

What does it take to host a (restrictive) relative clause?

Martina Wiltschko
University of British Columbia
Martina.Wiltschko@ubc.ca

This paper discusses the syntactic and semantic properties of descriptive relative clauses, a type of relative clause which has mainly been discussed in the literature on Chinese. It is argued that descriptive relative clauses are found in German. In particular it is shown that German has a set of determiners which are used for discourse referents that are already uniquely identifiable. As such, they cannot be restricted by a relative clause. However such DP's can be modified by descriptive relative clauses. It is proposed that descriptive relative clauses attach to NP while restrictive relative clauses attach to *nP*. Thus, the paper contributes to the question as to whether there are different relative clauses associated with different layers of projections in the nominal domain.

1 Introduction

I have two main goals in this paper, one theoretical and one empirical. I introduce each of them in turn.

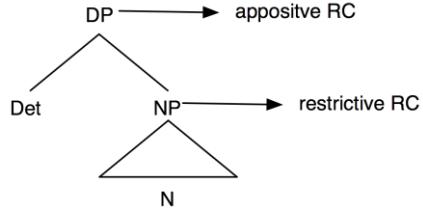
1.1 Theoretical goal: Where do relative clauses attach?

On the standard assumption that the constituents found in natural languages are hierarchically organized, there have been, for a long time, two possible sites of attachment for relative clauses (RC). Ever since Partee 1975 (231), these two sites of attachment have been argued to correspond to two distinct types of RC's:

- i) *Appositive RC*'s (henceforth ARC) attach to the projection which includes the determiner and as such correspond to *term modification*.
- ii) *Restrictive RC*'s (henceforth RRC) attach to the nominal projection which excludes the determiner and as such correspond to *common noun modification*.

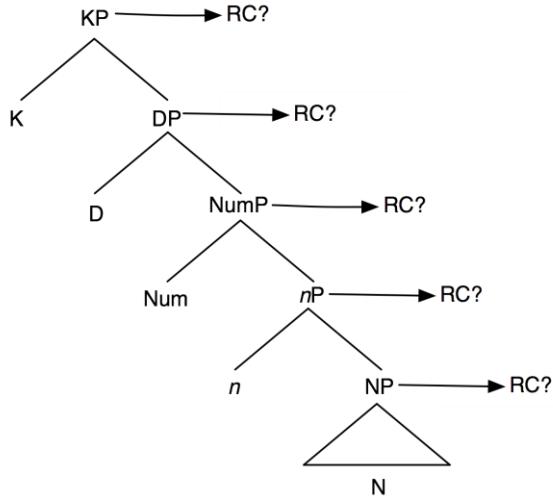
Since Abney's 1987 DP hypothesis, the two levels of attachment are assumed to correspond to DP and NP, respectively. This is illustrated in (1).

(1) Two sites of attachment for two types of RC's



More recently, however, there has been an explosion of functional categories both in the verbal and in the nominal domain. Relevant for our purposes is the fact that there are more than two projections within the nominal domain. The number and labels of functional categories is still subject of much debate. In (2) below I give a structure that contains some of the more frequently assumed projections including KP (Bittner & Hale 1991), DP (Abney 1987), Num(ber)P (Ritter 1991), nP (Marantz 1997, Lowenstamm 2008, Saxon & Wilhelm 2010) as well as NP. Given the structure in (2), the question arises as to whether RC's can attach at each functional projection.

(2) More layers – more RC's?



Everything else being equal, we expect this to be the case. But if so, we may expect to find more than two types of RC's. So is there a different type of RC associated with each layer of functional projection within the DP and how can we tell? This is the larger research question within which I investigate the particular empirical problem I am concerned with in this paper.

1.2 Empirical goal: Where do relative clauses attach?

The empirical goal for this paper is to analyze a peculiar type of RC associated with a particular kind of definite DP in an Austro-Bavarian dialect. Specifically, this type of RC is neither restrictive, nor is it appositive, as I will show. To get an initial idea as to the semantic properties of this RC, consider the example in (3).

- (3) *Context: the mailman who has been delivering mail in the neighborhood for the last 10 years is retired. Everyone knows this mailman. A and B have been living in this neighborhood. A tells B.*

Wasst eh, **da** Briaftroga (wos bei uns austrogn hot) is jetz in Pension.¹

Know prt det_w mailman comp at us delivered has is now in retirement
 ‘You know, the mailman (who delivered our mail) is now retired.’

In this context, the mailman is situationally unique, such that both speech act participants know that there is only one salient mailman. As such, the RC does not serve to identify the discourse referent under discussion. This is consistent with the fact that in (3) nothing is said about other mailmen (i.e., mailmen who did not deliver our mail). Thus, the RC in (3) cannot be considered a restrictive RC. This minimally contrasts with the example in (4).

- (4) *Context: A and B are having a discussion about the retirement age of mailmen, and other civil servants. A complains:*

Die Briaftroga und die Leit vo da Muehobfua gengan vü’z boid in pension. Zum Beispü,...

‘Mailmen and garbage collectors retire way too early. For example...

...**dea** Briaftroga **dea** wos bei uns austrogn hot is jetz in Pension
 det mailman det_s comp at us delivered has is now in retirement
 ‘the mailman who delivered in our neighborhood is now retired.’

In this context, all mailmen are under discussion and the RC serves to identify the particular mailman A wants to talk about, i.e. the one that delivered the mail in A and B’s neighborhood. In this context, something is said about other mailmen

¹ I follow the standard practice of using the informal orthography for Austro-Bavarian. This is in part based on the Standard German Orthography but changed to reflect the differences in pronunciation. To the best of my knowledge there is no official orthography. Since however we are not concerned with detailed phonological information, I will not provide phonetic transcription of the examples. The glosses include the following abbreviations: 2 = 2nd person; 3 = 3rd person; acc= accusative; cl = classifier; comp = complementizer; cop = copula; det = determiner; fem = feminine; masc = masculine; neut = neuter; nom = nominative; pl = plural; Prt = particle; refl = reflexive; s = strong; sg = singular; top = topic; w = weak

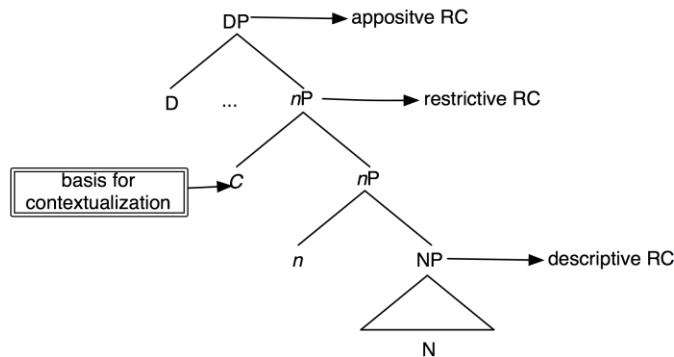
(i.e., there may be some that have not retired yet, etc.). As such, the RC in (4) can be considered an RRC. Note that the difference between (3) and (4) correlates with a difference in the form of the determiner: if there is a unique mailman, as in (3), the determiner is used in its reduced form, sometimes referred to as the *weak determiner* (henceforth Det_w); if there is no unique mailman salient in the discourse context, as in (4), a different form of the determiner is used, namely the *strong determiner* (henceforth Det_s). Crucially, Det_s cannot be used in the context of situationally unique referents, while Det_w cannot be used if the discourse referent is not unique, as we will see.

The core problem I wish to address in this paper concerns the proper characterization and analysis of the RC in (3). As mentioned above, it does not appear to be interpreted as an RRC: the nominal it modifies already denotes a unique individual. Moreover, I will show that it also does not behave like an ARC. So what type of RC are we dealing with?

1.3 The proposal in a nutshell

The core proposal I argue for in this paper is summarized in (5). I propose that the third type of RC identified in (3), corresponds to so called *descriptive RC's* (also known as *characterizing RC's*) known in particular from Chinese languages (see del Gobbo 2005 for a recent analysis and relevant references). I further propose that descriptive RC's (henceforth DRC) attach at the NP level while restrictive relative clauses attach at the level of nP . I further argue, based on the properties of Det_w , that the nP layer serves as the basis for *contextualization*: whenever a given referent must be interpreted relative to the discourse context, nP must be present. I implement this by assuming that Spec nP hosts a discourse sensitive variable (labeled C in (5)). Since RRC's are introduced at nP , contextualization is possible. In contrast, since DRC's are introduced before C is introduced, it cannot serve to restrict the contextually relevant set of referents.

(5) Three sites of attachment for three types of RC's



I develop this argument as follows. I start in section 2, with a brief review of the properties of ARC's vs RRC's. This will serve as a starting point to explore the properties of DRC's in section 3. I show that they behave neither like RRC's nor like ARC's. In section 4, I show how the analysis introduced in (5) accounts for the properties of DRC's. In section 5, I briefly discuss and dismiss previous analyses of Det_w and their behaviour with respect to RC's. Finally, in section 6, I summarize and discuss the implications of the analysis, as well as avenues for further research.

2 Restrictive vs. appositive relative clauses

The difference between RRC's and ARC's has been widely discussed in the literature (see for example Fabb 1990, de Vries 2006 among many others). Here I briefly summarize those differences that play a role in distinguishing DRC's. I start with the interpretive differences associated with the head of the relative clause. An RRC forms an **integral part** of the definite description: it is necessary to determine the referent of that description. For example in (6), the RRC (underlined) serves to identify the relevant young man (i.e., there may be several young men contextually relevant).

- (6) The little boy whom you gave the balloon yesterday is Mary's son.

In contrast, an ARC provides extra information about its external head noun the referent of which is determined on independent grounds. This is illustrated in (7) where the head noun is *the moon*, a unique individual, which need not be restricted to be identified.

- (7) The sun, which seems to be much hotter these days, will rise at 5.21 tomorrow.

Crucially, for our purposes, the difference between RRC and ARC is not restricted to interpretive differences between their nominal heads. Rather the differences go along with formal differences associated with the RC itself. For example, RRC's but not ARC's may contain variables that are bound from outside of the RC (BVA). Second, RRC's but not ARC's may be extraposed (Ziv & Cole 1974). Third, ARC's but not RRC's may contain speaker-oriented adverbs. Finally, the two types of RC's also differ in their intonational properties: ARC's display comma intonation (similar to parentheticals) while RRC's don't. Instead they form a major phrase (see for example Selkirk 2005). This is summarized in

table 1.²

Table 1. Restrictive vs. appositive RC's

	function	BVA	xtrapolation	S-adverbs	intonation
ARC	extra info	□	□	□	comma
RRC	integral	□	□	□	major P

In addition, ARC and RRC can also be distinguished on the basis of the relative pronoun and/or complementizer that introduces them. In particular, ARC's in English must be introduced by a relative pronoun (i.e., a wh-word) while RRC's can but need not be introduced by a relative pronoun, or a complementizer. This is summarized in table 2.

