CDs by Madonna, e.g. two, such that nobody should own them. Likewise, (3-*b*) cannot be taken to mean that there are more than three particular CDs by Madonna, e.g. four, such that everybody who owns them is a real fan. Rather, they say that there are three particular CDs by Madonna such that nobody should own less than all three of these, or, respectively, that there are three particular CDs by Madonna such that everybody who owns more CDs by Madonna than those three is a real fan. Consequently, the quantifier *drei bestimmte CDs von Madonna* (lit.: 'three certain CDs of Madonna') seems to be separated from the respective downward/upward entailing modifiers *weniger als (less than)/mehr als (more than)* at the level of LF and to take scope independently. In order for sentences like (2-*b*) and (3-*b*) to be interpretable it seems to be necessary that the combination of *bestimmt* with the respective determiner/numeral and the NP is separated from the modifier. The internal structure of the quantificational DP then must be such that *more/less than* is applied to *three CDs by Madonna,* such that the structure is *[more/less than [three [CDs by Madonna]]* rather than the usually assumed generalized quantifier structure *[[more/less than [three]][CDs by Madonna]]*. See also Krifka (1999) or Geurts and Nouwen (2007) for proposals of *at least* or *more than* and other comparative operators along these lines and Endriss (2009) for discussion.

   Concerning indefinites modified by *gewiss* in (2-*g*) and (3-*g*), judgements show a strong tendency towards unacceptability. Crucially, speakers who accept these sentences do so only under a reading that is brought about most clearly by extraposing the phrases headed by *als* (as shown in

(4a,b)) or by separating *weniger* ('less') or *mehr* ('more') from the rest of their respective clauses by an intonational break.[2]

(4)   a. Niemand sollte   weniger besitzen als   drei   gewisse
         Nobody   should less   own   than three gewiss
              CDs von   Madonna.
              CDs by   Madonna'
         'Nobody should own less than three gewisse CDs of Madonna. '

      b. Wer mehr besitzt als   drei   gewisse CDs von Madonna
         Who more owns   than three gewiss CDs by   Madonna
              ist ein echter Fan.
              is   a   real   fan

         'Who (ever) owns more than three gewiss CDs by Madonna
           is a real fan.'

These readings can be paraphrased as "There are three special CDs by Madonna such that nobody should have less possessions than those three CDs" and "There are three special CDs by Madonna such that everybody who has any other possessions than those three CDs is a real fan" (which does not make much sense). Again, in these cases the respective upward or downward entailing modifiers do not belong to the quantifiers proper. The data in (2-*b*,2-*g*) and (3-*b*,3-*g*) thus do not support the conclusion that the meaning of *bestimmt* or *gewiss* is compatible with the meaning of modified indefinite determiners. Rather, they seem to combine with simple numeral indefinites, which then in turn can combine with expressions like *more than* or *at least*.

   What is puzzling, however, is that this separation of comparative operator and numeral seems to be possible quite generally for indefinites modified by *gewiss* and *bestimmt*, while for "simple" indefinites (i.e. ones that do not contain a specificity marker as in (2-ø) and (3-ø)) such readings are only attested with *at least* and *at most*, but not with *more than* or *less than* (see Endriss, 2009 for discussion). Since the focus of this paper is on the semantic contribution of *bestimmt* and *gewiss*, we will not try to solve this puzzle here.

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[2] The split among speakers with respect to the acceptability of (2-*b*,2-*g*) and (3-*b*,3-*g*) presumably reflects differences concerning the ability to perform the required separation at the level of LF: while for most speakers this is possible only in the case of indefinites with *bestimmt*, there are others for whom this is generally impossible, while a small minority can also perform it with indefinites containing *gewiss*.

Both *bestimmt* and *gewiss* are unacceptable in quantificational DPs other than the ones above, and *bestimmt* cannot be combined with the definite determiner, either. *Gewiss*, in contrast, while not being generally acceptable in definite DPs, can be combined with the definite determiner in some cases like (5d,e), which all have an idiomatic flavour to them, however:

(5)   a. Peter mag eine bestimmte/gewisse/ø CD von Madonna.
            Peter likes a   bestimmt/gewiss/ø   CD by Madonna

            'Peter likes a (certain) CD of Madonna.'

    b. Peter mag die meisten / alle *bestimmten/*gewissen/ø CDs
            Peter likes the most / all bestimmt/gewiss/ø   CDs
                 von Madonna.
                 by Madonna

            'Peter likes most/all CDs of Madonna.'

    c. Peter sucht   die *bestimmte/*gewisse/ø neue CD von
            Peter searches the   bestimmt/gewiss/ø   new CD by
                 Madonna.
                 Madonna

            'Peter is looking for the new CD of Madonna.'

    d. Madonna hat das gewisse Etwas.
            Madonna has the gewiss   something.

            'Madonna has that certain something.'

    e. Peter sucht   den gewissen Kick.
            Peter searches the gewiss   kick

            'Peter is looking for that certain kick.'

Furthermore, *gewiss*, but not *bestimmt*, can occur in combination with the indefinite article and a proper name[3].

(6)   Ein *bestimmter/gewisser Peter hat nach Dir gefragt.
        A   bestimmt/gewiss   Peter has after you asked

       'A certain Peter has asked for you.'

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[3] Cf. Hintikka (1986, ex. 25) for some discussion of the pragmatic effect of combing English *a certain* with proper names, Jayez and Tovena (2002) for *un certain*–indefinites combined with proper names and Eguren and Sánchez (2007) for Spanish *cierto* in combination with proper names.

(6-*b*) would only be (marginally) acceptable if a context was provided that makes several persons named *Peter* salient and where the speaker indicates that one among them who is somehow special or noteworthy has asked for the addressee. In the case of (6-*g*), the only thing that is required is that the speaker does not know anything else about the person named Peter but the simple fact that he has asked for the hearer.[4] We have the intuition that using *gewiss* adds the expectation that the hearer knows the identity of the respective person, which is confirmed by the contrast between (7a-*g*) and (7a-ø) in connection with (7b). While the former discourse (7a-*g*)+(7b) is incoherent, (7a-ø)+(7b) is perfectly ok. We note, however, that these judgements are very subtle and are not shared by all speakers we consulted, i.e. for some there is simply no detectable difference between (7a-g) and (7a-ø).

(7)   a. Ein gewisser/ø Herr Mayer wollte   mit   Dir   reden.
            A   gewiss/ø   Mr.   Mayer wanted with you talk

          'A (certain) Mr. Mayer wanted to talk to you.'

       b. Du kennst den   auch   nicht, oder?
          You know DEM   also   not   or

          'You don't know him either, do you?'

In what follows we will ignore the cases where *gewiss* is combined with a proper name or the definite article, because the degree of idiomaticity involved seems to us to be too high to make this a really fruitful topic to study.

There is another important difference concerning *gewiss* and *bestimmt*: *bestimmt* can be further modified by *ganz* ('completely'/'totally'), while this is impossible with *gewiss*:

(8)   a. Peter will   eine (ganz)   bestimmte Person für   die
            Peter wants a   (totally) bestimmt   person for   the
               Stelle   haben.
               position have

       b. Peter will eine (??ganz) gewisse Person für die Stelle haben.

       'Peter wants to have a certain person for the position.'

It is hard to pin down what exactly *ganz* adds to the meaning of (8a), but our intuition is that it has some intensifying effect and indicates that Peter

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4 See Houghton (2000) for a similar observation about English *certain* combined with proper names.

has strong opinions concerning the particular person he has in mind and that he is absolutely determined to hire this person and no other. Let us note here already that in both variants with *bestimmt* neither the speaker nor the hearer are expected to be able to provide any further information about the person under discussion – it is sufficient that Peter can do that. In the case of (8b), in contrast, it is required that the speaker is able to specify upon request which person she has in mind – not necessarily by name but at least via some noteworthy property. This difference will be discussed in detail in section 3.1.

Finally, let us point out one important property of *gewiss* that also sets it apart from *bestimmt*. It seems that *gewiss* gives rise to degree readings[5], while *bestimmt* usually does not.[6]

(9)   Dafür habe ich ein gewisses Verständnis.
        For.it have I   a   certain   understanding.

        'I can understand that to a certain degree.'

(10)   Aber ohne   ein gewisses Verständnis   der Mathematik
        but   without a   certain   understanding the mathematics
           [...] darf eigentlich kein Kind die Schule verlassen.
               may actually   no   child the school leave

        'But actually, no child should leave school without a certain
         understanding of mathematics.'

In the following we will ignore the degree uses of *gewiss*.

Let us finally approach the question whether we want to assume a fully compositional account, according to which *bestimmt* and *gewiss* act as modifiers which combine with an NP-predicate, or whether we want to represent the combination of *bestimmt/gewiss* and the respective indefinite determiner as a unit. While the first option at first glance seems to be more attractive, it leads us to expect that *bestimmt/gewiss* should be able to combine with any quantificational determiner whatsoever, which is not the case (see above). Furthermore, it has to be taken into account that morphologically speaking, *bestimmt* is clearly derived from the passive perfect participle of the German verb *bestimmen* ('to determine', 'to choose'), to which it is intuitively also related on the level of meaning. Interestingly,

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[5] See (Hinterwimmer and Umbach, to appear) for an analysis of such readings with *gewiss*, Jayez and Tovena (2002) for the same phenomenon in French with *un certain*-indefinites, and Eguren and Sánchez (2007) for this phenomenon with Spanish *cierto*.
[6] Example (10) stems from the DWDS Corpus: Die Zeit 50/2007.

however, as soon as *bestimmt* is modified by a PP which contains the external argument of the passivized verb, it can combine with any quantificational determiner whatsoever, as shown in (11):

(11) Zwei/ mehr als zwei/ weniger als drei/ die meisten
  Two/ more than two/ less than three/ the most
    vom Trainer bestimmte(n) Spieler haben die
    by.the trainer determined players have the
      Erwartungen erfüllt.
      expectations fulfilled

   'Two/more than two/less than three/most of the players that
   were chosen by the trainer have fulfilled the expectations.'

This shows that as soon as *bestimmt* is put into a context that brings out its nature as an adjective derived from a passive perfect participle, it behaves as expected on the compositional analysis. From this we conclude that there are two items *bestimmt*, that, while obviously being related to each other, nevertheless have to be kept apart: the one derived from *bestimmen*, which behaves as an ordinary adjective and can thus be a part of the restrictor of any quantificational determiner whatsoever, and the one we are interested in in this paper, which does not occur on its own, but only as part of a limited class of complex determiners. In the following we will focus on the singular indefinites *ein bestimmt*/*ein gewiss* and treat them as complex determiners in accordance with the preceding discussion.

3 Semantic Differences between *bestimmt* and *gewiss*

3.1 Identifiability

As already mentioned above, *bestimmt* does not require the speaker to be able to identify the respective object under discussion. In (12a) it is sufficient that Peter has some particular CD in mind. *Gewiss*, in contrast, is different in this respect, as shown by the oddity of the continuation in (12b):

(12) a. Peter sucht schon seit Stunden nach einer bestimmten
   Peter searches already since hours after a bestimmt
    CD – keine Ahnung, welche genau er sucht.
    CD – no idea which.one exactly he searches

   b. Peter sucht   schon seit Stunden nach einer gewissen
      Peter searches already since hours   after a   gewiss
        CD – # keine Ahnung, welche   genau er sucht.
        CD –   no   idea   which.one exactly he searches

'Peter has been looking for a certain CD for hours now – I have no idea which one exactly he is looking for.'

It is important to note that identification does not necessarily mean being able to name the respective object: in the case at hand, the speaker does not have to know the title of the CD Peter is looking for as long as she is able to provide a property singling out this particular CD from other CDs owned by Peter. In other words, a continuation of (12b) like *namely, his favorite AC/DC-CD* or *namely, the CD that his girlfriend gave him as a birthday present* would be perfect. In fact, all ways that can serve to single out the referent under discussion will do. As long as there is a way to identify the referent by providing more information than what has already been given in the target sentence itself, this will licence the use of *bestimmt* or *gewiss*. Take the following example sentence uttered in a situation where it is the case that only one particular combination lock will open a certain locked door. It is furthermore known that nobody on earth knows the required combination because a computer program has created the code. Hence, there is nobody who could possibly provide the correct digits in correct order, but still the speaker of (13) could provide identifying information.

(13) Diese Tür öffnet sich   nur bei einer bestimmten
       This   door opens itself only by   a   certain
           Zahlenkombination.
           number.combination

'This door opens only with a certain combination lock.'

As long as the speaker of (13) knows more to say about the combination lock than what is already expressed in (13) the sentence will be judged as fine. In this case the identifying information could be that it is a code that has been created by a computer program to protect whatever is hiding behind the door.

    The fact that both *bestimmt* and *gewiss* indicate identifiability explains why they seem to be required in some cases in order to make an indefinite acceptable at all:

(14) a. Peter stellte den Ofen auf eine bestimmte/gewisse/[??]ø
           Peter set   the stove on a   bestimmt/gewiss/ø

Temperatur.
temperature

'Peter set the stove to a certain temperature'

b. Peter stellte den Ofen an.
Peter set　　the stove on

'Peter turned on the stove'.

First note that (14a-ø) is unacceptable and presumably blocked by (14b): turning on the stove implies that one sets it to some temperature and hence the unmodified indefinite is redundant. (14a-*b*), in contrast, is fine, since by using *bestimmt* the speaker communicates that Peter did not simply turn on the stove, but rather that he set it to a specific temperature he is able to identify. Finally, (14a-*g*) is also acceptable, though slightly odd in absence of a special context, since using *gewiss* indicates that the speaker is the one that is able to identify the temperature that Peter has set the stove to. Again, identification does not necessarily mean to specify the exact referent, in this case the exact number of degree Fahrenheit. It is enough for Peter/the speaker to know of an alternative specification of the temperature, e.g. *the temperature that is right for baking strawberry cheese cake*.

On the other hand, in some simple cases *gewiss* and *bestimmt* are not felicitous without a specific context that would license their use.

(15)　a. Maria hat gestern　zufällig　　einen
　　　　Maria has yesterday coincidentally a
　　　　[??]bestimmten/[?]gewissen/ø Freund in der Stadt getroffen.
　　　　bestimmt/gewiss/ø　　　friend in the city　met

'Yesterday, Maria coincidentally met a (certain) friend (of hers) in the city.'

b. Ralf aß zum　Frühstück eine [??]bestimmte/[??]gewisse/ø
　　Ralf ate to.the breaksfast a　　　bestimmt/gewiss/ ø
　　　　Brotscheibe.
　　　　slice.of.bread

'Ralf had a (certain) slice of bread for breakfast.'

Without any specificity marker, the sentences in (15) are fine. Adding *gewiss* or *bestimmt* renders them barely acceptable, though. If we assume as before that these markers signal to the hearer that the speaker (in case of *gewiss*) or some salient agent (in case of *bestimmt*) has some additional information concerning the identity of Maria's friend/the slice of bread, we can find a pragmatic explanation for the deviance of (15a,b) in their ex-

tended form. Since slices of bread usually come in a rather uniform, indistinguishable way, a hearer of (15b) with *gewiss/bestimmt* has difficulties thinking of any additional method of identification that could set one particular slice of bread apart from the others. In case of (15a), the hearer would have a hard time setting up a context that develops a strategy to set apart the friend Maria met from her other friends without any further hint what this strategy would be. It is important to note, however, that it is not difficult to accept the mere information that Ralf/Maria had some method of identification available that identified the slice of bread he ate/the friend she met and hence this cannot be the problematic aspect that renders the sentences unacceptable. The problematic point is rather that as a hearer we have no clue whatsoever as to what such a method of identification might look like. In other words, we crucially need some contextual hint that makes some method of identification salient.

These examples illustrate that the felicitous use of *bestimmt* and *gewiss* crucially depends on the pragmatic availability of identification methods and hence ultimately on contextual factors. As we will point out below when presenting our analysis, this type of context dependence is no peculiarity of these two markers but concerns matters of identification in general.

Concerning the question of identifiability by the speaker vs. identifiability by other agents, we can make use of the fact that *irgend* (*'whatever'*) has been argued to mark speakers' ignorance or indifference (cf. Alonso-Ovalle & Menéndez-Benito, 2003, to appear; Jayez and Tovena, 2002, 2006; Aloni & Port, to appear; among others). Our assumption that *bestimmt* is compatible with non-identifiability by the speaker is therefore supported by the observation that it may be combined with *irgendein*, as shown by the examples in[7] (16):

(16) a. Wenn irgendein bestimmter Verwandter von Paul stirbt,
          If   irgendein bestimmt relative   of Paul dies
              erbt   er ein Vermögen, habe ich gehört.
              inherits he a   fortune   have I   heard

          'If a certain relative of Paul dies, he will inherit a fortune, so I have heard'.

      b. Diese Murmeln haben unter   den Kindern untereinander
          These marbles   have   among the children among.each.other

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[7] Note that the gloss lacks a translation for *irgendein* since we saw no way to get at a felicitous English sentence which contained both *certain* and some English equivalent to *irgendein*.

irgendeinen bestimmten Wert, Glasmurmeln
irgendein　　bestimmt　　value glass.marbles
zum Beispiel die Werte von zwei einfachen Murmeln[8]
for　example the values of　two　simple　　marbles

'These marbles have certain values among the children, marbles made of glass, for example, have the same value as two simple marbles'.

In the case of (16a), where the use of *irgend* definitely excludes the possibility that the speaker knows the identity (or any identifying property) of the relative whose death would make Paul rich, *bestimmt* just indicates that there is someone else (Paul being the most likely candidate) who does. Similarly in the case of (16b), where it is not the speaker, but the children who know what values the respective marbles have. Note that the speaker just provides an example, use of *irgendein* would be infelicitous if s/he could list the values of all marbles.

Crucially, combining *irgend* with *gewiss* is generally excluded.[9] This is expected if *gewiss* requires some kind of speaker identifiability:

(17)　a.　??Wenn irgendein gewisser Verwandter von Paul stirbt,
　　　　　If　　irgendein gewiss　relative　　of　Paul dies
　　　　　　erbt　er ein Vermögen, habe ich gehört.
　　　　　　inherits he a　fortune　　have I　heard

　　　b.　??Diese Murmeln haben unter　den Kindern untereinander
　　　　　These marbles　have　among the　children among.each.other
　　　　　　irgendeinen gewissen　　Wert.
　　　　　　irgendein　gewiss　　　value

In this section, we have seen that *gewiss* usually requires speaker identifiability. In the case of *bestimmt* there is no speaker-identifiability restriction in general, but it is only required that some salient agent is in possession of the necessary identifying knowledge. This salient person *might* be the speaker, but in a variety of cases a different agent mentioned in the sentence might be even more salient.

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[8] Institut für Deutsche Sprache (IDS), Deutsches Spracharchiv (DSaV), Pfeffer corpus (PF): PF294

[9] Nevertheless, we found very few examples where *irgend* occurs together with *gewiss*. These cases all seem to involve reporting an earlier event where some other agent had identifying knowledge. Here it seems that *irgend* indicates speaker ignorance/indifference while *gewiss* indicates identifiability by the agent of the reported event. In this paper we will not go into much further detail about these cases.

3.2 The Scope-taking Behaviour of "bestimmt" and "gewiss"

In this section we will have a closer look at the scope-taking behaviour of *bestimmt* and *gewiss*.

3.2.1 Negation

As the following example illustrates, *bestimmt* can in principle scope under negation while this is strictly impossible for *gewiss*.[10]

(18)   Die USA unterstützen ein Wirtschaftsprogramm, nicht
       the USA support   a   economy program   not
           eine bestimmte/gewisse Person.
           a   bestimmt/gewiss   person

The most salient reading of (18-*b*) is one according to which the USA in general do not support persons, but economic programs, i.e. the *bestimmt* indefinite scopes under the negation. A second, much weaker reading, according to which there is a particular person that is not supported by the USA is in principle also available, but clearly dispreferred. In the case of (18-*g*), in contrast, this is the only reading that is available. Furthermore, *bestimmt*, but not *gewiss*, can be combined with *kein(e)*, which has been argued by Penka and Zeijlstra (2005) (based on observations going back to Bech, 1955/1957) to be the phonetic spellout of the combination of an abstract negation operator corresponding to *not* and *ein* (a/one), where negation has scope over *ein*:

(19)   Ich habe keine bestimmte/*gewisse Person für die Stelle
       I   have not.a bestimmt   person for the position
           im   Kopf.
           in.the head

       'I don't have a certain person in mind for the position.'

The ungrammaticality of (19-*g*) can thus be explained as a consequence of the fact that *gewiss* cannot scope under negation, but needs to take wide scope.[11] On the other hand, (19-*b*) has the expected narrow scope reading according to which the speaker does not have anybody in particular in mind for the position under discussion.

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[10] (18-*b*): COSMAS-II, SZ corpus
[11] Note that also embedding Spanish *cierto*-indefinites under negation operators like *no* leads to ungrammaticality (Eguren and Sánchez, 2007, ex. 26b).

3.2.2 Nominal Quantifiers

Let us turn next to cases where *bestimmt* and *gewiss*-indefinites interact with other nominal quantifiers. In these cases, indefinites marked with *bestimmt* can take narrow scope with respect to c-commanding nominal quantifiers. Again, this is different for the ones marked with *gewiss*, as shown by the following set of examples (adapted from Farkas, 2002 and Jayez and Tovena, 2006).

(20) a. Jeder Student hat ein bestimmtes/gewisses Gedicht
          Every student has a   bestimmt/gewiss   poem
              von   Emily Dickinson ausgewählt und es analysiert.
              by   Emily Dickinson chosen   and it analyzed.

     'Every student has chosen a certain poem by Emily Dickinson
      and analyzed it.'

      b. Jeder   hat einen bestimmten/gewissen Diplomaten
          Everyone has a   bestimmt/gewiss   diplomat
             getroffen.
             met

     'Everyone has met a certain diplomat.'

(20a-*b*) is ambiguous just like its English counterpart with *a certain* (see Farkas 2002, ex. 54): it has a reading according to which the poems vary with the students, i.e. where the *bestimmt*-indefinite takes narrow scope w.r.t. the universal, as well as a reading where every student chose and analysed the same poem by Emily Dickinson, i.e. where the *bestimmt*-indefinite takes wide scope. In contrast, (20a-*g*) is unambiguous and lacks the narrow-scope reading for the *gewiss*-indefinite. The same pattern is found with (20b-*b*) vs. (20b-*g*): while (20b-*b*) has a reading according to which the diplomats vary, parallel to its French counterpart with *un certain* (see Jayez and Tovena, 2006, pg. 243), (20b-*g*) only has one reading according to which everyone met the same diplomat. Similar to the case of negation, *gewiss* seems to allow for wide scope only.

3.2.3. Conditionals

Let us turn to the behaviour of *bestimmt*- and *gewiss*-indefinites in conditionals next. In this respect it is important to briefly look at the scopal possibilities of indefinites in conditionals in general. It is by now a well-established fact that indefinites are able to take scope outside of condition-

als, despite the fact that conditionals constitute scope islands for other
quantifiers (cf. Fodor and Sag, 1982; Endriss, 2009, and the references cit-
ed therein). Thus a sentence such as (21), adapted from Farkas (2002), has
two readings.

(21)   Wenn Ben ein Problem von   der Liste löst,   wird
        If   Ben a   problem from the list   solves   will
            Mr. Koens ihn   loben.
            Mr. Koens him praise

        'If Ben solves a problem from the list, Mr. Koens will praise him.'

First, there is a narrow scope reading for the indefinite along the lines that
Mr. Koens will praise Ben if he solves some problem or other from the list.
But there is also an exceptional wide scope reading where the indefinite
takes scope over the conditional, stating that there is some specific prob-
lem from the list such that Mr. Koens will praise Ben if he solves this
problem.

      Getting back to the discussion of *bestimmt-* and *gewiss*-indefinites, we
see in (22) that they seem to pattern alike: no matter whether *bestimmt* or
gewiss is chosen, the indefinite has to be interpreted with scope over the
conditional.

(22)   Wenn Ben ein bestimmtes/gewisses Problem von   der
        If   Ben a   bestimmt/gewiss   problem from the
            Liste löst,   wird Mr. Koens ihn   loben.
            list   solves will   Mr. Koens him praise

        'If Ben solves a certain problem from the list, Mr. Koens will
         praise him.'

But, again, there are relevant differences concerning other examples (cf.
Endriss, 2009):

(23)   Wenn morgen   wieder alle Kinder   ein bestimmtes/gewisses
        If   tomorrow again   all   children a   bestimmt/gewiss
            Pferd reiten wollen, haben   wir ein Problem.
            horse ride   want   have   we   a   problem.