Table 2. Restrictive vs. appositive RC's

	relative pronoun (wh-word)	complementizer <i>that</i>	Ø
ARC	□	□	□
RRC	□	□	□

The diagnostics to distinguish between ARC's and RRC's are similar in German. This will allow us to explore the properties of DRC's.

3 Exploring descriptive relative clauses

To explore the properties of DRC's we will proceed as follows. We start by investigating the properties of the head of the relative clause, establishing that it does indeed denote a (situationally) unique individual (section 3.1). We then investigate properties of RC's headed by DP's which denote unique individuals establishing that they are neither appositive nor restrictive (section 3.2). Finally we show that DRC's also differ in the way they can be introduced (relative pronoun vs. complementizer; section 3.3).

3.1 Definite DP's that refer to unique individuals

Recall that there is difference between the RC's in (3), headed by a definite DP with Det_w and the one in (4), headed by a definite DP with Det_s . In particular, I have claimed that Det_w is only felicitous in contexts where the discourse referent is unique. The purpose of this subsection is to investigate the properties of weak determiners in more detail in order to establish that they do indeed denote a

² For reasons of space I cannot give examples to illustrate these differences. See the references cited for relevant examples.

unique individual.

The difference between strong and weak determiners in dialects of German has been subject of considerable attention for the last 40 years. It was first documented for a dialect of Frisian (Fering) by Ebert 1971 and has since been described for a number of different dialects (Heinrichs 1954, Hartmann 1967: Rhineland; Ebert 1971: Fering (Frisian); Hartmann 1982: Mönchen-Gladbach; Schuster & Schikola 1984: Viennese; Scheutz 1988: Bavarian; Brugger & Prinzhorn 1996: Austro-Bavarian; Himmelmann 1997: Köln; Schmitt 2006: Hessian; Schwager 2007: Bavarian; Leu 2008: Swiss; Schwarz 2009: Standard; Waldmüller 2006: Standard).

Consider the following examples from Ebert 1971 and her description.

- (8) a. A hünj hee tuswark
 det_w dog has tooth.ache
 ‘The dog has a tooth ache.’
- b. Di hünj hee tuswark
 det_s dog has tooth.ache
 ‘The dog has a tooth ache.’

“Both utterances presuppose that the hearer already knows which dog is meant. But the presuppositions for [the two forms] are of a different nature. [ii] is an adequate utterance if the dog was specified in the preceding text; the D-article then refers anaphorically to the text referent. [ii] presupposes that the intended dog does not need to be specified any further, because there is only one dog at the time and place of the speech act that could be meant.” (Ebert 1971: 83; translation Schwarz 2008: 27)

In essence, Det_s is used anaphorically, while Det_w is used for unique referents. This seems to be consistent across the different German dialects. The dialect under investigation in this paper is Austro-Bavarian. The paradigm for both determiners is given in table 3 where the left half lists Det_s and the right half lists Det_w.³

Table 3. Strong determiner paradigm

Det _s	m.sg	fem.sg	neut.sg	Det _w	m.sg	fem.sg	neut.sg	m.sg
nom	dea	die	des		da	d	(i)s	da
acc	den	die	des		(i)n	d	(i)s	(i)n
dat	dem	dea	dem		(i)m	da	(i)m	(i)m

³ For the purpose of this paper I ignore plural determiners.

I now show that the two determiners differ in their context of use. What is of interest for the present purpose is that Det_w is only felicitous if the discourse referent is unique. This is reflected in the constraint in (9) proposed by Brugger & Prinzhorn 1996.

- (9) NP is introduced by Det_w iff **|NP|=1 in D**
 (where D is the domain of discourse)

In what follows we see evidence for this constraint. Much of the following data discussion is taken from Schwarz 2009, who analyzes the difference between strong and weak determiners in Standard German (see section 5.3 for a comparison between his analysis and mine).

First, given the uniqueness constraint, it is predicted that nominal phrases that are inherently associated with a unique referent will be introduced by Det_w . This is indeed the case. Names (10), dates (11), and superlatives (12) have to be introduced by Det_w .

- (10) a. I hob **n'#/den** Hons gsegn.
 I have $\text{det}_w/\text{det}_s$ Hans seen
 'I have seen Hans.'
 b. I woa no nia in **da/#dea** Türkei.
 I was yet never in $\text{det}_w/\text{det}_s$ turkey
 'I have never been to turkey.'
- (11) Heid is **da/#dea** 19. Juni.
 today is $\text{det}_w/\text{det}_s$ 19th June
 'Today is June 19th.'
- (12) Ea woa gestan **da/#dea** Beste.
 He was yesterday $\text{det}_w/\text{det}_s$ best
 'Hans dances the best.'

Similarly, DP's that denote unique functions (13), unique relations (14), or unique body parts (15), also have to be introduced by Det_w .

- (13) Noch jedem Spiü muass **da/*dea** Valiera wos ausziagn.
 after each game must $\text{det}_w/\text{det}_s$ loser indef take.off
 'After each game, the loser must take off a piece of clothing.'
- (14) Wie geht's' n **da/*dea** Frau?
 how goes'it prt $\text{det}_w/\text{det}_s$ woman
 'How is your wife doing?'

- (15) Host da **n'/*den** Kopf onghaut?
 Have you det_w/det_s head banged
 'Did you bang your head?'

More examples of Det_w introducing DP's which denote unique individuals are given below. They differ in the type of context relative to which the discourse referent is unique. In (16), the cabinet is unique in the immediate situation use (in the sense of Hawkins 1978). This could be uttered by a husband who knows that his wife is looking for her glasses. In (17), the dog is unique in the larger situation use. This sentence could be uttered by someone telling a friend about an attempted break-in at his neighbor's house. And finally, in (18), the sun is unique in the global situation use.

- (16) Dei Brün is auf **da/#dea** Kredenz
 your glasses is on det_w/det_s cabinet
 'Your glasses are on top of the cabinet.'
- (17) **Da/#dea** Hund hot die Einbrecher vajogt
 det_w/det_s dog has det burglars chased.away
 'The dog has chased away the burglars.'
- (18) **D/#die** Sun geht heit um hoib sechs auf
 det_w/det_s sun rises today at half six up
 'Today, the sun rises at 5.30.'

Next, generics are also introduced by Det_w, no matter whether the noun is in the singular or in the plural, as shown in (19).

- (19) a. **Da/#dea** Wal wird boid aussteam
 det_w/det_s whale will soon go.extinct
 'The whale will soon go extinct.'
 b. **D/#die** Wale wean boid aussteam
 det_w/det_s whale.pl will soon go.extinct
 'The whale will soon go extinct.'

Finally, Det_w must be used for non-referential DP's such as idioms (20) and what has been referred to as 'bare singular noun phrases' (Stvan 1998).

- (20) Hiatz geht's um **d'#/die** Wuascht
 now goes'it about det_w/det_s sausage.
 'Lit.: Now, it's about the sausage.'
 'It's now or never.'

- (21) Ea geht no ned in **d'#/die** Schui.
 He goes yet not in det_w/det_s school
 'He doesn't go to school yet.'

Interestingly, Det_w cannot be used if the DP anaphorically refers to a previously introduced discourse referent, as shown in (22).

- (22) In da Stodbücherei gibt's **a Buach** über Kanada.
 in det townlibrary exists it a book about Canada
 Letzens woa I doat und hob ma **#s/des Buach** ausboagt.
 Recently was I there and have me det_w/det_s book borrowed
 'In the public library, they have a book about Canada. Recently, I was there and borrowed that book.'

(adapted from Schwarz 2009: 24 (25))

This is particularly interesting, because it is not immediately clear why the uniqueness requirement in (9) would rule out Det_w in (22). One might think that the introduction of the discourse referent in the preceding sentence would suffice to render the discourse referent unique in D. But this doesn't seem to be sufficient to use Det_w. A similar point is made by the example in (23). In this context there is a unique house that A is pointing to, but nevertheless Det_w is infelicitous – it doesn't support deictic reference.

- (23) *Context: A points to a house (the only one in the immediate surrounding) and asks B:*
Gfoit da #s'/des Haus?
 like you det_w/det_s house
 'Do you like this house?'

In sum, we have the following differences in the context of use for Det_s and Det_w, respectively.

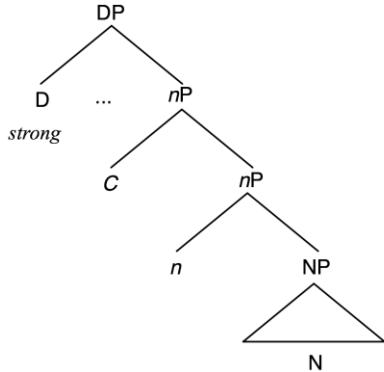
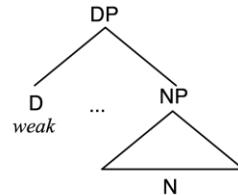
Table 4. Distribution of Det_s and Det_w

	Det _s	Det _w
situationally unique	□	□
generic	□	□
anaphoric	□	□
deictic	□	□

Note that the notion *situationally unique* is not quite enough, since there is a sense in which the referent of an anaphoric or deictic DP is also situationally

unique. The difference between those contexts in which Det_w is felicitous and those in which it is not has to do with whether or not the uniqueness of the referent must be established in current discourse. Det_w is used if the uniqueness of the discourse referent does not need to be established. It is in this sense that the use of Det_w does not depend on the *discourse context*. As such it is crucial that we distinguish between the *common ground* that is independent of the current conversation (we may call it the common background) and the conversational common ground, which is sensitive to and manipulated by the ongoing discourse (see Krifka 2008).

Turning now to an analysis of this pattern, I propose that the difference lies in the selectional properties associated with the determiner. D_s selects for nP while D_w selects for NP, as illustrated in (24).