        'If tomorrow again all children want to ride a certain horse,
         we will have a problem'.

(23-*b*) has three readings: according to the first reading, there is one specif-
ic very popular horse (*Cassandra*, say) and if all children want to ride this
particular horse, there will be a problem, i.e. the indefinite takes widest
scope over the conditional and all other operators. According to the second

reading, there is trouble if there should be a popular horse such that all children want to ride this horse. Here, the indefinite takes scope over the universal quantifier *alle Kinder* ('all children') and over *wollen* ('want'), but not over the conditional. Finally, in the third reading there already is trouble if all children are picky with respect to the horses they want to ride, i.e. if for each child there is one particular horse that this child wants to ride. In this reading, the indefinite takes scope within the conditional, narrow scope with respect to the universal quantifier, but wide scope with respect to *wollen* ('want'). For (23-*g*), in contrast, only the first, widest scope reading for the indefinite is available. Another example showing the same contrast between *bestimmt* and *gewiss* is given in (24-*b*) and (24-*g*)[12]:

(24)   Wenn eine bestimmte/[??]gewisse Handlung belohnt   wird, dann
       If   a   bestimmt/gewiss   action   rewarded will   then
           wiederholen Mensch und Tier   sie häufiger   als
           repeat   human and animal it more-often than
           erfolglose   Aktionen.
           unsuccessful actions

   'If a certain action is rewarded humans and animals repeat it
    more often than unsuccessful actions.'

In the case of (24-*b*) the only sensible reading is one according to which the indefinite is interpreted inside the conditional, i.e. the sentence is understood as a generic statement about actions performed by humans and animals, not as a statement about one distinct action. In the case of (24-*g*), in contrast, this reading is not available and hence the only reading available is the non-sensible wide-scope reading according to which there is a particular action such that this action is more often repeated by humans and animals if it is rewarded. As this reading is not very plausible, the sentence is odd. Again, *gewiss* enforces a widest scope reading, in this case with respect to conditionals, while *bestimmt* allows for a narrow scope interpretation of the indefinite inside the *if*-clause.

3.2.4. Intensional Operators

Let us finally have a look at intensional operators like propositional attitude verbs in order to see whether the contrast between *bestimmt* and *gewiss* we have observed with respect to negation, quantificational DPs and conditionals also shows up here. As already mentioned in Section 1, in

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[12] COSMAS-II, SZ corpus

simple examples such as (1a,b), a variant of which can be found in (25), both *bestimmt*- and *gewiss*-indefinites seem to take scope over the intensional operator.

(25) Peter sucht   schon   seit   Stunden nach einer
      Peter searches already since hours   after a
           bestimmten/gewissen CD.
           bestimmt/gewiss   CD.

      'Peter has been looking for a certain CD for hours now.'

Recall that we observed in Section 3.1 that *gewiss* and *bestimmt* differ with respect to the agent that possesses additional identifying information. While in the case of *gewiss* it must be the speaker, in the case of *bestimmt* it might be some other salient agent. Indeed, (25-*g*) unambiguously means that there is a specific CD of which the speaker has additional identifying information such that Peter has been looking for that CD for hours. In other words, *gewiss* enforces a *de re* belief of Peter about the respective indefinite. In contrast, (25-*b*) is twofold ambiguous. First, there is the same *de re* reading, where the speaker plays the role of the salient individual that has additional identifying information. And second, there is a reading according to which Peter plays that role. Here, Peter has been looking for a CD that is specific to him, i.e. a CD of which he has further identifying information. In both variants, (25) lacks a plain narrow scope reading of the indefinite, where Peter has been looking for just any CD for hours.

The same can be said of examples like the ones in (26) containing the deontic modal operator *muss* (must).

(26) Agnes muss ein bestimmtes/gewisses Buch kaufen.
      Agnes must a   bestimmt/gewiss   book buy.

      'Agnes must buy a certain book.'

Both variants lack the plain narrow scope reading, where Agnes is obliged to buy some book or other and both exhibit a *de re* reading according to which there is a specific book, identifiable by the speaker, such that Agnes has to buy this particular book. In addition, the *bestimmt* variant has a reading where Agnes has to buy some book that she can further identify.

So in cases with one intensional operator, both *bestimmt* and *gewiss* allow for a *de re* reading and lack plain narrow scope *de dicto* readings. In addition, *bestimmt* allows for an 'intermediary' reading[13] where the subject

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[13] We borrowed the term 'intermediary' reading from Farkas (2002), who speaks of 'intermediary scope'. This is only in lack of a better term since we will not pro-

of the intensional predicate has further identifying information while the speaker has not.

In order to elucidate the differences in more detail, we turn our attention to a more complex example involving more than one intensional operator:

(27)   Peter glaubt,   dass Paula einen bestimmten/gewissen   Mann
       Peter believes that Paula a   bestimmt/gewiss   man
               heiraten muss.
               marry   must

       'Peter believes that Paula must marry a certain man.'

In the intermediary reading of (27-*b*) with respect to *muss* (must), Peter believes that Paula is obliged to marry a man who she can identify further. According to this reading it does not have to be the case that there is a particular man of whom Peter believes that Paula has to marry him. Peter does not even have to have any belief concerning the identity of the man in question. The only thing that is required for the sentence to be true is that Peter believes such a man to exist. And there are yet other options – and hence further readings – w.r.t. the determination of the salient agent. For instance, as we will argue in detail below, the individual issuing the order to Paula is also a reasonable agent that most likely possesses identifying information. So (27-*b*) is multiply ambiguous in the intermediary readings, where Peter has a *de dicto* belief about a man identifiable for some salient agent.

In the case of (27-*g*), in contrast, there is only one reading according to which there has to be one particular man (about whom the speaker has some further information) such that Peter believes of this man that Paula has to marry him. Here, the only available reading is one where the *gewiss*-indefinite seems to take widest scope with respect to *all* intensional operators. Descriptively, it can be said that while *gewiss* seems to always take widest scope, *bestimmt* needs to take scope over at least one intensional operator (cf. Endriss, 2009 for this generalization and further discussion).

We sum up the findings of this section as follows. While *gewiss*-indefinites always have to take widest scope with respect to other operators such as negation, quantificational DPs and conditionals, *bestimmt*-indefinites may in principle take narrow scope with respect to these. The only exception seem to be sentences with intensional operators: in such cases, both *bestimmt*- and *gewiss*-indefinites do not allow for narrow

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pose to analyze these readings in terms of an operator taking scope between two other operators.

scope. While *gewiss*-indefinites take widest scope, i.e. scope over *all* intensional operators, *bestimmt* allows for wide scope/*de re* readings as well as a particular type of intermediary readings where the subject of the intensional predicate (or some other salient agent) has additional identifying information.

We finally arrive at the following picture concerning the differences between *bestimmt* and *gewiss*:

Table 1: Properties of *bestimmt* and *gewiss*

	bestimmt	*gewiss*
identifiable to	salient agent	speaker
scope: negation	narrow/wide	widest
scope: nominal quantifiers	narrow/wide	widest
scope: conditionals	narrow/wide	widest
scope: intensional operators	not narrowest	widest

4   A Comparison to Other Specificity Markers

In this section we will compare the behaviour of *ein bestimmt* and *ein gewiss* to that of specificity markers in other languages than German that have been discussed in the literature, most notably English *a certain* (and *a particular*) (see e.g. Hintikka, 1986; Abusch and Rooth, 1997; Farkas, 2002), French *un certain* (and *un…particulier* or *un…précis*) (see Jayez and Tovena, 2002, 2006; Martin, this volume), and Russian *–to* and *koe-* (see Kagan, 2006 and Geist, 2008).[14] As it turns out, neither of the two German markers perfectly corresponds to either of the investigated markers from other languages. In particular, none of the two markers matches fully with *certain* and hence approaches that deal with the latter cannot be straightforwardly adapted to the former.

Let us start with a comparison of English, French, and German. Though there is no perfect match, it will turn out that *gewiss* resembles more English *certain* and French *certain*, while *bestimmt* patterns more with English *particular* and French *particulier* and *précis*. Let us have a

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[14] Eguren and Sánchez (2007) report that also Spanish *cierto* behaves as a specificity marker. However, unlike English *certain* or French *certain* or German *gewiss/bestimmt*, in current Spanish it seems to have developed into a full determiner and is therefore usually used without a preceding determiner (for exceptions see Eguren and Sánchez, 2007, footnote 5). We will not discuss *cierto* in detail here.

look at the combinatoric possibilities first. Jayez and Tovena (2002) and Martin (this volume) note that French *un certain*, like English *a certain*, can be combined with proper names (*un certain Jean/a certain John*). Martin (this volume) points out that *un certain* is not modifiable by adverbs and incompatible with ignorance markers like *n'importe quel*. On the other hand, *précis* is not combinable with proper nouns, modifiable by adverbs and compatible with ignorance markers. In English, too, *certain* is much more restricted in its combinatoric possibilities than e.g. *specific* or *particular*, as evidenced by the following contrast: **one certain woman*, but *one specific/particular woman* (see Enç, 1991; Abusch and Rooth, 1997; Yeom, 1998). Hence, concerning the combinatoric possibilities, *gewiss* behaves like French *certain* and English *certain* and *bestimmt* more like *particular* or *particulier* and *précis*.

The next point worth looking at concerns the question of identifiability. That identification in one form or other is one of the decisive characteristics of specificity markers has been proposed in the literature at various points, e.g. in Abusch and Rooth (1997), Farkas (2002), or Yanovich, (this volume) for English *a certain*, in Jayez and Tovena (2002, 2006), or Martin (this volume) for French *un certain*, in Kagan (2006) and Geist (2008) for Russian *–to* and *koe-*, and in Ionin (this volume) for reduced *odin* ('one') in Russian.

According to Abusch and Rooth (1997), *a certain*-indefinites can be identified by the speaker, but also by some other attitude holder (Abusch and Rooth, 1997, their ex. 74, 75). Farkas (2002, pg. 75) proposes that English *a certain* introduces a variable that 1. is not identified yet (see her "*identifiable variable constraint*", ex. 62), and 2. is "*identifiable based on a non-trivial identifying property*". The second requirement is further specified as follows: "*There is no requirement that anybody possess identifying knowledge or that the variable be identified in the immediate future of the conversation, but only that it be in principle identifiable*" (Farkas, 2002, pg. 74). As far as we can see, Farkas' second requirement is highly compatible with what we propose for German *bestimmt*. The first requirement, i.e. that the variable needs to be non-identified, seems problematic, however, as pointed out in Jayez and Tovena (2006). It can be shown that *a certain* as well as French *un certain* neither entail nor exclude identification of the respective referent by the speaker. According to Jayez and Tovena (2006), non-identification in Farkas' (2002) sense can either mean that the current context, i.e. the common ground, should not deliver identifying information, or it can refer to the speaker's belief state. In the first case, (28) (Jayez and Tovena, 2006, ex. 43) should be anomalous, in the second case, (29) with the follow up statement *whom I knew very well* (Jayez and Tovena, 2006, ex. (36a,b)) should be out.

(28)   J'ai des problèmes avec un certain article que tu vois suer mon
         bureau.

         'I have problems with a certain paper that you can see on my desk.'

(29)   On m'a parlé d'un certain diplomate, que je connaissais très
         bien/mais je ne vois pas qui c'est.

         'I have heard of a certain diplomat, whom I knew very well/but
          I don't see who he is.'

Both, (28) and (29) are perfectly fine, contrary to Farkas' (2002) predictions. In particular, the follow-up utterances in (29) *whom I knew very well* and *but I don't see who he is* make it apparent that the use of *un certain* and *a certain* is possible in cases where the speaker cannot identify the referent as well as in cases where she can.

   Hence, Jayez and Tovena (2002) refrain from formulating a non-identification criterion for the use of *a certain* or *un certain* and rather argue that *un certain/a certain* are appropriately used only if either the speaker has in mind an identification method independent from what is expressed by the sentence itself that serves to single out the referent under discussion or if she knows of some other agent that can identify the referent. This is more or less what we found for *bestimmt*-indefinites, as well. Crucially, as we have shown in Section 3.1, *bestimmt*, but not *gewiss*, allows for identification of the referent in question by other agents than the speaker. Therefore, French *un certain* patterns more with *bestimmt* than with *gewiss* concerning the question who is the agent to which the knowledge of the identifying information is ascribed.[15]

   Concerning the interaction with other operators, again there is no parallel pattern for German, on the one hand, and English and French, on the other. While this topic is not elaborated on for French (but see (Martin, this volume) for some examples that seem to suggest that French *certain* prefers wide scope like German *gewiss*), Farkas (2002) discusses the scope possibilities of English *certain* in depth. She points out that indefinites marked by *certain* cannot scope under negation (see Farkas, 2002, ex. 56):

(30)   Mary didn't buy a certain apartment in San Francisco when she
         could afford it and now it is too late.