(24) a. Det_s b. Det_w 

According to the proposal introduced in (5), it is the projection of nP , which forms the basis for contextualization (represented as C in (24)a). I propose, that C provides the basis for context dependence, such as *domain restriction*, *anaphora*, and *contrast sets*.⁴ On this account then, the impossibility for Det_w to be dependent on the discourse context is structurally conditioned. It follows from the absence of an nP complement which in turn results in the absence of C.⁵ In the absence of C, this DP cannot be anaphoric or deictic. Furthermore, this will

⁴ At this point the postulation of C associated with $\text{Spec}n\text{P}$ should merely be taken as a way of implementing the empirical generalization. I have nothing to say about the theoretical status of C. See Stanley & Szabó 2000 for the claim that domain restriction is associated with NP (rather than for example D). See, however Gillon 2006, for a different view. By *contrast set* I mean a set of alternatives of referents with the same property introduced by NP. As such it is similar but not identical to the familiar set of alternatives associated with focus. See section 5 for a bit more discussion

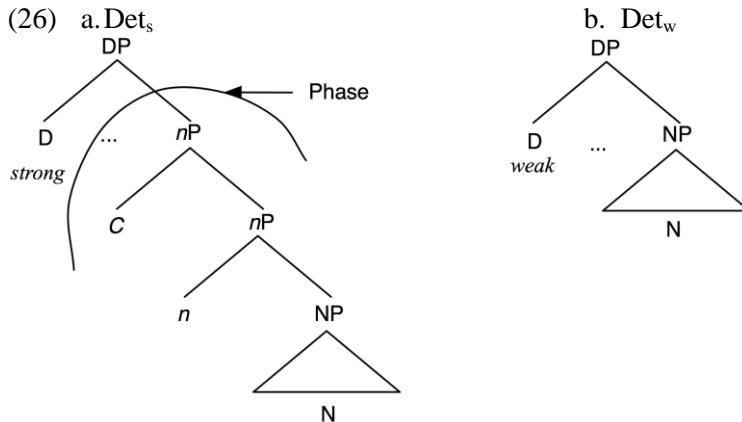
⁵ See section 5 for a comparison with previous analyses of the contrast.

allow us to understand the fact that only ARC's and DRC's but not RRC's are compatible with Det_w : RRC's require a contrast set which in turn requires C.

The structural difference between Det_w and Det_s is consistent with the fact that only the former but not the latter allow for subextraction (Brugger & Prinzhorn 1996: 5)

- (25) a. Von wem host du [s **Possbild t**] nit gsegn?
 of whom have you det_w passport.foto not seen
 ‘Whose passport pictured did you not see?’
 b. *Von wem host du [**des Possbild t**] nit gsegn?
 of whom have you det_s passport.foto not seen

Suppose that nP – like vP – is a phase. It would then follow that extraction out of a DP headed by Det_s is impossible because there is an intervening phase boundary. In contrast, extraction out of DP's headed by Det_w is possible since that phase boundary is missing, as shown in (26).



The structure in (26) may also allow us to understand the prosodic properties of the determiners. Only Det_w but not Det_s may procliticize to the following noun (see section 5.1 for relevant data). This is consistent with the absence of a phase-boundary below Det_w .

3.2 The properties of DRC's

We have now established that the head of DRC's – DP's introduced by Det_w – do indeed denote individuals that are situationally unique without having to be introduced as such. We now turn to the properties of the DRC itself. I start by establishing that we are neither dealing with an ARC nor with a RRC.

It has been observed that DP's introduced by Det_s may host both ARC's and RRC's, as in (27). In contrast, DP's introduced by Det_w can only host ARC's but not RRC's, as shown in (28) (cf. Brugger & Prinzhorn 1996: 15).

- (27) a. **des** Buach des was da CHOMsky gschriem hat...
 det_s book det_s comp det_w Chomsky written has
 'The book that Chomsky wrote....'
 - b. **des** Buach, des was da Chomsky gschriem hat...
 det_s book det_s comp det_w Chomsky written has
 'The book, which Chomsky wrote....'
- (28) a. I hob **s** Buach was da Chomsky gschriem hat nit glesn
 I have det_w book comp det_w Chomsky written has not read
 'The book Chomsky wrote....'
 - b. *I hob **s** Buach des (was) da Chomsky gschriem hat nit glesn
 I have det_w book pron was det_w Chomsky written has not read
 'I didn't read the book, which was written by Chomsky.'

At first sight, it is not surprising that RRC's are incompatible with Det_w given the properties associated with Det_w we have discussed in section 3.1. Since Det_w is only compatible with NP's that denote individuals that are already unique, further restriction by an RRC is impossible. On this view, the incompatibility between Det_w and RRC is semantically conditioned (see however section 5.1 for problems with this view). Rather, their function is roughly to characterize or describe the referent. I therefore analyze them as descriptive relative clauses, a type of RC which has been previously reported for Chinese (see del Gobbo 2005).

While it is true that RRC's are incompatible with DP's headed by Det_w , it is not the case that all RC's associated with such DP's are appositive. Recall that ARC's cannot contain bound variables. This is illustrated in (29) for English, and in (30) for Austro-Bavarian.

- (29) a. [Every professor]_i catches a student who cheats in his_i class.
 b. *[Every professor]_i catches John, who cheats in his_i class.
- (30) a. [A jeda Professor]_i dawischt an Studentn, der bei eam_i schwindlt
 indef every professor catches det_w student det at him cheats
 'Every professor catches the student who cheats in his class.'
 b. *[A jeda Professor]_i dawischt in Hons, der bei eam_i schwindlt
 indef every professor catches det_w Hans det at him cheats

Crucially, as shown in (31), the RC associated with the DP introduced by Det_w is compatible with a pronoun functioning as a bound variable.

- (31) A jede Hausfrau_i bei uns in da siedlung...
 A each housewife at us in det_{sg} neighbourhood
 ...kennt n briaftroga wos **ia_i** d post bringt
 ... knows det_w mailman comp her det_w mail brings
 'Every housewife in our neighbourhood knows the mailman who brings her the mail.'

Similarly, unlike ARC's, RC's associated with a DP introduced by Det_w are not compatible with a speaker-oriented adverb. This is illustrated in (32)

- (32) Wasst eh, da Peter is saua, ...
 Know.2sg prt det_w Peter is mad...
 *wei's Zimma wos's eam **übrigens** z'spot gem hom so kla is
 as det_w room comp-they him by.the.way too.late given have so small is
 'Peter is mad because they room they gave him is so small.'

This establishes that these RC's are not appositive. Evidence that these RC's are not restrictive either, stems from the fact that they cannot be extraposed, as shown in (33). This contrasts with RC's associated with DP's introduced by Det_s , which are restrictive, and which may be extraposed, as shown in (34).

- (33) Wasst eh, da Peter is saua, ...
 Know.2sg prt det_w Peter is mad...
 i) ...wei s Zimma wos's eam gem hom so kla is
 ... as det_w room comp'they him given have so small is
 'Peter is mad because they room they gave him is so small.'
 ii) *...wei s Zimma so kla is wos's eam gem hom
 ... as det_w room so small is comp'they him given have
- (34) Wasst eh, da Peter is saua, ...
 know-2sg prt det_w Peter is mad...
 i) ...wei **des** Zimma des (wos)'s eam gem hom so kla is
 ... as det_s room det_s comp'they him given have so small is
 'Peter is mad because they room they gave him is so small.'
 ii) ...wei **des** Zimma so kla is des (wos)'s eam gem hom
 ... as det_s room so small is det_s comp'they him given have
 'Peter is mad because they room they gave him is so small.'

Next we turn to the intonation of RC's. RRC's typically form 2 major phrases with their head (Selkirk 2005) while ARC's display comma intonation. The RC associated with a DP headed by Det_w however forms 1 major phrase with its head. This is indicated in (35).

- (35) ...wei's Zimma **wos's** eam gem hom so kla is
 ... as det_w room comp'they him given have so small is
 'Peter is mad because they room they gave him is so small.'
 wei (s ZIMma wos's eam gem hom so kla is)
 H

In sum, RC's associated with DP's introduced by Det_w do not behave like RRC's nor like ARC's. The differences are summarized in table 5.

Table 5. The properties of DRC's

	BVA	xtraposition	S-oriented adv	function	intonation
ARC	□	□	□	extra info	comma
RRC	□	□	□	integral	2 MajorP
DRC	□	□	□	descriptive	1 MajorP

3.3 Introducing DRC's

DRC's also differ from RRC's and ARC's in the way they are introduced. While RRC's can be introduced by a relative pronoun and the complementizer *wos* as in (37), a DRC does not allow for a relative pronoun but instead can only be introduced by the complementizer *wos* as in (36).

- (36) Context: *A and B are having a discussion about the retirement age of mailmen, and other civil servants. A complains:*
 Die Briafroga und die Leit vo da Muehobfua gengan vü'z boid in pension. Zum Beispü,...
'Mailmen and garbage collectors retire way too early. For example...
 ...**dea** Briafroga **dea** **wos** **bei uns austrogn hot** is jetz in Pension
 det mailman det_s comp at us delivered has is now in retirement
'the mailman who delivered in our neighbourhood is now retired.'

- (37) *Context: the mailman who has been delivering mail in the neighborhood for the last 10 years is retired. Everyone knows this mailman. A and B have been living in this neighborhood. A tells B.*

Wasst eh, **da** Briafroga (**dea*) was bei uns austrogn hot is in Pension.⁶
 Know prt det_w mailman comp at us delivered has is in retirement
 ‘You know, the mailman (who delivered our mail) is now retired.’

3.4 Summary

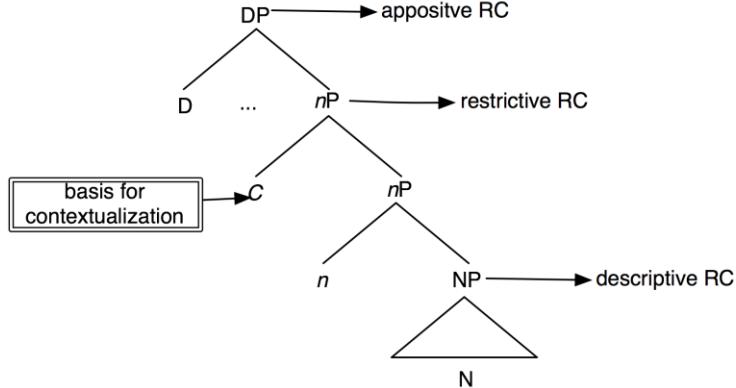
This concludes our exploration of RC’s headed by DP’s that are introduced by Det_w. Since these DP’s refer to unique individuals even in the absence of the RC it follows that the RC cannot be restrictive. And indeed in the literature it has been claimed that RRC’s are impossible in this context. However, we have seen that such DPs may be modified by RC’s. A detailed investigation of the properties of such RC’s has revealed that they differ not only from RRC’s but also from ARC’s. We can therefore conclude that we must recognize a type of RC different from RRC or ARC. I propose that we are dealing with a descriptive relative clause, in the sense familiar from the literature on Chinese (see for example del Gobbo 2005). The properties we have observed indicate that DRC’s form a tight unit with the head they modify: DRC’s cannot be extraposed and they form an intonational unit with their head. In what follows, I develop an analysis which captures this behavior.