The example in (30) only has a reading according to which there is an apartment in San Francisco such that Mary didn't buy it when she could afford it. It does not have a reading according to which Mary didn't buy

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[15] Note that also Spanish *cierto* can be used in cases where the speaker cannot identify the referent (see Eguren and Sánchez, 2007, ex. 12).

any apartment whatsoever in San Francisco when she could afford it, i.e. it is not automatically falsified if Mary bought some apartment or other in San Francisco. As illustrated in ex. (18)-(19) above, *bestimmt* can take scope under negation, while *gewiss* cannot. So in this respect, *certain* patterns with *gewiss*.

As has been observed by Hintikka (1986) and Farkas (2002), English *certain*-indefinites can take narrow scope with respect to c-commanding nominal quantifiers. The same holds for French *un certain*-indefinites (cf. Jayez and Tovena, 2006), as shown by the examples in (31): In (31a), the strongly preferred reading is one according to which the poems vary with the students. In (31b), both a reading where the diplomats vary with the persons and a reading where everyone met the same diplomat is possible.

(31) a. Every student chose a certain poem by Emily Dickinson and analyzed it.   (Farkas, 2002, ex. 54)

  b. Chacun a rencontré un certain diplomate.

(Jayez and Tovena, 2006, ex. 46)

  'Everyone has met a certain diplomat.'

The possibility to take narrow scope w.r.t. nominal quantifiers is attested only for *bestimmt* as opposed to *gewiss* (see ex. 20). Hence, in this respect, *certain* patterns with *bestimmt*.

Concerning conditionals, Farkas (2002) uses (32) (her ex. 57b) to illustrate the claim that *a certain*-indefinites cannot be interpreted within the scope of conditionals. (32) only receives a reading according to which there is a problem from the list such that Mr. Koens will praise Ben, if he can solve this problem:

(32) If Ben solves a certain problem from the list, Mr. Koens will praise him.

If it can be maintained that *a certain*-indefinites embedded in the antecedents of conditionals always unambiguously take wide scope, as Farkas (2002) claims, we could conclude that they pattern with *gewiss* in this respect. However, unfortunately Farkas (2002) only considers the example in (32) to discuss the scope behaviour of *a certain* in the context of conditionals. It would be interesting to see what happens if examples (23) and (24) from above or (33) below (a translation of ex. 3.23b from Endriss, 2009) were translated into English.

(33) If Maria has to memorize a certain phone number, she tries to link the digits to pictures in her mind.

According to our informants, *a certain phone number* can be interpreted inside the conditional in this case, i.e. the reading "if it is the case that there is a phone number Mary has to memorize, she tries to do so by using associative memory" is available, which would mean that *a certain* patterns with *bestimmt* in this environment. Yet, we think that it would be too hasty to draw conclusions from these very few judgments at this point. We hope that future (possibly experimental) work can shed light on this empirical question. At this stage, we can only say that we cannot evaluate yet whether *certain* patterns with *bestimmt* or with *gewiss* with respect to its scope behaviour in conditionals.

Finally let us consider these specificity markers in intensional environments. Farkas (2002) and Jayez and Tovena (2006) point out that a sentence such as (34) (Jayez and Tovena, ex. 40) has two readings.

(34)   John wants to catch a certain unicorn.

On the wide scope/*de re* reading, there is a unicorn that John wants to catch. On the intermediary reading '*John wants to catch a unicorn (that he identifies and believes exists)*' (Jayez and Tovena, 2006, pg. 239). Crucially, (34) lacks a narrow scope reading according to which '*John wants to catch a unicorn (that he does not identify)*'. Here again *certain* patterns with *bestimmt* since with *gewiss* we would only get a widest scope reading that contributes speaker identifiability of the referent, as discussed in (25)–(27).

To sum up, we have an incoherent picture concerning the patterning of English *a certain*/French *un certain* and *bestimmt*/*gewiss*. With respect to proper name modification and negation, *certain* behaves like *gewiss*, with respect to identifiability and its scope interaction with nominal quantifiers, intensional operators and possibly conditionals it behaves like *bestimmt*.

Comparing *gewiss/bestimmt* to specificity markers in other languages shows that there are also no direct correspondences, at least not in those languages that we had a look at so far. Russian, for example, has a much more elaborate system of epistemic markers than German or English (see Yanovich, 2005; Kagan, 2006; Geist, 2008). Hence the possibilities of epistemic marking are much more fine-grained and one cannot find a direct parallel to the German binary system with *gewiss* or *bestimmt*. Here, we will briefly discuss Russian wh-words marked with the prefix *koe-* on the one hand and the suffix *–to* on the other. There is some ad hoc-correspondence between *koe-* and *gewiss*-marked indefinites as well as between *-to* and *bestimmt*-marked indefinites, although the match is by far not perfect. *Koe-*, like *gewiss*, expresses speaker knowledge of the referent under discussion (see Geist, 1998; Haspelmath, 1997). *To*-marked NPs be-

have more like *bestimmt* as the identifying knowledge can be anchored to a different agent than the speaker. However, by using –*to*, the speaker also signals that she does not have any further knowledge about the referent (see Geist, 2008; Kagan, 2006; Dahl, 1970), a component that *bestimmt* lacks. Furthermore, according to Geist (1998), it might also be the case that there is no further identification strategy available at all when -*to* is being used, again something that sets it apart from *bestimmt*. As for scope matters, *koe*-indefinites always take wide scope, just like *gewiss*-indefinites, while NPs marked with –*to* have a clear wide scope tendency, but still various scope options, comparable to *bestimmt*-indefinites (see Geist, 2008 and Kagan, 2006 for details). However, unlike *bestimmt*-indefinites, –*to*-marked indefinites cannot take narrow scope with respect to negation (see Yanovich, 2005, ex. 12, pg. 6).

5   A Formal Analysis

In Section 4 we saw that the English and French specificity markers *a certain* and *un certain* are neither completely parallel to *bestimmt* nor to *gewiss*. We now present our own account of the two German specificity markers in this section.[16]

Our analysis starts with a quite literal understanding of identifiability which both markers add: a modified indefinite such as *ein bestimmter/gewisser Diplomat* ('a certain diplomat') communicates that some agent/the speaker *knows that diplomat*. The next step towards a formal analysis hence has to deal with a *knowing*-DP construction. The DPs in these constructions have been argued to actually stand for concealed identity questions (Heim, 1979). In other words, both specificity markers add the information that some agent/the speaker knows the answer to the concealed question, who the corresponding referent is, i.e. some agent/the speaker *knows who the diplomat is* in the example above. A correct analysis of such *knowing-wh* constructions has in turn been argued to require a relativization of the knowledge states of agents to descriptions under which the individuals in questions are known (Aloni, 2001; Aloni, 2008). The first ingredient to our formal analysis will thus be Aloni's (2008) approach to concealed questions in terms of conceptual covers, which we will use to capture the contribution of both *bestimmt* and *gewiss* (see Aloni and Port, 2010 for an analysis recurring to conceptual covers for an expla-

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[16] A condensed version of our approach can be found in (Ebert, Ebert and Hinterwimmer, to appear).

nation of ignorance effects for other kinds of epistemic indefinites like German *irgendein* ('some')).

We locate the differences between *bestimmt* and *gewiss* in the by now well-established distinction of asserted/at-issue meaning and non-asserted meaning. More to the point, we propose that *bestimmt* and *gewiss* make the same meaning contribution, but on different levels. While *bestimmt* adds to the asserted/at-issue meaning, the meaning of *gewiss* enters the scene as a *conventional implicature* (CI) and hence at a level of non-asserted meaning. For a formal explication of this idea we build on Potts (2005), who presents a formal account of CIs. As we will see below, two characteristics of Potts' analysis are very useful in accounting for the particular properties of *gewiss*: CIs are scopeless (alternatively: take highest scope) and the commitments of CIs are invariably attributed to the speaker. Recall that in contrast to *bestimmt*, indefinites modified by *gewiss* have to take scope over all other truth-conditional operators. In addition to that, it is always the speaker who has to be able to identify the discourse referent introduced by the indefinite under some description. Therefore, we argue below that *gewiss* belongs to the class of CIs, and that the difference between *bestimmt* and *gewiss* essentially boils down to the question of whether their respective contributions are interpreted at the CI-level, or at the level where the at-issue content is computed.

In comparison to other proposals towards the analysis of specificity markers in different languages, we note that the formalization of the identifiability contribution of specificity markers by a *knowing-wh* question is hinted at, but not formally spelled out in (Abusch and Rooth, 1997, pg. 20) already.[17] Also Ionin (this volume) builds on Abusch and Rooth (1997) and suggests that the use of Russian reduced *odin* ('one') '*requires the speaker to be able to answer the question "which X is it?"*' (Ionin this volume, Section 3.2). Jayez and Tovena mention Aloni's work and point out that matters of identification are sensitive to agent-dependent descriptions and to '*presentation[s] under another guise*' (Jayez and Tovena, 2006, pg. 242). Their formal approach does not recur to conceptual covers, however. In Jayez and Tovena (2002, 2006), the authors propose – building on Allaert (1999) – that using *un certain N* means being able to distinguish one specific entity among all entities in *N* building their formal apparatus on a notion of '*knowing which under perspectives*' recurring to epistemic logics (as e.g. proposed in Hintikka, 1962).

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[17] Abusch and Rooth (1997) attribute the suggestion to treat *a certain*-indefinites as involving knowledge of the answers to identificational questions to Lauri Carlson.

That there are items that contribute the same semantic information, but on different levels, as we propose for *bestimmt* and *gewiss*, is one of the cornerstones of Scheffler's (2008) work. For instance, she proposes to locate the differences of the German clausal adjuncts *weil* and *denn* (because) in the distinction of at-issue vs. CI meaning. Our proposal is very much in the same spirit as her analyses.

5.1 Technicalities: Concealed Questions under Cover

In this section we will introduce the formal apparatus necessary in order to deal with concealed questions in terms of conceptual covers. We will mostly stick to the definitions and explications in Aloni (2001, 2008) and refer the reader to these references for further detail.

Aloni (2001) formalizes the idea that satisfying answers to identification questions crucially depend on the method of identification by means of *conceptual covers*. A conceptual cover is a set of individual concepts (i.e. functions from worlds to individuals) such that for a domain of individuals D and a set of worlds W each element of D is identified by exactly one concept in each element of W. Different conceptual covers (henceforth: CCs) with identical domains are thus different ways of conceiving of one and the same set of individuals. CCs can now be invoked in order to account for the fact that knowing the answer to an identity question often only means being able to give an alternative description for the individual in question. Furthermore, the interpretation of identity questions is thus highly context-dependent, since it is possible that someone knows the answer to an identity question with respect to one mode of identification, while he does not with respect to another. To give a concrete example (from Aloni, 2008), imagine a situation where two face-down cards are lying in front of you, and while you know that one is the Ace of Hearts and one is the Ace of Spades, you don't know which card is which. Furthermore, you are playing a game where you have to choose one card and are going to win 10 euros if you choose the Ace of Spades, while you are going to lose 10 Euros if you choose the Ace of Hearts. It is intuitively clear that in such a situation it depends on the mode of identification with respect to which the embedded question in (35) is interpreted whether the sentence in (35) is true or false.