4 The syntax of descriptive relative clauses

As briefly introduced in section 1.3, I propose that DRC’s differ from RRC’s and ARC’s in their attachment site. This illustrated in (5) repeated below as (38).

⁶ I follow the standard practice of using the informal orthography for Austro-Bavarian. This is in part based on the Standard German Orthography but changed to reflect the differences in pronunciation. To the best of my knowledge there is no official orthography. Since however we are not concerned with detailed phonological information, I will not provide phonetic transcription of the examples. The glosses include the following abbreviations:

- (38) Three sites of attachment for three types of RC's



In this section, I first present independent evidence for the structural difference between DRC's and RRC's (section 4.1). I then show that in light of the analysis of Det_w developed in section 3.2, it follows that Det_w may not associate with RRC's (section 4.2).

4.1 A structural difference between RRC's and DRC's: independent evidence

At least since Bolinger 1967, we know that there are two positions available for nominal modification. This can be seen on the basis of the examples in (39), which show that adjectives may either follow or precede the nouns they modify.

- (39) TEMPORARY (EPISODIC) CHARACTERISTIC (INTRINSIC)

 - a. the stars **visible** the **visible** stars
 - b. the rivers **navigable** the **navigable** rivers
 - c. the individual **responsible** the **responsible** individual
 - d. the jewels **stolen** the **stolen** jewels

Interestingly, the difference in linear order correlates with a difference in interpretation. In particular, if the adjective follows the noun it modifies, it is interpreted as a temporary (episodic) property of the individual. In contrast, if the adjective precedes the noun it modifies, it is interpreted as a characteristic (intrinsic) property of the individual. This semantic difference can be directly observed in the following examples (see also Larson & Takahashi (2002) discussing examples ascribed to Barbara Citko):

- (40) a. #The stars visible are invisible today.
b. The visible stars are invisible today.

If the adjective denotes a temporary episodic property, a contradiction arises if the modified noun is predicated over the antonym of the modifier (*invisible*). In contrast, if the adjective denotes a characteristic (intrinsic) property predication over its antonym is perfectly acceptable: while these stars are usually among the visible ones, today they are covered by clouds.

Interestingly, the semantic contrast associated with the two positions for modifiers is not always the same. Beside a contrast between temporary and characteristic properties we also find a contrast between deictic and generic modification. Consider (41). If the temporal modifier *Thursday* follows the noun it modifies, it must be interpreted deictically. In contrast, if *Thursday* precedes the noun it modifies, it is interpreted generically.

- | | | |
|------|-----------------------------|-----------------------------|
| (41) | DEICTIC | GENERIC |
| | the lecture Thursday | the Thursday lecture |

The difference in interpretation is made clear in (42). The prenominal generic use of the modifier is compatible with a reading in which a lecture that is usually held on Thursday is exceptionally taught on Wednesday this week. The announcement can be made with the sentence in (42)b but not with (42)a.

- (42) a. #This week, the lecture Thursday will be on Wednesday
- b. This week, the Thursday lecture will be on Wednesday

For completeness note that the prenominal position is in principle compatible with a deictic interpretation. Crucially, if both modifiers appear in prenominal position, the generic reading is associated with the modifier which occupies the position closer to the noun, while the deictic reading is associated with the modifier which precedes the generic modifier as well as the noun. Thus, in the context introduced above, where a lecture typically held on Thursday is exceptionally taught on Wednesday, the instructor could comment with (43)b, but not with (43)a at the end of the week (examples adapted from Larson & Takahashi 2002 ascribed to Jason Brenier).

- (43) #My Thursday Wednesday lecture was interesting.
- My Wednesday Thursday lecture was interesting.

The restriction on the order of the modifiers suggests that the deictic modifier is associated with a higher position than the generic modifier (Larson & Takahashi 2002).

Another contrast associated with the difference in modification site is that between *intersective* and *non-intersective* modification. Consider the examples below. On the intersective interpretation *beautiful* modifies the person who is

dancing and identifies him/her as a beautiful person. Similarly, *old* modifies the person who is a friend and identifies him/her as an old person. In contrast, on the non-intersective interpretation, *beautiful* specifies the dancing as beautiful rather than the person and *old* specifies the friendship as old rather than the person.

(44)	INTERSECTIVE	NON-INTERSECTIVE
	the beautiful dancer = <i>beautiful person</i>	the beautiful dancer = <i>dances beautifully</i>
	the old friend = <i>old person</i>	the old friend = <i>long lasting friendship</i>

The difference in interpretation is made clear in the following example. Adding the antonym of the modifier will force the non-intersective reading on the modifier which is closer to the noun

- (45) a. Lena is an **ugly beautiful** dancer.
 b. Pedro is a **young old** friend.

According to Larson 1998 (among others), the two types of modification we have just seen reflect two syntactic positions: an outer and an inner position.

What is crucial for our purpose is the fact that the same structurally conditioned difference between two types of modifiers has also been observed for relative clauses in various languages. In particular, Larson 1998 argues that the structural difference between the two types of RC's correlates with a difference between S(tage)-level and I(ndividual)-level modification such that S-level RC's occupy a higher position than I-level RC's. Evidence that these RC's are indeed associated with two different syntactic positions stems from certain ordering restrictions. For example, in Japanese, the two types of RC's may co-occur, but if they do, the S-level RC has to precede the I-level RC. This is illustrated in (46).

- (46) Japanese
- a. ✓S-level > I-level Japanese
 [Watashi-ga kinoo atta] [tabako-o suu] hito-wa Tanaka-san desu.
 [1sg.-nom yesterday met] [tobacco-acc inhale] person-top T.-cop
 'The person who smokes who I met yesterday is Miss Tanaka.'
- b. *I-level > S-level
 ?*[Tabako-o suu][watashi-ga kinoo atta] hito-wa Tanaka-san desu.

Del Gobbo 2005 argues that the classic distinction reported in the Chinese literature between restrictive RC's and descriptive RC's reduces to a contrast between S-level and I-level modification in the sense of Larson 1998. And again,

there is a structural difference that correlates with this interpretive contrast. While S-level RC's (RRC's) precede the determiner, I-level RC's (DRC's) follow the determiner indicating that they are associated with a lower position. This is illustrated in (47).

(47) Chinese

a. **RRC D DRC N**

[_{RC}Zuotian meiyou lai de] na-ge [_{RC}hen xihuan shang ke de]
yesterday not come de that-cl very like go class de
...xuesheng jiao Zhangsan.

...student call Zhangsan

‘The student who didn’t come yesterday who likes to come to class very much is called Zhangsan.’

b. ***DRC D RRC N**

*[_{RC}Hen xihuan shang ke de] na-ge [_{RC} zuotian meiyou lai de]
very like go class de that-cl yesterday not come de
...xuesheng jiao Zhangsan.
...student call Zhangsan

del Gobbo 2005

Finally, a similar contrast has been reported for the Athabaskan languages Dëne Sųłiné & Tł'cho Yatiì in Saxon & Wilhelm 2010. In both languages RRC's follow the head noun. In contrast, when an RC serves to characterize an entity, it precedes the head noun. The latter construction is illustrated in (48) and (49).

(48) Dëne Sųłiné

[tsádhëth kanjdhëni] dëné
beaver.furseek.nom person.pns
trapper' (lit. ‘fur-seeking person’)

(49) Tł'cho Yatiì

[yet'à edaa] soòmbaà
3.with live.nom money.pns
‘the money that she lives on

According to Saxon & Wilhelm 2010, this construction is a productive way of creating new words. As such it is common in dictionaries where lexicalized, conventionalized instances are recorded.

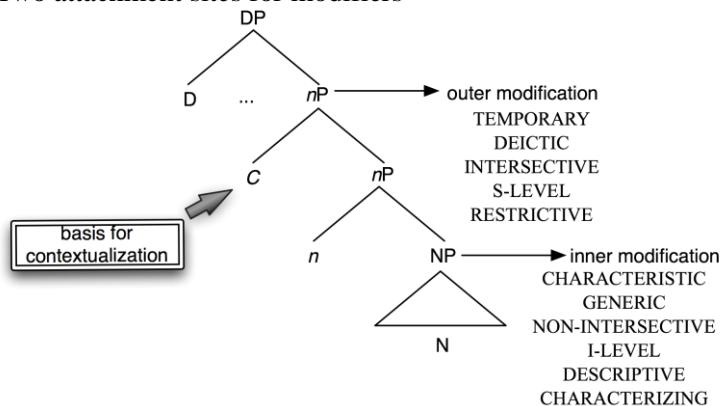
We have now reviewed a number of instances where a difference in the structural position of a modifier (adjectival or RC) correlates with a semantic difference. These differences are summarized in table 6.

Table 6. Semantic differences between outer and inner modifiers

outer	inner
TEMPORARY	CHARACTERISTIC
DEICTIC	GENERIC
INTERSECTIVE	NON-INTERSECTIVE
S-LEVEL	I-LEVEL
RESTRICTIVE	DESCRIPTIVE
RESTRICTIVE	CHARACTERIZING

On the analysis proposed in (5), repeated below, the structural difference leads to these interpretational differences as follows. Modifiers that are introduced below *nP* (ie., at *NP*) cannot access contextual information. Consequently, they cannot be temporary, deictic, or intersective. These types of modifiers require contextualization. Since the temporary modifier is episodic, it requires contextual information; deictic modifiers similarly require access to contextual information; and finally intersective modification requires access to contextual information to create the set of alternatives. By hypothesis, the same holds for S-level as well as restrictive modifiers. In contrast, the modifiers that are introduced below *nP* and which cannot access contextual information must be interpreted either as characteristic, generic, or non-intersective modifiers. Since I-level predicates can by definition not be restrictive it follows that they pattern with non-intersective modification. By hypothesis, the same holds for descriptive and characterizing RC's. This is schematized in (50).

(50) Two attachment sites for modifiers

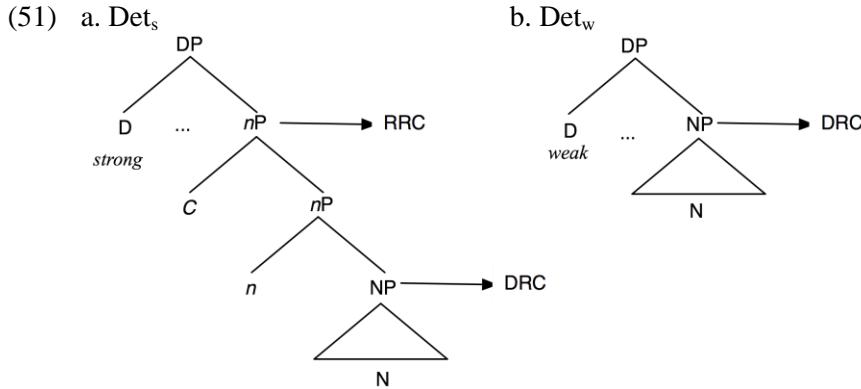


We have now seen that there is independent evidence for two sites of attachment for modification. The higher modifier position requires contextual information for interpretation, while the lower position does not. On the analysis

developed here the different sites of attachment correspond to *nP* and *NP*, respectively. Modifiers attaching to *nP* can access contextual information because *nP* hosts *C*, which I argue serves as the basis for contextualization. In contrast, the lower modifier position *NP* is not compatible with contextual information because *C* is not yet introduced.