(35) You know which card is the winning card. (Aloni, 2008)

On the one hand, the sentence is true since you know that the Ace of Spades is the winning card. On the other hand, it is false, since you don't

know whether the card on the left or the card on the right is the winning card. In other words, if the embedded question is interpreted with respect to the CC {λw.ace_of_spades(w), λw.ace_of_hearts(w)}, you know its true answer. If it is interpreted with respect to the CC {λw.card_on_left(w), λw.card_on_right(w)}, you don't know it. A formal definition of conceptual covers runs as follows (Aloni 2008, Definition 3):

(36)   Given a set of possible worlds W and a universe of individuals
         D, a conceptual cover CC based on (W, D) is a set of functions
         W → D such that:
         $\forall w \in W: \forall d \in D: \exists! c \in CC: c(w) = d$

Conceptual covers are thus sets of individual concepts which exhaustively and exclusively cover the domain of individuals. Aloni now adds a special index $n \in N$ to the variables in her meaning language, which ranges over conceptual covers instead of individuals, and defines a *conceptual perspective* $\wp$ in a model M as a function from indices in N to conceptual covers. Sentences are then interpreted with respect to assignments under a perspective, where an *assignment under a perspective* $g_\wp$ is a function mapping variables x_n to concepts in $\wp(n)$, rather than individuals in D. Quantification under conceptual covers is defined as follows (Aloni 2008, Definition 4):

(37) $[[\exists x_n \, \varphi]]_{M,w,g_\wp} = 1$ iff $\exists c \in \wp(n) : [[\varphi]]_{M,w,g_\wp[x_n/c]} = 1$

where the interpretation of an indexed variable $[[x_n]]_{M,w,g_\wp} = (g_\wp(x_n))(w)$ is the value of a concept $(g_\wp(x_n))$ in world w, i.e. an individual. Let us now turn to the way constituent questions in general, and identity questions in particular are interpreted in Aloni's system. Following Groenendijk and Stokhof (1984), Aloni assumes that a constituent question with respect to a world of evaluation w denotes the true exhaustive answer to that question in w, i.e. the set of worlds where the set of individuals that satisfy the respective question predicate is the same as in the world of evaluation. Ignoring the case of multiple constituent questions, which are irrelevant for our purposes, the denotation of a single *wh*-question is as follows (see Aloni 2008, Definition 6):

(38) $[[?x_n \, \varphi]]_{M,w,g_\wp}$
          $= \{v: \forall c \in \wp(n) : [[\varphi]]_{M,w,g_\wp[x_n/c]} = [[\varphi]]_{M,v,g_\wp[x_n/c]}\}$

A question like $?x_n P x_n$ thus '*groups together the worlds in which the denotation of P is identified by means of the same set of elements of the conceptual cover selected for n*' (Aloni, 2008).

Finally, Aloni (2008, Definition 7) proposes to model the interpretation of a DP as a concealed question via a type shift that maps an entity denoting expression *d* into the identity question *who is/what is d?*

(39) $\uparrow_n d =_{\text{def}} ?x_n.x_n = d$

To illustrate these definitions at work, consider the card-scenario above. The *knowing*-DP statement in (40a) is interpreted via a type shift of the DP denotation as (40b) in order to avoid a type mismatch between the question denotation taking *know* and its individual denoting DP argument.

(40)   a. You know the winning card.

      b. $K_a(\uparrow_m \iota y_n P y_n) = K_a(?x_m.x_m = \iota y_n P y_n)$,
          where $[[K_a(?x_m \varphi)]]_{M,w,g_\wp} = 1$ iff $\text{Bel}(a, w) \subseteq [[?x_m \varphi]]_{M,w,g_\wp}$
          and $\text{Bel}(a, w)$ is the set of worlds compatible with what *a*
          believes at *w*.

It now depends on the perspective which is selected whether (40b) is true or false: if a perspective $\wp$ which identifies cards by their suit is selected, it is true. If a perspective $\wp'$ which identifies cards by their position is selected, it is false. For further details on conceptual covers and their application to identification questions, we refer the reader to Aloni (2001, 2008).

5.2 The meaning of "bestimmt"

As mentioned above, our analysis of *bestimmt* makes use of conceptual covers in order to formally spell out the meaning contribution of *bestimmt*- (and *gewiss*-) indefinites: some salient agent is able to identify the discourse referent introduced by the indefinite under some description, not necessarily by name. We therefore assume that *bestimmt* contributes the information that some salient agent α knows the answer to an identity question concerning the discourse referent introduced by the indefinite with respect to some pragmatically licensed conceptual cover. Considering the lexical semantics of this marker, recall that we argued in Section 2 that *ein bestimmt* needs to be treated as a complex determiner. Accordingly, we propose the following denotation:

(41) $[[ein\ bestimmt]] = \lambda P \lambda Q. \exists x [P(x) \wedge K_a(\uparrow_n x)] \wedge Q(x)$

According to the formula in (41), *ein bestimmt* takes two predicates as its argument and returns a proposition that is true if there is (a) an individual

that satisfies the two predicates and (b) a salient agent α knows that individual under a perspective, i.e. a conceptual cover $\wp(n)$. Note that in (41) we still quantify over a standard individual variable x of type e instead of replacing this discourse referent by an indexed variable x_i. The reason for this is that we think that in general this discourse referent is not introduced under any perspective by the speaker but with the sole intention to make an existential statement. To illustrate this, consider (42a,b).

(42)   a. Bei der letzten Wahl informierte sich Jolanda über die Partei-
           programme.
           'At the last election, Jolanda gathered information about the
           parties' platforms.'

       b. Dann entschied sie sich schließlich für eine bestimmte Partei.
           'Then she finally decided for a certain party.'

In the relevant reading of (42b) in the context of (42a), Jolanda has additional identifying information about the party she voted for – after all, she gathered information about the parties' platforms thus making various methods of identification highly salient (first and foremost the party's name). Crucially, the speaker does not need to have any further information whatsoever concerning this party, apart from the information expressed in (42). Now consider the two representations in (43a,b) for (42b).

(43)   a. $\exists x[\text{party}(x) \wedge \text{decide-for}(\text{jolanda}, x) \wedge \text{K}_{\text{jolanda}}(\uparrow_n x)]$

       b. $\exists x_m[\text{party}(x_m) \wedge \text{decide-for}(\text{jolanda}, x_m) \wedge \text{K}_{\text{jolanda}}(\uparrow_n x_m)]$

(43a) is the meaning representation that we would assign to (42b). It says that there is some party Jolanda decided for such that Jolanda identifies this party under some perspective, i.e. some conceptual cover $\wp(n)$. (43b) is the variant where quantification would be under conceptual covers across the board, i.e. where the discourse referent introduced by the indefinite would occur indexed as x_m and hence be interpreted w.r.t. some perspective $\wp(m)$. So the interpretation of this representation requires <u>two</u> different conceptual covers to be available, i.e. two different methods of identification.[18] In particular, there needs to be some cover $\wp(m)$ that represents the speaker's way of identifying the party voted for by Jolanda which is different from the one expressed by the sentence itself due to reasons of informativity. As we argued, this is not borne out in the case of (42b), where the only thing the speaker knows about this party is the fact

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[18] Note that n and m must be assigned distinct covers in order to render the identity question $_n x_m$ non-trivial (see below).

that Jolanda voted for it. For this reason we employ mixed quantification over standard individual variables as well as indexed variables under cover. Technically, this is easily possible by retaining standard assignment functions from variables to individuals in addition to the ones for indexed variables. Conceptually, quantification over individual variables is the correct means to deal with mere existential statements of a speaker, while quantification over indexed variables/covers is the correct means to deal with matters of identification such as identity questions or *de re* readings (cf. Aloni, 2001).

Let us now have a closer look at the consequences of our assumptions concerning the denotation of *ein bestimmt*, and go over some of the examples discussed in sections 1 - 3 for illustration.

5.2.1 Pragmatic Issues

Initially we will focus on issues that relate to contextual factors in the interpretation of *bestimmt* and *gewiss*. Since the problems and explanations that are relevant here can be traced backed to problems and explanations that are relevant for matters of identification in general, this particular discussion concerns *bestimmt* and *gewiss* alike. Subsequently, we will then focus on *bestimmt* again, while *gewiss* is treated further below in section 5.4.

First, it seems to be very easy to find some method of identification such that the speaker or some other salient agent is able to identify a corresponding individual under this description – simply take the description expressed by the sentence itself. For instance, in (1), repeated here as (44a), one could propose to take the method of identification paraphrasable as *the CD Peter is looking for*. Overall this would make the additional identifying meaning component of *bestimmt* and *gewiss* redundant (see also Jayez and Tovena, 2006, and Ionin, this volume, for discussion). However, as has been pointed out by Aloni (2001), identification questions suffer from the same problem. A question such as (44b) cannot receive a satisfying answer by *the president of Mali*, despite the truth of this answer.

(44)   a.   Peter sucht eine bestimmte/gewisse CD.

             'Peter is looking for a certain CD.'

       b.   Who is the president of Mali?

One needs to restrict available methods of identification (i.e. conceptual covers) to those that are informative and hence different from those employed in the sentence itself. This latter point is the effect of a pragmatic

constraint on available perspectives that applies to issues concerning matters of identification across the board. In other words, the fact that the (correct but uninformative) identification *the CD Peter is looking for* cannot serve to license *bestimmt* or *gewiss* in (44a) is explained by the same reason that rules out *the president of Mali* as a (true but uninformative) answer to the identification question (44b) (cf. Aloni, 2001).

Another pragmatic point concerns examples like those in (15), where modifying an indefinite by *bestimmt* or *gewiss* leads to oddity in the absence of a licensing context. The felicity of these examples crucially depends on the pragmatic availability of identification methods and hence ultimately on contextual factors. As mentioned before, it is very hard, if not impossible, to come up with a licensing context for (15a) and (15b) with the specificity markers and hence the corresponding sentences sound very odd. However, a slight amendment of (15a) renders the sentence felicitous, as will be shown in (45). According to our construal of *bestimmt*, we would attribute to Maria/the speaker some additional knowledge concerning the identity of the respective friend she met. This should be warranted: at least Maria is very likely to be able to identify her friends in some way or other. But like in the case of threatening uninformativeness from above we cannot just take into account any method of identification whatsoever, but have to work with those perspectives that are contextually available and plausible.

In the case at hand these would be methods of identification that somehow relate to a meeting of Maria and the friend of hers. But note that it is explicitly stated that this meeting happened accidentally. Therefore, ascribing to Maria further identifying knowledge related to the meeting would be in conflict with her passive role in that event. This is evidenced by the fact that the sentence in (15a) improves considerably if the adverb *zufällig* ('accidentally') is dropped and the verb *jemanden treffen* ('to meet somebody') is replaced by the verb *sich mit jemandem treffen* ('to meet with somebody'), as shown in (45) (see Martin, this volume for a similar contrast and a different explanation for it (her ex. 25 and 26).[19] Crucially, this latter verb, in contrast to the former, clearly indicates that the subject is controlling the event, i.e. the event is brought about by a conscious deci-

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[19] Farkas (2002) also notes that *a certain* seems to require that there is some non-random choice involved, if an *a certain*-indefinite is interpreted with narrow scope with respect to some other operator (cf. her ex. 54 and discussion below). Like Martin (this volume), she offers a different explanation for this fact than we do.

sion on his/her part.[20] The contribution of *bestimmt* (under a resolution of α to Maria) is thus compatible with the role of the subject Maria in (45).

(45) Maria hat sich   gestern   mit einem bestimmten Freund
      Maria has herself yesterday with a   bestimmt   friend
           in der Stadt getroffen.
           in the city   met

      'Maria yesterday met with a certain friend in the city.'

Quite generally, the use of *bestimmt*-indefinites often appears odd in sentences with plain extensional verbs[21] and much more appropriate in sentences with attitude or intensional verbs. Consider the contrast between (44a-*b*) and (46).

(46) [??]Peter hat eine bestimmte CD gefunden.
       Peter has a   bestimmt CD found

      'Peter has found a certain CD.'

While (44a-*b*) sounds natural out of the blue, (46) seems odd and would need a strong licensing context. We believe that this is for the same reason as explained above for examples (15a,b) vs. (45). While attitude and intensional verbs usually make it necessary that the subject entertains some kind of control or intention with respect to the eventuality that is expressed by the verb, this is not necessarily so in the case of extensional verbs, where the subject can be entirely passive. Hence an intensional verb usually comes with the requirement that some kind of identification method (for the subject agent or the speaker) will be available, and this is different for purely extensional verbs. We believe that this is the reason why *bestimmt*-indefinites are frequently found in intensional contexts.

   To sum up, we conclude that (15a,b) are hardly acceptable when uttered out of the blue for the reason that there are no plausible conceptual covers available that could provide a reasonable perspective for the identification question introduced by *bestimmt* and *gewiss*. When discussing the scope interaction with negation below in Section 5.2.4, we will come back to this point once again.

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[20] For this reason, (45) is not compatible with *zufälligerweise* ('accidentally'), i.e. inserting the adverb would lead to infelicity.

[21] But consider the following translation of an example from (Abusch and Rooth, 1997, their ex. 71), which sounds fine.