4.2 Det_w cannot associate with RRC's: A structural account

The analysis developed so far allows us to understand the fact that DPs headed by Det_w cannot host RRC's but only DRC's. Recall the analysis of Det_w and Det_s developed in section 3.1. I have proposed that Det_w selects for *NP*'s rather than *nP*'s. As such they lack the basis for contextualization. In contrast, Det_s selects for *nP* and is therefore compatible with discourse contextual information (such as deixis, anaphora, and contextually determined sets of alternatives). In combination with the analysis of RC's I have proposed above, we can now derive the distribution of RC's. Det_s is compatible with both types of positions and thus with RRC's and DRC's. In contrast Det_w is only compatible with DRC's since it lacks the position which hosts RRC's (*nP*). This is schematized in (51).



We have now developed a simple analysis for the incompatibility of Det_w with RRC's: it simply lacks the functional layer (*nP*) required for restrictive modification. In particular, RRC's are used to eliminate potential discourse referents. Consequently, they require a set of alternatives of other individuals satisfying the property denoted by *N* which are potential candidates for discourse referents. On the analysis developed here, *C* is required for this contextually constraint set of alternatives, and since *C* is associated with *nP*, RRC's require *nP*.

4.3 Accounting for the differences between RRC and DRC

So what does this analysis have to say about the differences between RRC and DRC, which are summarized in table 7.

Table 7. Differences between RRC and DRC

	function	extraposition	intonation	introduced by
RRC	integral	□	2 MajorP	(d) w
DRC	descriptive	□	1 MajorP	(*d) w

We have already seen why there is a difference in function. DRC's cannot serve to restrict the reference, since restrictive modification requires a basis for contextualization (C in our analysis), which is absent in DRC's. What about the other properties that differentiate RRC's from DRC's. While I don't have a detailed analysis for the impossibility of DRC's to extrapose, I suspect that this is prosodically conditioned. In particular, we have seen that a DRC forms one major phrase with its head. Suppose that this is in fact a requirement for DRC's. If so, the impossibility for extraposition is derived: linear adjacency is a necessary condition for the formation of a major phrase.

Finally, we turn to the difference in what may serve to introduce the RC. RRC's can be introduced by a relative pronoun and the complementizer *wos* whereas DRC's do not allow for relative pronouns but are instead limited to the use of the complementizer *wos*. I propose that the incompatibility of DRC's with full relative pronouns has to do with the syntax of relative pronouns. In particular, I follow Wiltschko 1998 in assuming that relative pronouns contain an elided NP, as in (52). In other words, I adopt a matching analysis for RC's (Sauerland 1998, 2002).

- (52) Relative pronoun [DP der_s Ø_{nP}]

Wiltschko 1998

Since elided constituents are inherently anaphoric (Williams 1997) we predict that the elided nominal complement must be *nP* rather than *NP*. This follows from our assumption that *NP* cannot be anaphoric. It thus follows that the antecedent of the elided *nP* must also be an *nP*, but this is precisely the projection which is absent in the head of a DRC: weak determiners select for *NP*, not *nP*.

This analysis predicts that only Det_s but not Det_w can function as a relative pronoun because only Det_s allows for nP , which is necessary to establish the anaphoric relation.⁷ This prediction is borne out as shown in (53).

- (53) a. dea Briaftroga, **dea/*da** (wos) bei uns austrogt
 det_s mailman det_s/det_w comp at us delivered

⁷ See Wiltschko 1998 for additional reasons.

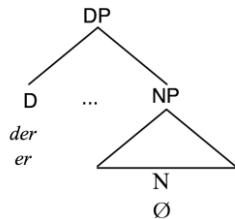
- 'the mailman who delivers our mail'
- b. die Münch, **die/*d** (wos) d gestan kauft host
 det_s milk det_{s/d_w} comp you yesterday bought have.2sg
 'the milk you bought yesterday'
 - c. des Auto, **des/s** (wos) si da Hons kauft hot
 det_s car det_{s/det_w} comp refl det_w Hans bought has.3sg.
 'the car John bought'

In fact, as expected on the present analysis, it is a general property of Det_w that it cannot be used as a pronominal form because it doesn't license an elided nominal complement. This is shown in (54).

- (54) a. *Gestan is {da/d/s} kumma
 yesterday is det_{w,masc/fem/neut} come
 b. Gestan is {dea/die/des} kumma
 yesterday is det_{s,masc/fem/neut} come
 'Yesterday, he/she/it came.'

Note that Wiltschko's 1998 analysis of pronominally used definite determiners (i.e., Det_s with an elided nP complement) is generalized in Elbourne 2005 for all pronouns, including personal pronouns. Accordingly, the proper syntactic representation for personal pronouns like *er* ('he') and d-pronouns like *der* would be the same, as shown in (55).

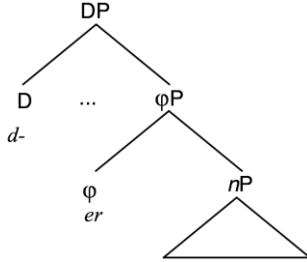
(55) Elbourne's 2005 analysis of pronouns



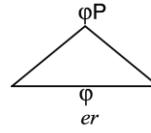
This contrasts with Wiltschko's 1998 analysis according to which only D-pronouns contain a D position with an elided NP, while personal pronouns are φPs lacking an NP complement, as in (56).

- (56) D-pronouns vs. personal pronouns (Wiltschko 1998)

a. D-pronoun



b. personal pronoun



Note that on Elbourne's analysis, there is no principled reason as to why d-pronouns but not personal pronouns can function as relative pronouns.

- (57) a. Der Mann, **der/*er** gekommen ist.
 the man det/pron come is
 'the man who came'

Since both types of pronouns have the same syntactic structure, they should also have the same distribution, contrary to fact. Wiltschko's 1998 analysis, however, derives this contrast from the presence vs. absence of an elided NP complement.

Further evidence against a generalized DP+elided NP analysis for pronouns comes from the fact that only personal pronouns but not d-pronouns can be bound (Wiltschko 1998, Déchaine & Wiltschko 2002).

- (58) Jeder Mann glaubt dass ***der_i/er_i** stark ist.
 every man believes that *det/pron strong is
 'Every man believes he is strong.'

In sum, I have shown that we can derive the inability of Det_w (as well as personal pronouns) to function as relative pronouns: neither Det_w nor personal pronouns are associated with an elided nP, which is however a prerequisite to establish an anaphoric dependency. As a consequence, we have to reject Elbourne's 2005 generalized D+elided NP structure for pronouns.

5 Previous analyses

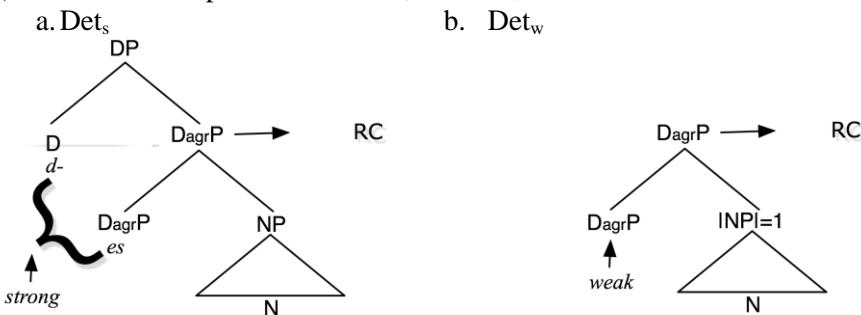
On the proposal developed here, the difference between Det_s and Det_w is couched in terms of their selectional properties: Det_s selects for nP while Det_w selects for NP and as such lacks the basis for contextualization and the layer for outer

modification. This contrasts with the syntactic analysis of Brugger & Prinzhorn (1996) according to which the two determiners differ in the position they occupy (section 5.1). It also contrasts with a syntactic analysis developed in Leu 2008 for the definite vs. demonstrative use of German determiners (section 5.2). Finally, I will also compare the present analysis with a recent semantic analysis developed in Schwarz 2009 (section 5.3).

5.1 Brugger & Prinzhorn 1996

According to Brugger & Prinzhorn 1996 (henceforth B&P), Det_w and Det_s are associated with two different syntactic positions. In particular, they propose that Det_s is syntactically complex in that it associates with both the head of DP and the head of a determiner agreement position (D_{agr}). In contrast, Det_w is analyzed as syntactically simplex associating with the lower position (D_{agr}) only. This is shown in (59).

(59) Two different positions for Det_s and Det_w



The uniqueness condition associated with Det_w stems from a restriction that it places on its NP complement. Namely, it requires for the cardinality of NP to equal 1 in D (as schematized in (59)b).

On this analysis, the reason for the inability of Det_w to license an RRC is as follows. They argue that all RC's associate with $\text{Det}_{\text{agr}}P$. The interpretation of the RC depends on which determiner is used. In the case of Det_s , the RC is in a position where it is within the scope of the determiner. As a consequence, the RC is interpreted as a common noun modifier in the sense of Partee 1975, i.e., it functions as an RRC. In contrast, in the case of Det_w , the RC is in a position where it takes scope over the entire DP, and is thus interpreted as a term modifier, i.e., it functions as an ARC. Thus, according to this analysis, it is the position of the determiner that differs (D vs. D_{agr}) whereas the RC is always associated with the same position. This differs from the analysis developed here according to which it is the position of the RC that differs (NP vs. *nP*) along with

the selectional requirements associated with weak and strong determiners. The syntactic position of the two determiners however is identical on my analysis.

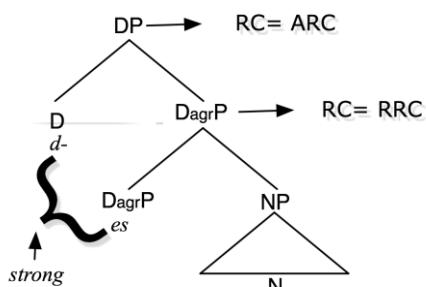
It is the purpose of this subsection to compare the two analyses. I show that the analysis proposed here has advantages over the one proposed by B&P.

First, as Schmitt 2006 points out, Det_s is compatible with ARC's, as shown in (60). This is unexpected on the analysis in B&P because anytime a strong determiner is used the RC will be in its scope and should therefore be restrictive.

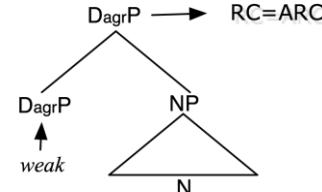
- (60) a. des Buach des (was) da Chomsky gschriem hat...
 det_s book det_s comp det_w Chomsky written has
 'The book Chomsky wrote....'
- b. des Buach des (was) da Chomsky gschriem hat...
 det_w book det_s comp det_w Chomsky written has
 'The book Chomsky wrote....'

On the basis of these data, we must conclude that B&P will have to assume at least two distinct positions for RC's: $D_{\text{agr}}P$ and DP. In the case of Det_s these two positions are available allowing for RRC's associated with $D_{\text{agr}}P$ as well as ARC's associated with DP ((61)a). In contrast, in the case of Det_w , only $D_{\text{agr}}P$ is available. However, since in this position RC is above Det_w it follows that it must be interpreted as a term modifier i.e., it functions like an ARC ((61)b).

(61) a. Det_s



b. Det_w



In sum, the B&P analysis minimally has to incorporate the existence of a second position for RC's. In addition, I have shown that DP's introduced by Det_w allow modification by an RC which is not appositive. Moreover, we have seen evidence that DRC's occupy a position lower than RRC's. This suggests that the B&P analysis has to be further accommodated to allow for DRC's; presumably by allowing RC modification of NP. Thus, the analysis of RC's has to incorporate distinct positions for different types of RC's, just like the one

developed here. As such it is not more economical than the analysis developed here.

The question remains as to whether we have to incorporate two distinct syntactic positions for the two distinct determiners. In other words, is there independent evidence that would require us to revise our analysis? One of the crucial pieces of evidence for B&P are the extraction facts discussed in section 3.1. (example (25)). Recall that these facts can equally be captured by the analysis developed here: Det_s selects for nP , which functions as a phase and therefore does not allow for subextraction.

In what follows, I show that the analysis according to which the two determiners occupy two distinct syntactic positions makes incorrect predictions for the morphology of the determiners. Consider again the paradigms of Det_s and Det_w , respectively. It is true that strong determiners are morphologically complex, as predicted by the B&P analysis: all strong determiners have an initial *d*-, which B&P analyze as associating with D. It is also true that the remainder of the determiner can be analyzed as agreement morphology (see also Wiltschko 1998).

Table 8. Strong determiners are morphologically complex

Det_s	M.SG	FEM.SG	NEUT.SG
nom	<i>d-ea</i>	<i>d-ie</i>	<i>d-es</i>
acc	<i>d-en</i>	<i>d-ie</i>	<i>d-es</i>
dat	<i>d-em</i>	<i>d-ea</i>	<i>d-em</i>

On the B&P analysis we would expect that all weak determiners have the form of these agreement endings. In other words, we would expect that Det_w can be derived by subtracting the *d*- morpheme from Det_s . Thus, we expect the paradigm given in the left half of table 9, which crucially differs from the existing paradigm, given in the right half of table 9.

Det_w	PREDICTED PARADIGM			EXISTING PARADIGM		
	M.SG	FEM.SG	NEUT.SG	M.SG	FEM.SG	NEUT.SG
NOM	<i>ea</i>	<i>ie</i>	<i>es</i>	<i>da</i>	<i>d</i>	<i>(ə)s</i>
ACC	<i>en</i>	<i>ie</i>	<i>es</i>	<i>(ə)n</i>	<i>d</i>	<i>(ə)s</i>
DAT	<i>em</i>	<i>ea</i>	<i>em</i>	<i>(ə)m</i>	<i>da</i>	<i>(ə)m</i>

Table 9: weak determiner paradigm

In comparing the predicted with the existing paradigm, we can identify two problems. First, there are some existing Det_w which spell out the *d*- morpheme rather than the agreement morphology (feminine nominative and accusative forms). And there are some existing Det_w which spell out *d*- plus a reduced form

of the agreement ending (*da* for masculine nominative and feminine dative). These unexpected forms are set in boldface in table 10.

Second, the vowel we find in the agreement morphology differs from the one in the weak determiner. Consequently the form of the determiner is not predictable on the basis of a morpho-syntactic decomposition. Take for example the neuter form. On Det_s , the agreement morphology is formed with a full vowel /e/ while on Det_w it is formed with schwa /ə/ if there is a vowel present at all (i.e., the presence of schwa is optional, indicated by the brackets in table 10).

In sum the morpho-syntactic decomposition of strong determiners does not predict the correct morphology of weak determiners.

But how does the analysis developed in section 3.1 fare in light of these facts? Since the two determiners occupy the same position (D), no morpho-syntactic decomposition is possible. Thus, we have to conclude that the morphological weakening of the determiner is phonologically conditioned. And in fact there is a straightforward phonological rule that can derive the observed forms. In particular, Det_w can be derived from Det_s by means of the rule in (62).

- (62) Det_w spells out the coda of Det_s if there is one, otherwise Det_w spells out the onset of Det_s .

Thus, there is no morpho-syntactic evidence that the two determiners differ in their morpho-syntax. Instead, they differ in their phonology such that Det_w is derived from Det_s . The fact that Det_w is derived from Det_s by means of a phonological rule is expected on the analysis that they occupy the same syntactic position. It would however be an unexpected accident on the analysis according to which Det_s is syntactically more complex than Det_w .

Finally, the 3rd assumption that differentiates the B&P analysis from the one developed here has to do with the way the uniqueness condition is derived. B&P posit an explicit constraint placed on the complement NP, namely that its cardinality be equal to 1 in the domain of discourse. In contrast, under my analysis, the uniqueness condition is a byproduct of the inability to contextualize: no contextual information can be supplied to determine the discourse referent. There are two contexts of use compatible with DP's whose referent cannot be determined by the discourse context. i) The *generic use*: All individuals with the property denoted in N are referred to. ii) The *unique use*. If there is only one individual that satisfies the property denoted by N in the world of discourse then automatically all individuals in the world of discourse are referred to.

Evidence that Det_w cannot be associated with a constraint on the cardinality of NP comes from the fact that it may co-occur with plural nouns, as shown in (63).⁸

- (63) D' Gösn san heit wieda lästig
 det_w mosquitos are today again annoying
 ‘The mosquitos are annoying again today.’

In sum, the syntactic analysis proposed by B&P runs into several problems. First, it makes the wrong predictions for the distribution of ARC's and therefore needs to incorporate the assumption that different RC's attach at different layers of the functional projection. Second, it makes the wrong predictions for the morphological form of Det_w . And third, the possibility for plural NP complements is unexpected.

5.2 Leu 2008

Leu 2008 explores the morpho-syntax of definites and demonstratives in a variety of languages (Germanic and beyond) but with special emphasis on Swiss German. He starts with two interrelated observations. First, in several languages (including German) the demonstrative is homophonous with the definite determiner. The difference between the two forms is in terms of stress: on the demonstrative reading the determiner is stressed (64)a, while on the definite reading stress falls on the noun (64)b.

- (64) *Standard German*
- | | |
|--------------------------------|---------------|
| a. dér Tisch | DEMONSTRATIVE |
| det.masc table | |
| ‘the table’ | |
| b. der Tísch | DEFINITE |
| det.masc table | |
| ‘the table’ (Leu 2008: 15 (3)) | |

The second observation has to do with the interaction between the determiner and adjectives. Consider the examples in (65) from Norwegian. The suffixal determiner is used with unmodified nouns and receives a definite interpretation (65)a. In the presence of an adjective, the pre-nominal determiner

⁸ Note that we have to assume that NumP must be transparent for the type of nominal complement (*nP* vs. *NP*). That is, even though NumP intervenes, D must still have access to select the categorial identity of the nominal complement. That such a mechanism is independently needed is argued in Grimshaw 1991 and forms the basis for the concept of an *extended projection*.

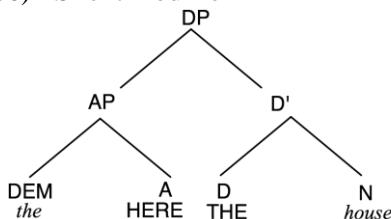
is used. In this case, the determiner may but need not be interpreted as a demonstrative (65)b. Finally, in the absence of an adjectival modifier, the prenominal determiner must be interpreted as a demonstrative (65)c.

(65) *Norwegian*

- | | |
|--------------------------|--------------------------|
| a. hus-et | DEFINITE |
| house-DEF | |
| b. de-t svarte hus-et | OPTIONALLY DEMONSTRATIVE |
| that/the black house-DEF | |
| c. de-t hus-et | OBLIGATORY DEMONSTRATIVE |
| that house-DEF | |

Leu interprets this pattern as follows. Suppose the use of the prenominal determiner always indicates the presence of an adjectival modifier. If so, the use of the prenominal determiner in (65)b would indicate the presence of such an adjectival modifier. Leu 2008 proposes that this is indeed the case and posits a silent modifier with deictic force (HERE; following work by Kayne, capitalization indicates silence), as schematized in 0. According to this structure, the prenominal determiner occupies a phrasal position within a constituent headed by an adjective (either overt or covert). This structure is in line with research which treats demonstratives as (adjectival) phrases (Dryer 1992, p.120ff, Delsing 1993, chapter 4.3), Chomsky 1995, p.338, Bernstein 1997, p.93, Elbourne (2005 p.4, Julien 2005 among others). Note that to make this work, Leu 2008 has to assume a determiner position D, which in English is occupied by a silent determiner (THE) but which in Norwegian is spelled out in the form of the determiner which suffixes onto the noun (cf. (65)). Thus on this analysis double definiteness is expected.⁹

(66) Silent modifier



⁹ The analysis developed here does not necessarily predict the existence of double definiteness. It is however interesting to note that according to Julien 2003, the suffixal determiner is generated in *n*. If so, double definiteness cannot be taken as evidence for two determiner positions.

While the contrast Leu 2008 seeks to capture is different from the one I am interested here there are nevertheless important parallels that deserve attention.

Consider the contrast between the two types of determiners. The contrast I am considering is between anaphoric/deictic determiners (Det_s) and determiners used for situationally unique or non-referential determiners (Det_w). The contrast Leu 2008, is considering is between (deictic) demonstratives (phrasal adjectives) and simple definites. That these two contrasts cannot be reduced to one can be seen on the basis of the fact that Austro-Bavarian has both contrasts. That is, there are in fact three types of determiners. In addition to Det_w and Det_s , we also observe a contrast between stressed and unstressed Det_s . The former is mostly used as a (deictic) demonstrative while the latter is used in anaphoric contexts (i.e. as a definite).