(i)   Solange ist in eine bestimmte Stadt in Italien gezogen.
       Solange is in a   bestimmt city in Italy   moved
       'Solange has moved to a certain city in Italy.'

5.2.2 Identifiability

Next we focus on matters of identifiability associated with *bestimmt* as discussed in Section 3.1. In our representation for the meaning of *ein bestimmt* in (41), the agent to which identifying knowledge is ascribed is not specified but left free as an unbound variable α that needs to be resolved. This resolution can take place towards any salient agent. Therefore, first and foremost, the speaker is a likely candidate. But crucially, also other agents introduced via the speaker's utterance might be possible candidates. This accounts for the fact, that *bestimmt* (as opposed to *gewiss*) does not solely contribute speaker identifiability, but identifiability by other agents in certain cases. Furthermore, it explains why *bestimmt* is compatible with *irgend* that signals speaker-ignorance. Consider the example in (16b), where *irgend* blocks the resolution of α to the speaker. Instead, the (maximal sum) individual denoted by the plural definite *die Kinder* ('the children') is the most likely candidate.

Recall that there are examples like (14), where (14b) is presumably unacceptable because of being blocked by the more economical (14c) – one cannot turn on the stove without also setting it to some temperature. Our analysis can easily explain why the sentence is rescued by insertion of *bestimmt* as in (14a). If the knowledge-bearing agent is Peter, *bestimmt* contributes the non-redundant information that Peter can identify the temperature he wanted the stove to reach via some non-trivial description, for example as the temperature that is perfect for baking strawberry cheesecake etc.[22]

It is worth pointing out again that identification does not necessarily mean knowing the referent. It suffices that the relevant agent is in possession of some contextually salient identification method. Recall example (13) where the use of *bestimmt* is licensed if the speaker knows of some strategy to explain what peculiarities determine this combination lock, e.g. that it has been created by a computer program and that nobody knows this code. So *bestimmt* can be used even if there is no agent that is able to name the actual numbers of the code.

5.2.3 Scope: Nominal Quantifiers

With respect to nominal quantification, note first that the variable standing for the agent α, while being introduced as a free variable, can not only be

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[22] Likewise, if it is the speaker we get the reading that Peter set the stove to a temperature that the speaker can identify.

assigned a value from the context, but can also be bound by a quantifier under c-command, i.e. it can be assumed to behave like any pronoun does. While the details of how this binding comes about do not matter for our current purposes, let us assume for concreteness that it is achieved via the insertion of a variable binding operator directly beneath the respective quantifier (see Büring, 2004). This has the effect of turning any free variable in the scope of the operator into a lambda-bound variable, such that once the quantifier is applied to the respective predicate, all initially free variables are automatically bound by it. To illustrate this, consider the simple example in (20b-*b*) and its analyses in (47).

(47) a. $\forall x[\text{person}(x) \rightarrow \exists y[\text{diplomat}(y) \land K_\alpha(\uparrow_n y) \land \text{meet}(x,y)]]$

     b. $\exists y[\text{diplomat}(y) \land K_\alpha(\uparrow_n y) \land \forall x[\text{person}(x) \rightarrow \text{meet}(x,y)]]$

(47a) illustrates the narrow scope reading of the indefinite w.r.t. the universal quantifier. In this case, we have two options concerning the resolution of α. Either binding obtains (i.e. $\alpha = x$) yielding a reading where everyone met a possibly different diplomat that s/he could identify, or α is resolved to the speaker yielding the (much less plausible) reading that everyone met a possibly different diplomat that could be identified by the speaker. With the wide scope reading of the indefinite (47b) the former option is not available and α must be resolved to the speaker (or some other salient agent available from the context), which gives us a reading where there is some diplomat identifiable by the speaker such that everyone met that diplomat. Hence, *bestimmt*-indefinites can take narrow or wide scope w.r.t. universals, where the possibilities of resolving the agent α vary accordingly. This illustrates how our analysis accounts for the readings of (20b-*b*).

5.2.4 Scope: Negation

The question of why *bestimmt*-indefinites may be interpreted in the scope of negation is also easy to answer, since the contribution of *bestimmt* is in no way incompatible with being negated. To see this, consider example (19-*b*) and its analysis in (48).

(48) $\neg\exists x[\text{person}(x) \land K_{\text{speaker}}(\uparrow_n x) \land \text{in\_mind}(\text{speaker}, x)]$

First of all, in the absence of any other context, the only reasonable choice for resolving α is the speaker. Now recall that *keine* ('no') is the phonetic spellout of *nicht + eine* ('not' + 'a') (Penka and Zeijlstra, 2005). The only reading that is available for (19-*b*) is given in (48) and can be paraphrased

as follows: It is not the case that there is a person x such that the speaker has x in mind (as a candidate) for the position such that the speaker can identify this person (with respect to some salient conceptual cover). Crucially, (48) can be true for the reason that the second conjunct is false, i.e. that the identification fails, while the first two conjuncts are true. This is compatible with a situation where the speaker does consider some people as possible candidates for the position under discussion, but none among them is singled out as having some special property that would make him/her the ideal candidate. In fact, the minimal variant in (49) without *bestimmt* is incompatible with such a situation, i.e. it is only felicitous if the speaker has nobody at all as a candidate for the position in mind.

(49)   Ich habe keine Person für die Stelle   im   Kopf.
         I   have not.a person for the position in.the head

       'I don't have any person in mind for the position.'

This shows that it is possible for negation to target the contribution of *bestimmt*. Furthermore, it is important to note again that the availability of suitable conceptual covers for matters of identification is pragmatically constrained. The reading under discussion does not express that there is no way whatsoever for the speaker to identify the persons she has in mind – for instance, she might very well know all of them by name. What this reading expresses is rather that she has no means to identify them w.r.t. pragmatically salient covers. In a prototypical context where this sentence could be used felicitously those covers are salient which somehow relate to the suitability of filling the position. Hence, this reading correctly expresses that the speaker has some persons in mind, which she might be able to identify in some way, but not in a way that is relevant for the question of suitability for the position. This illustrates how our approach accounts for the possibility for narrow scope of *bestimmt* with respect to negation.

5.2.5 Scope: Intensional Operators and Conditionals

We finally turn to the most complex issue, namely the interaction of the meaning of *bestimmt* with the meaning of intensional operators and conditionals. Consider the simple example in (1) in its variant with *bestimmt*.

(50)   Peter sucht   eine bestimmte CD.
         Peter searches a   bestimmt   CD

       'Peter is looking for a certain CD.'

Let us take a closer look at this example and let us assume a classical Montagovian analysis (Montague, 1969, 1970, 1973) of *suchen* ('look for', 'seek') as *try to find*. With such a construal, the narrow scope (*de dicto*) reading and the wide scope (*de re*) reading of the indefinite look as in (51a) and (51b), respectively.

(51)   a. $\text{try}(\text{peter}, \exists x[\text{CD}(x) \wedge \text{K}_\alpha(\uparrow_n x) \wedge \text{find}(\text{peter}, x)])$

     b. $\exists x[\text{CD}(x) \wedge \text{K}_\alpha(\uparrow_n x) \wedge \text{try}(\text{peter}, \text{find}(\text{peter}, x))]$

Consider (51a) first in the resolution of α to Peter. (51a) then says that it is part of Peter's ambitions that he is able to find a CD and that he is able to identify the CD he happens to find. In other words, we would attribute to him the property of trying to find any CD whatsoever that he can identify under some description. Resolving α to the speaker only makes matters worse, since we would then make it part of Peter's ambitions that the speaker is able to identify the CD he happens to find. These narrow scope readings are very hard to make sense of. We argue that it is the semantic incompatibility of the meaning of the intensional operator and the identification question meaning that rules out a narrow scope reading for the indefinite in this and other cases.

    Concerning the wide-scope reading of the indefinite in (51b) in combination with a resolution of α to Peter or to the speaker, in contrast, *bestimmt* seems to make a reasonable contribution. In this case there is a CD that Peter/the speaker can identify under some perspective, such that it is Peter's ambition to find that CD. But in fact, *bestimmt* does not really add anything to the truth condition if $\alpha = Peter$, since if there is a specific CD such that Peter is trying to find it, it is automatically guaranteed that Peter is able to identify the CD. This is an instance of what Aloni (2001, pg.75f.) points out: having a *de re* belief requires knowing the answer to the corresponding identification question if no shift in perspective occurs. Therefore, *bestimmt* mainly seems to have a disambiguating function towards a wide scope reading of the indefinite w.r.t. the intensional operator in such cases. Similar reasoning can be applied to (26) where the two formal representations in (52) correspond to the two interpretation possibilities.

(52)   a. $\exists x[\text{book}(x) \wedge \text{K}_\alpha(\uparrow_n x) \wedge \text{must}(\text{agnes}, \text{buy}(\text{agnes}, x))]$

     b. $\text{must}(\text{agnes}, \exists x[\text{book}(x) \wedge \text{K}_\alpha(\uparrow_n x) \wedge \text{buy}(\text{agnes}, x)])$

Concerning (26), the modal verb *must* most likely receives a deontic interpretation, i.e. it quantifies over worlds compatible with orders Agnes has to obey. Note that this introduces another salient agent for the resolution of α, namely the one giving the orders. We thus have three options for the

resolution of α, namely, Agnes herself, the speaker, and the 'instructor'.
The wide scope reading of the indefinite w.r.t. *must* in (52a) can be paraphrased as follows: there is book which Agnes/the speaker/the 'instructor' can identify such that in all worlds that are compatible with Agnes' orders, she buys that book. As in the case above, this seems to be the sole reading of (26).

Consider next what would happen if the *bestimmt*-indefinite was interpreted in the scope of *must* as in (52b). The resulting reading can be paraphrased as follows: in all worlds compatible with the 'instructor's' orders, there is a book which Agnes buys such that Agnes/the speaker/the 'instructor' knows which book this is. In this reading it is part of the 'instructor's' orders that α can identify the book Agnes buys, while the identity of the book as such does not matter. In other words, in each deontically accessible world Agnes buys a book and she/the speaker/the 'instructor' is able to identify the book she buys. No matter which of the resolutions for α is chosen, it is very hard to make sense of the respective reading. Obviously, Agnes could obey the order only by somehow revealing the identity of the book after buying it. In this reading, (26) would thus be an extremely clumsy way of saying that Agnes was given the order to first buy a book of her choice and then make it identifiable to herself/the speaker/the 'instructor'. We think it is safe to assume that such a reading is simply too farfetched to be considered as an option. Hence the wide scope reading prevails whereas the narrow scope reading does not seem to be available.

Although in these examples it seems that narrow scope readings can be excluded on grounds of pragmatic reasoning, there is one general problem that we do not want to remain silent about: our proposal obviously does not principally exclude plain narrow scope readings of *bestimmt*-indefinites. However, as has been pointed out in section 2, simple narrowest scope readings with *bestimmt* in the c-command domain of intensional operators seem to be non-existent. In particular, our account would predict that in certain contexts that would make a narrow scope reading plausible, such a reading should be available. Consider the following example.

(53) a. Maria hat Angst, dass man sie mit einem Mann verheiraten
        wird, den sie nicht kennt.

        'Maria fears that she has to marry a man she does not know.'

    b. [??]Sie hofft also,   dass sie einen bestimmten Mann heiraten wird.
        She hopes hence that she a   bestimmt   man   marry   will.

        'Hence she hopes to marry a certain man.'

(53a) sets the context for the target sentence (53b). In such a context (53b), according to our account, should be interpretable along the following lines: Maria hopes that she will marry a man that she is able to identify by other (contextually relevant) means, i.e. a man that she knows. However, there is no way (53b) would ever have such reading. At the moment we have no explanation for the general absence of such narrowest scope readings for *bestimmt*-indefinites in the context of intensional operators, and we have to leave this a subject for future research.

Likewise, concerning conditionals, we have also seen that *bestimmt*-indefinites take scope over the *If*-clause if there is no other operator involved, as in (22). If there are, however, further operators like *alle Kinder* ('all children') and *wollen* ('want') in the case of (23a), the *bestimmt*-indefinite can take intermediate scope, e.g. above *alle Kinder* (all children), but inside the *If*-clause. Again, this fact unfortunately does not fall out from our analysis without further assumptions.

Let us now turn to the more complex example (27-*b*).