- (67) a. Dea Schnóps is teia woan.
 Det_s Schnaps is expensive become
 ‘The Schnaps got expensive.’
- b. Déa Schnops is teai woan.
 det_s Schnops is expensive become
 ‘This Schnaps got expensive.’

Note that the presence or absence of deictic force is not the only difference between stressed and unstressed Det_s . Stress on Det_s is associated with contrastive focus and consequently introduces a contrast set. Thus, the sentence in (67)b is only felicitous in a context where other types or bottles of Schnaps are under consideration.

Since Leu 2008 builds the deictic component into the stressed determiner we expect it to be the basic (and stable) reading. However, this is not the case. There is a non-deictic use of stressed Det_s as shown in (68).

- (68) Context: *A and B are having a discussion about mailmen. A complains that all mailmen are lazy and that they bring the mail really late in the day. B objects:*
DEA Bräftroga dea wos bei UNS austrogt kummt imma pünktlich.
 det mailman pron comp at us delivers comes always on.time
 ‘The mailman who delivers in our neighbourhood is always on time.’

The use of a stressed non-deictic determiner requires a modifier, in this case a restrictive relative clause. Crucially, this type of determiner still requires a contrast set. In (68), the contrast is specified by the relative clause, which itself must contain a contrastively stressed element (UNs in (68)). This is responsible for the special intonation associated with this type of clause, which is known as the *hat contour* (see Bühring 1997).

Note for completeness that on the analysis developed here we predict that descriptive relative clauses cannot contain focus which would specify a contrast set. This is because contrast sets require C which is not available with Det_w . This prediction is borne out as shown in

- (69) #da Brieaftroga wos bei UNS austrogt is in pension
 det mailman pron comp at us delivers comes always on.time
'The mailman who delivers in our neighbourhood is always on time.'

Given that contrastive stress always introduces a contrast set it is not obvious that we need a special syntax or semantics for stressed Det_s that goes beyond the syntax and semantics we need for contrastive focus (Rooth 1985, Bühring 1997).

5.3 Schwarz 2009

Schwarz 2009 proposes a detailed semantic analysis of the two definites in German within the framework of situation semantics (Kratzer 2007). Before I compare his analysis with the one developed here, a few words are in order about the empirical domain.

5.3.1 Contracted $P+\text{Det}_w$ differs from Det_w

Schwarz investigates the use of Det_w in Standard German, where it is limited to contexts immediately following a preposition. In such contexts Det_w forms a unit with the preposition. Crucially, however, in formal registers, contraction is only available with a limited set of prepositions and definite articles in certain case and gender-marked forms. Citing the Duden Grammar of German (Eisenberg, Gelhaus, Henne and Wellmann 1998, p. 323) Schwarz 2009 lists the following prepositions as allowing contractions (see also Hartmann 1978, Hartmann 1980, Haberland 1985, Cieschinger 2006, Waldmüller 2007).

- (70) an, auf, bei, durch, für, hinter, in, neben, über, um, unter, von, vor, zu

Consider for example (71). While the sentence in (71)a is compatible with a context in which there is more than one house salient in the context and the definite anaphorically, or deictically picks out one particular house, the sentence in (71)b is only felicitous if there is only one house salient in the discourse context. As such the contracted determiner appears identical to Det_w examined thus far.

- (71) a. Hans ging zu **dem** Haus.
 H. went to det_s house
 ‘Hans went to the house.’
 b. Hans ging **zum** Haus.
 H. went to.det_w house
 ‘Hans went to the house.’

According to most treatments of the two different types of determiners, the determiner which appears contracted to the preposition in Standard German is treated on par with the weak determiners which are restricted to colloquial speech and dialects. Consider in this respect Schwarz' 2009 reference to Schaub 1979, who notes that colloquial speech in many dialects allows a far wider range of contracted forms. On the one hand, there are more preposition-determiner contractions possible. On the other hand, reduced forms in spoken language of the definite article also appear after words of other category types, e.g., after auxiliaries (72)a, complementizers (72)b, and pronouns (72)c.

- (72) a. Ich hab's Fahrrad vergessen.
 I have=det_w bike forgotten
 ‘I have forgotten the bike.’
 b. Peter ist sauer weil's Zimmer so klein ist.
 Peter is mad because=det_w room so small is
 ‘Peter is mad because the room is so small.’
 c. Hans hat mir erzählt dass er's Haus verkauft hat
 H. has me told comp he=det_w house sold has.
 ‘Hans told me that he has sold the house.’

Schwarz 2009: 17 (13)

The determiner in contracted preposition+determiner forms can however not be equated with Det_w elsewhere. While it is certainly the case that the context of use for contracted preposition+determiner forms parallels that of weak determiners, they differ in their morphological and prosodic properties. Consider first the contraction of dative determiners with the preposition *zu*. While the masculine and neuter forms are indeed identical to the contracted form elsewhere (73)a-b, this is not the case for feminine forms (73)c. Here the contracted form is *-r* which cannot be used elsewhere. Instead, Det_w is *da*.

- | (73) | P+D_{DAT} | D_{w,DAT} |
|---------|---|--|
| a. MASC | I bin zum Hund hi
I am to-det _w dog there.to
‘I went to the dog.’ | I hob m Fronz a Buach gem
I have det _w Fronz a book given
‘I gave Franz the book.’ |

- b. NEUT I bin **zum** arbeiten da
 I am to-det_w work dog
 'I'm here to work.'
- c. FEM i) I bin **zur** Schui hi
 I am to-det_w school there.to
 ii) I bin **zu da** Schui hi.
 I am to det_w school there.to
 'I walked to the school.'
- I hob **m** Kind a Buach gem
 I have det_w child a book given
 'I gave the child the book.'
- *I hob **r'Maria** a Buach gem
 I have det_w Maria a book given
 I hob **da** Maria a Buach gem
 I have det_w Maria a book given
 'I gave Mary the book.'

Moreover, not all prepositions allow for contraction with all determiners. For example, the preposition *in* can contract with the masculine dative determiner to form *im*; and in this case the contracted form is the same as Det_w elsewhere (i.e., *m*). However, the feminine determiner does not participate in this contraction. In particular, given the pattern we have observed with *zu* in (73), we would expect the contracted form with the feminine determiner to surface as *ir*. That is, just like *zu + der = zur*, we would expect *in + der* to surface as **ir*, which is however unattested. Instead the regular Det_w is used in the dialect, while no special form is available in Standard German

(74)		P+D_{DAT}		D_{w,DAT}
a. masc		I bin im Keller		I hob m Fronz s'Buach gem
		'I am in the cellar.'		'I gave Franz the book.'
b. fem		*I bin ir Kich.		*I hob r'Maria a Buach gem
		I bin in da Kich		I hob da Maria a Buach gem
		'I am in the kitchen.'		I gave Mary the book.'
		in + der = *ir		

The morphological differences between the contracted determiners and Det_w elsewhere are summarized in table 9. In the dialect investigated here, Det_w is available for all determiners independent of gender and case. In contrast, the form of the determiner contracted to the preposition in Standard is not always the same as Det_w and it is not available across all genders and not for all prepositions.

Table 9. Det_w vs. P-D contraction

Det _w	DET _w FORM			CONTRACTED FORM		
	M.SG	FEM.SG	NEUT.SG	M.SG	FEM.SG	NEUT.SG
ACC	% <i>(i)n</i>	% <i>od</i>	% <i>s</i>	<i>in</i>	% <i>inn</i>	% <i>ind</i>
DAT	% <i>(i)m</i>	i% <i>da</i>	% <i>(i)m</i>	<i>in</i>	<i>im</i>	--
				<i>zu</i>	<i>zum</i>	<i>zur</i>
						<i>zum</i>

Finally, there are also prosodic differences between the determiner contracted to the preposition and Det_w elsewhere. In particular, contracted forms must encliticize (i.e., they must form a phonological word with the preposition) as in (75)a. They can however not pro-cliticize (i.e., form a phonological word with the following word), as in (75)b.. In contrast, Det_w may either encliticize to the preceding word (76)a or pro-cliticize to the following word (76)b.

- (75) P+ DET_w
 - a. I bin **zu'm** Haus gegangen *encliticization*
I am to-det_w house walked
'I want to the house.'
 - b. *I bin zu **m'Haus** gegangen *procliticization*
I am to det_w-house walked

- (76) DET_w
 - a. I **hob'm** Fronz a Buach gem *encliticization*
I have-det_w Franz a book given
'I gave Franz a book.'
 - b. I hob **m'Fronz** a Buach gem *procliticization*
I have det_w-Franz a book
'I gave Franz a book.'

This establishes that determiners contracted with prepositions in Standard German, cannot be equated with the weak determiners explored in this paper (contra Schwarz 2009, Waldmüller 2007).

5.3.2 The semantics of Det_w vs. Det_s

The basic insight behind Schwarz' 2009 analysis is to make use of the notion of *domain restriction*, couched within the framework of situation semantics (in particular, the version presented in Kratzer 2007). In particular, Schwarz argues that determiners introduce a *situation pronoun* (which takes the place of the domain restriction in the sense of Westerståhl 1984). On this analysis the context of use for Det_w depends on the options for interpreting the situation pronouns they introduce. In particular, “*situation pronouns can stand for a contextually salient situation (by receiving a value via the assignment function), be identified with the topic situation (via a Σ -binder below topic), or be bound by a quantifier over situations*” (Schwarz 2009: 75). The uniqueness requirement associated with Det_w is analyzed as a presupposition (i.e., Schwarz adopts a Fregian approach towards definiteness). To account for the difference between Det_s and Det_w , he postulates for Det_w an additional index argument that introduces an individual variable (which is itself associated with a familiarity condition; see Heim 1982).

As such this index argument is responsible for the ability of Det_s to be used anaphorically. This amounts to building a (phonologically null) pronominal element into strong-article definites (see also Elbourne (2005) and Neale (2004) along with an identity function. In sum, Schwarz' 2009 lexical entries for Det_s and Det_w are given in (77)a and b, respectively. Both entries have a situation pronoun (s_r) while only Det_s has an additional individual variable (y) responsible for anaphoric uses.