(54)   a. $\text{believe}(\text{peter}, \text{must}(\text{paula}, \exists x[\text{man}(x) \wedge K_\alpha(\uparrow_n x)$
$$\wedge \ \text{marry}(\text{paula}, x)]))$$

   b. $\exists x[\text{man}(x) \wedge K_\alpha(\uparrow_n x)$
$$\wedge \ \text{believe}(\text{peter}, \text{must}(\text{paula}, \text{marry}(\text{paula}, x)))]$$

   c. $\text{believe}(\text{peter}, \exists x[\text{man}(x) \wedge K_\alpha(\uparrow_n x)$
$$\wedge \ \text{must}(\text{paula}, \text{marry}(\text{paula}, x))])$$

Again, we assume that *must* receives a deontic interpretation. Hence we predict to have four salient agents in the case of (27-*b*), namely Paula, Peter, the speaker and the 'instructor', who issued the order. First, the narrowest scope reading in (54a), where the *bestimmt*-indefinite takes scope below the deontic operator, leads to the same implausibility as discussed above w.r.t. all possible resolutions of α. Making the identifying contribution of *bestimmt* part of Paula's obligations is simply no reasonable move and hence a narrowest scope reading is unavailable. Second, the wide scope reading in (54b) states that there is a man identifiable to α such that Peter believes that Paula is obliged to marry this man. Concerning the resolution of α, every of the four options mentioned before yields a reasonable reading. The intermediate scope reading in (54c) can be paraphrased as follows: In all worlds w compatible with what Peter believes there is a man that α can identify in w such that in all worlds w' deontically accessible from w, Paula marries that man. Again all four resolutions of α yield sensible results. Peter might believe that there is a man that is identi-

fiable to the speaker, him, Paula, or the 'instructor', such that Paula has to marry this man.

In this section we have seen that our analysis of *ein bestimmt* naturally accounts for most of the observations concerning the interpretative options of *bestimmt*-indefinites as well as their distribution that were discussed in sections 1–3. As pointed out above, unfortunately we fail to deliver a general explanation for the lack of narrowest scope readings of *bestimmt*-indefinites in the context of intensional operators. But we would like to point out that a general explanation for the empirical observation that *bestimmt*-indefinites seem to take scope over at least one intensional (or quantificational) operator will be hard to find. First, it seems that pragmatic explanations will not work. There are context-sentence pairs in which the narrowest scope reading is the most plausible one, while other wider-scope readings for the *bestimmt*-indefinite are implausible, as in (53). Yet, the narrowest scope reading is unavailable and the sentence is odd in such a context. Second, semantic explanations that prohibit the occurrence of *bestimmt*-indefinites in the scope of certain other operators are doomed to fail as well since such modified indefinites do occur in the scope of a variety of operators as long as it is not the narrowest scope position they occupy. For an illustration of this point, consider (55), adapted from (Farkas, 2002, ex. 58b). Here, the only available reading is one where the *bestimmt*-indefinite takes scope over the intensional operator *believe*.

(55) Maria glaubt, dass ein bestimmtes Einhorn ihren Garten
      Maria believes that   a   bestimmt   unicorn   her   garden
          verwüstet hat.
          ravaged   has.

'Mary believes that a certain unicorn is ravaging her garden.'

One might be tempted to strive for an explanation that renders the contribution of *bestimmt* incompatible with the scope of *believe* to rule out the narrow scope reading. But this would also rule out the available intermediate reading in (54c) since also here *bestimmt* occurs in the immediate scope of *believe*. Third, and even worse, *bestimmt*-indefinites sometimes do take narrowest scope, namely when they are interpreted in the scope of a negation (see examples (18-*b*, 19-*b*)). All this seems to make it almost impossible to come up with a general solution to the scope taking possibilities of *bestimmt*-indefinites. We understand our proposal as a first step towards a possible solution and hopefully an interesting starting point for intensive further discussion. Let us now turn to the details of our analysis of *gewiss*.

5.3 Technicalities: Conventional Implicatures

Potts (2005) stresses that certain parts of sentences, while syntactically fully integrated, are nevertheless semantically processed at a separate level of interpretation. Building on Grice (1975), Potts dubs such elements *conventional implicatures* (henceforth: CIs) and lists the following defining properties (Potts, 2005, pg. 11):

(56)   a. CIs are part of the conventional meaning of words.

        b. CIs are commitments, and thus give rise to entailments.

        c. These commitments are made by *the speaker of the utterance* by virtue of the meaning of the words he uses.

        d. CIs are logically and compositionally independent of what is *said* (in the favoured sense), i.e. independent of the at-issue entailments.

He argues that this definition indirectly entails the following list of characteristics (Potts, 2005, pg. 42):

(57)   a. CIs are scopeless (i.e. always have widest scope).

        b. CIs result in a multidimensional content.

        c. CIs are subject to an antibackgrounding requirement.

        d. CIs comment upon an at-issue core.

Prime examples of CIs that Potts discusses at length are nominal appositives, expressive adjectives (cf. also Potts, 2007), epithets and Japanese honorifics. To give an example of the kind of behaviour that the CI-concept is meant to capture, consider the example in (58a), which contains the nominal appositive *a confirmed psychopath*:

(58)   a. Sheila believes that the agency interviewed Chuck, a confirmed psychopath, just after his release from prison
                                (Potts, 2005, pg. 115, ex. 4.52a).

        b. Sheila believes that Chuck is a confirmed psychopath and that the agency interviewed Chuck just after his release from prison
                                (Potts, 2005, pg. 115, ex. 4.52b).

Potts argues that (58a) is not equivalent to (58b), because in (58a) the view of Chuck as a confirmed psychopath is not ascribed to the matrix subject *Sheila*, but unambiguously to the speaker. Likewise, negation does not af-

fect nominal appositives, as evidenced by the fact that (59a) is not equivalent to (59b).

(59) a. It is false that the agency interviewed Chuck, a confirmed psychopath, just after his release from prison.

   b. It is false that the agency interviewed Chuck just after his release from prison and that Chuck is a confirmed psychopath.

The former, in opposition to the latter, is understood to convey that the speaker considers it false that the agency interviewed Chuck just after his release from prison, but that the speaker nevertheless considers Chuck a confirmed psychopath. In order to deny the content of the nominal appositive, other means have to be chosen, such as '*Well, yes, but....*' or '*Wait. I agree, but...*'.

   Observations such as these motivate the first two aspects in (57). Since their meaning contributions always have to be evaluated at the highest level and independently of the at-issue content, CIs are scopeless and result in multidimensional content. The point in (57c) is motivated by contrasts like the one between (60b) and (60c), both read in the context of (60a), which show clearly that CIs have to be set apart from presuppositions:
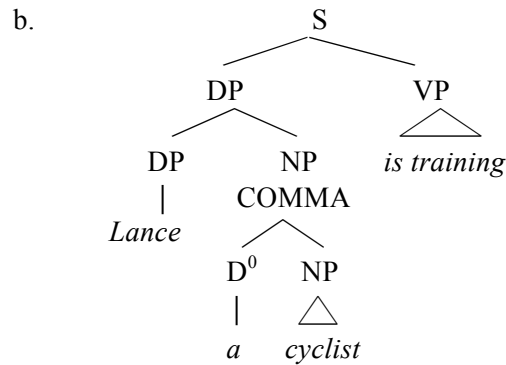
(60) a. Lance Armstrong survived cancer.

   b. #When reporters interview Lance Armstrong, a cancer survivor, he often talks about the disease.

   c. And most reporters know that Lance Armstrong is a cancer survivor.   (Potts, 2005, pg. 112, ex. 4.46)
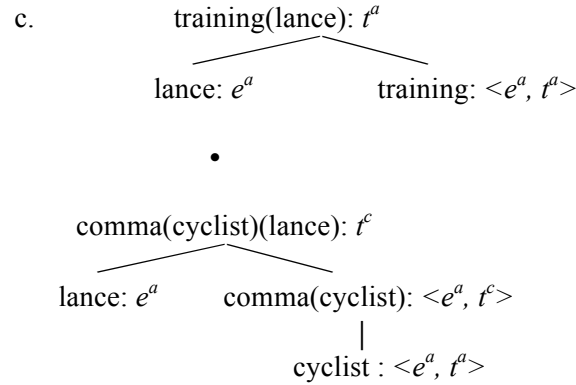
Finally, (57d) is motivated by the observation that 1. CIs contribute new information, which is independent of the content of the main clause in which they occur, and that 2. CIs provide functions which take elements of the at-issue realm as their arguments. Concerning nominal appositives, for example, Potts argues that their contribution is best captured by an analysis that treats them as functions which take an individual denoting element from the at-issue core and return a proposition that is evaluated at a level independent of the level where the main clause proposition is evaluated. In (58a) above, the nominal appositive would thus be interpreted as the predicate $\lambda x.confirmed\_psychopath(x)$, which applies to the (at-issue) individual Chuck to return the proposition that Chuck is a confirmed psychopath. In order to formally account for the properties of CIs listed in (56) and (57) – especially their logical and compositional independence of the at-issue content and their scopelessness – Potts assumes a novel distinction among

the familiar types *e*, *s* and *t*: there are basic at-issue types e^a, s^a and t^a, and basic CI-types e^c, s^c and t^c. Crucially, while the basic at-issue types can be used to form functional types of arbitrary complexity, the CI-types are much more restricted in this respect: first, a CI-type is not allowed to be combined with another CI-type, and second, a CI-type can never be the argument of an at-issue type. Consequently, the only kind of composition that CI-types are allowed to enter into is one where a CI-type takes an at-issue type as argument, returning a CI-type.

The consequence of setting his system up in this way is that CI-meanings always function as comments on an at-issue core and are always interpreted at the highest level. Therefore they are scopeless (i.e. they always receive highest scope) and commitments of the speaker. To see how Potts' system works, consider how the example in (61a), whose syntactic structure is given in (61b), is interpreted in the semantic parsetree shown in (61c) (Potts, 2005, pg. 97, ex. 4.14). Note that the only function of the bullet • is to indicate the separation of the at-issue content from the CI-content, and that *comma* stands for a feature carried by the special intonation separating the nominal appositive from the rest of the clause. It is interpreted as a function that turns an expression of type $\langle e^a, t^a \rangle$ into one of type $\langle e^a, t^c \rangle$, i.e. it serves to turn the predicate *a cyclist* into a CI.

(61) a. Lance, a cyclist, is training.

b.

c. $\text{training(lance): } t^a$

$\text{lance: } e^a$ $\text{training: } <e^a, t^a>$

•

$\text{comma(cyclist)(lance): } t^c$

$\text{lance: } e^a$ $\text{comma(cyclist): } <e^a, t^c>$

|

$\text{cyclist : } <e^a, t^a>$

By allowing the proper name *Lance* to be interpreted twice insofar as it serves both as an argument of the CI-predicate *comma*(*cyclist*) and of the at-issue predicate *training*, Potts' system is able to generate two independent, non-conjoined propositions as the denotation of (61a): one that states that Lance is training, and one that says that Lance is a cyclist, where the first expresses the main point of the utterance.

5.4 The meaning of "gewiss"

We assume that the main difference between *bestimmt* and *gewiss* does not lie in the lexical content, but rather in the level at which this content is interpreted: while the contribution of *bestimmt* (which we assumed above to form a part of a complex quantificational determiner) is a part of the at-issue content, the contribution of *gewiss* is interpreted at the separate level of conventional implicatures (CIs).

As in the case of *bestimmt*, we assume that *ein gewiss* forms a complex determiner. But unlike *ein bestimmt*, this determiner contributes two meaning components, one on the at-issue level and one on the CI level. At this point, we deviate from Potts (2005). We take it that there are lexical items that have meaning contributions at both the at-issue and the CI level simultaneously. Although this is excluded via the typing rules in Potts (2005) it nevertheless seems to be necessary to allow for such flexibility. For instance, concerning the treatment of expressives in Potts (2005, 2007), it seems that an item like German *Köter* contributes the meaning of *dog* on the at-issue level, while it expresses a negative attitude of the speaker towards the referent on the CI/expressive level at the same time

(cf. Potts, 2007 and the commentaries therein). We thus propose that the meaning of *ein gewiss* is as follows:[23]

(62) $[[ein\ gewiss]] = \lambda P \lambda Q. \exists x[P(x) \wedge Q(x)] \bullet K_\alpha(\uparrow_n y)$

In (62), $K_\alpha(\uparrow_n y)$ is the well-known contribution that we also find with *bestimmt*, and which expresses identifiability of an individual y. Here y is a free variable that needs to be resolved. This is in line with the discussion of Potts (2005, section 4.6.1), who suggests such a treatment of supplements in the case of quantified anchors. He proposes that (63) (his 4.88) is analysed as an assertion of the proposition that most elderly got home early with a CI contribution that some x heard Jackson.

(63)   Most elderly, who heard Jackson, got home early.

Crucially, this x is then resolved in an E-type way to the plural individual consisting of elderly who got home early. We propose that something similar is going on in (62), where the most salient individual y might be resolved to is the freshly introduced x of the indefinite.

So while the identificability requirement contributed by *gewiss* is nearly identical to the one contributed by *bestimmt*, it is a conjunct belonging to an at-issue proposition in the case of *bestimmt*, whereas it yields an independent CI proposition in the case of *gewiss*. Note that at the technical level, this necessitates the introduction of dotted types since (62) is of type $\langle\langle e^a, t^a\rangle, \langle\langle e^a, t^a\rangle, t^a \bullet t^c\rangle\rangle$.

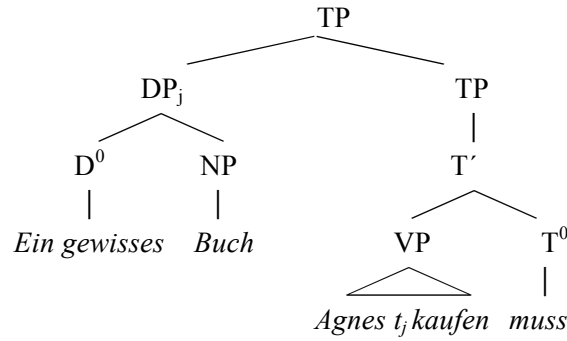This has two important consequences: first, the information that some α is in possession of identifying information of y is non-at issue information meant to comment on the at-issue proposition. For this reason, we think that the resolution possibilities of α are highly limited, namely to the one to which the CI as such is ascribed. In the vast majority of cases this will be the speaker. As we will see below, however, in certain circumstances, the CI and hence the identifying information can also be ascribed to a different salient agent.

Second, the indefinite has to be interpreted with widest scope so that the resulting CI proposition is compatible with the at-issue proposition. For if the indefinite was interpreted in the scope of another operator, there would not be a single most salient individual that y could be resolved to. This is the same reason that excludes supplement anchors containing pronouns bound from outside of the anchor, see again (Potts, 2005, 4.90).
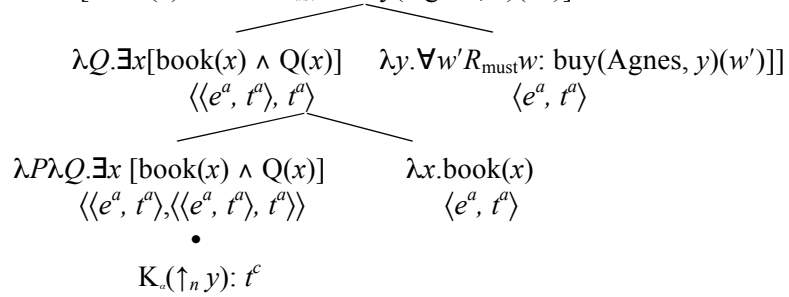
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[23] We could give *gewiss* a CI semantics on its own as $[[gewiss]] = K_\alpha(\ _n y)$, thereby separating the meaning contributions of the indefinite and the modifier in the spirit of Potts (2005). However, as in the case of *bestimmt*, we then could not explain the very limited distribution of *gewiss* w.r.t. other types of DPs.
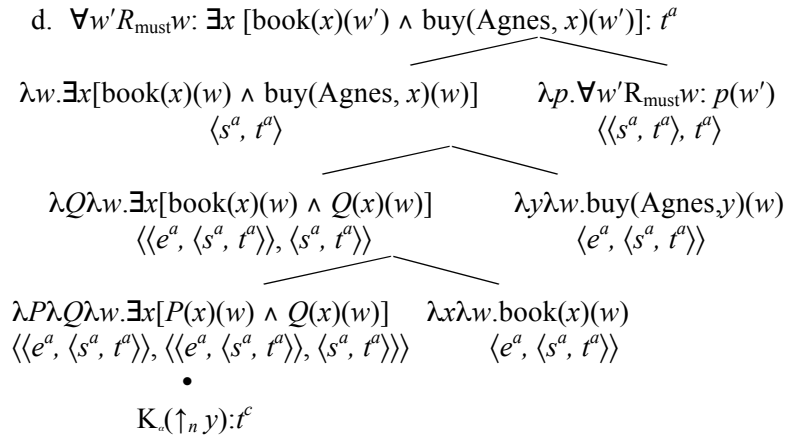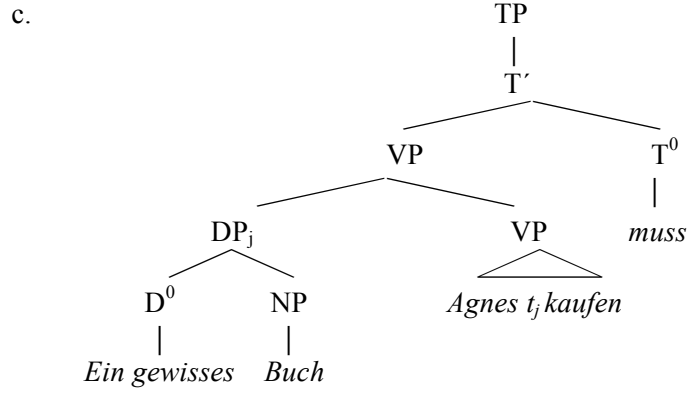
To illustrate these points let us consider the two LFs and the resulting semantic parsetrees that we can derive for a simple example like (26-*g*), the *gewiss*-variant of (26). Concerning the respective LFs in (64a) and (64c), note that we make the following assumptions: first, the movement of the finite verb into C^0 is pure PF-movement, and is therefore invisible at LF. Second, subjects can be reconstructed into their VP-internal base positions at LF (or, alternatively, movement into Spec., TP as well as Spec., CP can optionally take place at PF exclusively, see Elbourne and Sauerland, 2002). Third, quantifier raising may target VP as well as TP (or CP) (Fox, 2000).

(64)   a.

$$
\begin{array}{c}
\text{TP}
\end{array}
$$

DP$_j$ — TP

D^0 — NP — T′

Ein gewisses   *Buch*   VP — T^0

Agnes t$_j$ kaufen   muss

b. $\exists x[\text{book}(x) \wedge \forall w' R_{\text{must}} w: \text{buy}(\text{Agnes}, x)(w')]: t^a$

$\lambda Q. \exists x[\text{book}(x) \wedge Q(x)]$ $\lambda y. \forall w' R_{\text{must}} w: \text{buy}(\text{Agnes}, y)(w')]]$
$\langle\langle e^a, t^a \rangle, t^a \rangle$ $\langle e^a, t^a \rangle$

$\lambda P \lambda Q. \exists x [\text{book}(x) \wedge Q(x)]$ $\lambda x. \text{book}(x)$
$\langle\langle e^a, t^a \rangle, \langle\langle e^a, t^a \rangle, t^a \rangle\rangle$ $\langle e^a, t^a \rangle$

$\bullet$

$K_{\alpha}(\uparrow_n y): t^c$

c.

$$\text{TP}$$
$$|$$
$$\text{T}'$$

VP — T^0

DP$_j$ — VP

D^0 — NP — *Agnes t$_j$ kaufen*

T^0 | *muss*

Ein gewisses — *Buch*

d. $\forall w' R_{\text{must}} w: \exists x\ [\text{book}(x)(w') \wedge \text{buy}(\text{Agnes}, x)(w')]: t^a$

$\lambda w.\exists x[\text{book}(x)(w) \wedge \text{buy}(\text{Agnes}, x)(w)]$ — $\lambda p.\forall w' R_{\text{must}} w: p(w')$
$\langle s^a, t^a \rangle$ — $\langle \langle s^a, t^a \rangle, t^a \rangle$

$\lambda Q \lambda w.\exists x[\text{book}(x)(w) \wedge Q(x)(w)]$ — $\lambda y \lambda w.\text{buy}(\text{Agnes}, y)(w)$
$\langle \langle e^a, \langle s^a, t^a \rangle \rangle, \langle s^a, t^a \rangle \rangle$ — $\langle e^a, \langle s^a, t^a \rangle \rangle$

$\lambda P \lambda Q \lambda w.\exists x[P(x)(w) \wedge Q(x)(w)]$ — $\lambda x \lambda w.\text{book}(x)(w)$
$\langle \langle e^a, \langle s^a, t^a \rangle \rangle, \langle \langle e^a, \langle s^a, t^a \rangle \rangle, \langle s^a, t^a \rangle \rangle \rangle$ — $\langle e^a, \langle s^a, t^a \rangle \rangle$

•

$K_a(\uparrow_n y): t^c$

In the case of (64b), which results from interpreting the LF in (64a), the at-issue proposition and the CI proposition are coherent. The at-issue proposition states that there is a book such that in all deontically accessible worlds Agnes buys that book. The CI proposition states that the speaker is able to identify the most salient individual in context – which is the book Agnes has to buy.

In contrast, in (64d), which shows the interpretation of the LF in (64c), the at-issue proposition states that in each deontically accessible world there is a (possibly different) book that Agnes buys, while the CI proposition says that the speaker is able to identify the most salient individual in the context. Since an E-type derivation of such an individual fails, the free variable in the CI proposition cannot be resolved and therefore this reading is ruled out.[24] We thus have an account for why *gewiss-*

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[24] A problem that Potts' (2005) proposal has at that point (and that our proposal inherits) is the missing answer to the question why a free variable in the CI dimen-

indefinites always have to take widest scope: the CI proposition generated by *gewiss* would not be compatible with any other option. In fact, we will extend our proposal in the following section to explain the wide scope interpretation of *gewiss* indefinites w.r.t. other speech acts than assertions.

6   Conclusion

In this paper we have compared the German specificity markers *bestimmt* and *gewiss*. Based on their respective interaction with quantificational DPs, negation, intensional operators, and conditionals as well as on their behaviour with respect to identifiability of discourse referents, we have argued for the following analysis. While the contribution of both items consists in the added information that some agent is able to identify the discourse referent introduced by the indefinite article via some non-trivial additional description, they differ with respect to the level at which this information is interpreted. In the case of *bestimmt* this meaning component is part of the at-issue content of the sentence, whereas it is a conventional implicature in the case of *gewiss*. This explains why *gewiss*-indefinites always take widest scope with respect to other operators and introduce discourse referents that have to be identified by the speaker, while *bestimmt*-indefinites are in principle free to scope under the operators mentioned above, and only need to be identifiable by some salient discourse referent.

Nevertheless, there seems to be a very strong tendency for *bestimmt*-indefinites to scope over at least one intensional operator, since we have not found any examples where a *bestimmt*-indefinite would take (narrowest) scope under the lowest intensional operator. In most examples discussed in the paper, there was a plausible pragmatic explanation for the non-existence of such readings, but we have also seen examples which remain problematic for such a pragmatic account. For instance, in (53b), the narrowest scope reading is also not available, in spite of the fact that the context strongly supports it. After all, since our account does not rule out

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sion introduced by a supplement cannot be resolved to any other indivual except the one that is derived from an E-type treatment of the quantified anchor + additional material. This inflexibility hints towards a view that Potts rules out (ibid., Section 3.10), namely to one that allows for binding from the at-issue domain into the CI domain. This would mean that the CI contribution of (62) should be of the form $K_a(\square_n x)$, where x is the discourse referent introduced by the indefinite on the at-issue level. The narrow scope reading in (78e) could thus be ruled out by appealing to the inaccessibility of any quantifier at the at-issue level that could dynamically bind x.

such narrowest scope readings for *bestimmt*-indefinites across the board, we predict them to exist in principle. We have to leave this as a topic for future research.

Further issues raised by our account that we were unable to pursue within the limits of this paper, but which we would like to come back to in future work include the following ones:

(a) What can we learn from our analysis wrt. specificity markers in languages other than German? Are there languages that have pairs of specificity markers which show the same division of labour?

(b) There are very few cases where the identification requirement of *gewiss* is not attributed to the speaker but to some agent that has been saliently involved in an event reported by the speaker. We think that these might be cases of CIs that are shifted towards another agent such as those discussed in (Bonami and Godard, 2005; Sauerland 2007; Malamud, 2010).

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