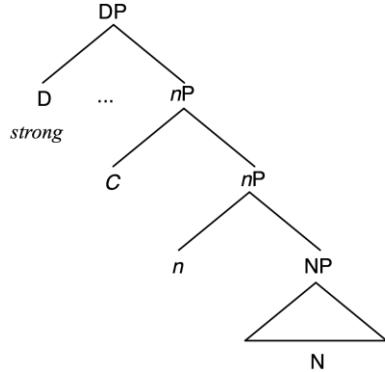
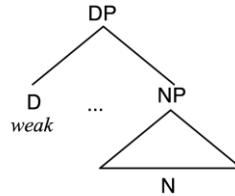
- (77) a. $\text{Det}_s: \lambda s_r \lambda P. \lambda y. ix.P(x)(s_r) \& x=y$
 b. $\text{Det}_w: \lambda s_r. \lambda P. ix.P(x)(s_r)$

We are now in a position to explicitly compare Schwarz' 2009 semantic analysis with the one developed here. Crucially, Schwarz claims that both the situation pronoun associated with both determiners as well as the individual variable associated with Det_s are represented syntactically (in the form of covert abstract pronouns). In his account situation pronouns replace the classic C-variables responsible for domain restriction on quantifiers (Westerstahl 1984, van Fintel 1994).

Let us assume that what I have called the basis for contextualization (C) corresponds to the situation pronoun in Schwarz' analysis. If so, there are two non-trivial differences between Schwarz and my analysis. First, I have argued that DP's containing Det_s only, but not DP's containing Det_w are associated with C, while Schwarz argues that situation pronouns are associated with both Det_s and Det_w . Secondly, on my account, C is associated with nP while Schwarz argues that the situation pronoun is directly associated with the determiner position.¹⁰ This is schematically represented in (78) and (79) respectively and summarized in table 10.

¹⁰ Schwarz 2009 is not explicit about the syntactic position of the situation pronoun or the anaphoric index variable. For concreteness, I assume that both of them are associated with the specifier of DP, rather than the head D. This is consistent with their pronominal status which implies phrasal syntax, which is only compatible with the specifier position and not with the head position.

(78) Present proposal

a. Det_s b. Det_w 

(79) Schwarz' 2009 proposal

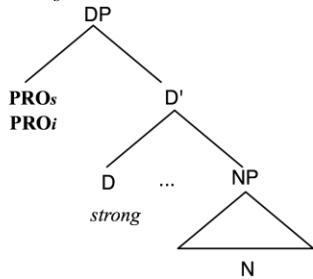
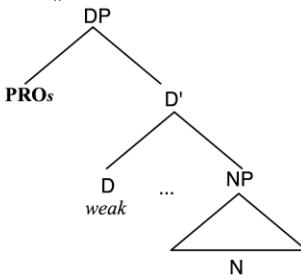
a. Det_s b. Det_w 

Table 10. Schwarz 2009 vs. this paper

	Schwarz 2009	present proposal
C present in DP headed by Det_w	□	□
C present in DP headed by Det_s	□	□
locus of association of C	D	n

Let me briefly point out some advantages of the present analysis in which Det_w lacks the basis for contextualization (C or PRO_s). First, on my account nothing special has to be said about the generic or idiomatic use of Det_w . It is precisely the absence of contextual restriction which is responsible for a generic interpretation of DP's. Similarly, the idiomatic interpretation of Det_w is one in which no contextual restriction is available: in this case it doesn't even involve reference to a particular individual.

Another piece of evidence suggesting that Det_w may not be associated with contextual restriction (in the form of a situation pronoun) stems from the following consideration. Kratzer 2004 suggests that in German dialects (including Bavarian), situation pronouns may be overtly spelled out in the form

of *da*. She gives the following examples (among others) from a Bavarian TV-show.

- (80) a. Wirst doch net streiten wegen [[den zwei Billietten] **da**]
 will.2sg prt not fight because det_s two tickets da.
 ‘You won’t fight over the two tickets, will you?’
- b. Des wean sich saudumm anhör’n wenn
 That would refl. real.stupid sound if
 ... [[die Wölfe] **da**] zwitschern würden.
 .. the wolves da chirp would
 ‘That would really sound stupid if the wolves chirped.’

From Kratzer 2004

Suppose *da* does indeed spell out the situation pronoun associated with DP’s. If so, we can use it as a test to distinguish between Schwarz’ 2009 analysis of Det_w and mine. Schwarz 2009 analysis predicts that *da* is possible with DP’s headed by Det_s as well as DP’s headed by Det_w. In contrast, the analysis developed here predicts that *da* should not be possible with DP’s headed by Det_w, but only with DP’s headed by Det_s. As shown below, the analysis here makes the right predictions: *da* is possible with DP’s headed by Det_s but not with DP’s headed by Det_w.

- (81) a. I hob in [[dem Wörtabuach] **do**] nochgschaut.
 I have in det_s dictionary DA looked
 Anaphoric: ‘I looked in that very dictionary.’
 Deictic: ‘I looked in this dictionary here.’
- b. *I hob [[im Wörtabuach] **do**] nochgschaut.
 I have in.det_w dictionary DA looked
 ‘I looked in the dictionary.’
- (82) a. [[Die sun] **do**] is heit wieda hass.
 det_{strong} sun DA is today again hot.
 ‘The sun here is hot again.’
- b. [[D’ sun] (***do**)] is heit wieda hass.
 Det_w sun DA is today again hot.
 Intended: ‘The sun is hot again.’

If DPs headed by Det_w are not associated with a situation pronoun, then we correctly expect that *da* cannot spell it out overtly.

Next we turn to the second difference between Schwarz’ 2009 analysis and the one developed here. This has to do with the locus of association of the situation pronoun: *D* in Schwarz’ analysis and *n* in the present analysis. Note that

Stanley & Szabo (2000) argue that domain restriction associates with nouns rather than with determiners. In what follows I show that the two main arguments that have been put forth against this idea do not apply to the particular implementation of the Stanely & Szabo idea developed in this paper, namely that domain restriction (in the form of C) is associated with *nP* (rather than with *NP*).

The first argument against Stanley & Szabo's claim that domain restriction is associated with nouns stems from Breheney (2003) and has to do with non-intersective (intensional) modifiers, like *fake*.

- (83) Every fake philosopher is from Idaho.

(Kratzer 2004)

Suppose the situation pronoun ranges over Americans. If so, the sentence in (83) may only get the interpretation in (84)a. However, if the domain restriction is associated with the noun itself, it is incorrectly predicted that the sentence would have the interpretation in (84)b.

- (84) a. Every American fake philosopher is from Idaho.
 b. Every fake American philosopher is from Idaho

Note, crucially however that Breheney's argument against C being associated with N does not equally apply to the analysis presented here. In fact, I have specifically argued that non-intersective modifiers are associated with *NP*, not *nP*, and therefore below the basis for contextualization (C).

Second, Gillon 2006 argues that in English, bare plural NP's are not associated with domain restriction. This is unexpected if nouns are indeed associated with domain restriction; it is however expected, if domain restriction is associated with the determiner position, which is absent in the case of bare plurals. However, on the present analysis, we may assume that bare NP's are indeed bare NP's with no *nP*. Therefore, Gillon's argument against associating C with NP does not necessarily carry over to the analysis presented here.

This concludes the comparison of the present approach to previous analysis of strong and weak determiners.

6 Conclusion

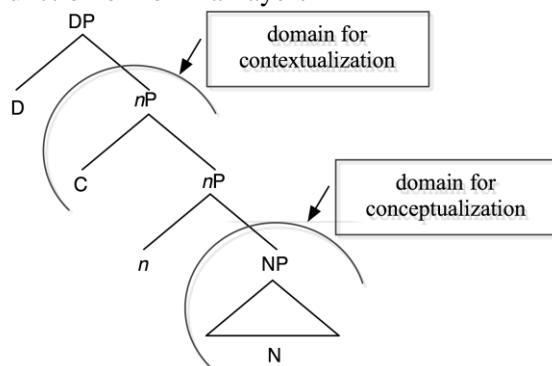
Starting with the standard assumption according to which restrictive relative clauses differ from appositive relative clauses in terms of their site of attachment (*NP* vs. *DP*, respectively), the core goal of this paper was to explore the possibility opened up by the explosion of functional projections within the nominal phrase. Is it possible to attach relative clauses at each of the functional

layers proposed in the literature, and if so, what semantic properties are associated with each of them?

Within this general question, we have explored the syntax and semantics of a particular type of relative clause which behaves neither like a restrictive, nor like an appositive relative clause. These are the so called descriptive relative clauses, which have been discussed mostly within the literature on Chinese (see del Gobbo 2005 for references). The main proposal I have developed here was that descriptive relative clauses attach at NP while restrictive relative clauses attach at *nP*.

An ideal testing ground to explore the difference between restrictive and descriptive relative clauses was provided by the Austro-Bavarian dialect of German. This dialect (like many other German dialects) has two distinct types of determiners: strong determiners can be used deictically, or anaphorically, while weak determiners are used for generics, idioms, non-referential DP's as well as in contexts where there is only one individual that satisfies the property denoted by N (i.e., situational *uniqua*). Since the latter context (situational uniqueness) is incompatible with restrictive modification, relative clauses associated with DP's headed by a weak determiner cannot be restrictive. To account for this difference I have proposed that strong determiners select for an *nP* complement while weak determiners select for NP. Since *nP* hosts C, which serves as the basis for contextualization, it follows that weak determiners cannot be used for referents whose identity has to be determined contextually (via anaphora, deixis, or restrictive modification). If the analysis developed here is on the right track, we may conclude that one of the core functions of *n* is to provide the basis for contextualization (in the form of C). Though the question remains as to what the precise syntactic and semantic properties of C are. This has to await future research. Moreover, given the properties associated with modification at the NP layer, we may conclude that NP serves as the basis for conceptualization (see Acquaviva 2009). This is illustrated in (85).

(85) Function of nominal layers



Acknowledgments

I wish to thank the audience at the Workshop on the syntax of relative clauses at the University of Victoria for valuable feedback.

References

- Abney, S. 1987. The English noun phrase in its sentential aspect. Doctoral Dissertation, Massachusetts Institute of Technology.
- Bernstein, J. 1997. Demonstratives and reinforcers in Romance and Germanic languages. *Lingua* 102:87–113.
- Bittner, M. & K. Hale. 1991. Ergativity. Towards a Theory of a heterogeneous class. *Linguistic Inquiry* 27:531–604.
- Bolinger, D. 1967. Adjectives in English: Attribution and predication. *Lingua* 18:1–34.
- Breheny, R. 2003, A lexical account of implicit (bound) contextual dependence, in R. B. Young and Y. Zhou (eds), *Proceedings of SALT XIII*, CLC Publications, Cornell University, Ithaca, NY, pp. 55–72.
- Brugger, G. & M. Prinzhorn. Some properties of German determiners. ms., 1996.
- Büring, D. 1997. *The Meaning of Topic and Focus: The 59th Street Bridge Accent*. Routledge, London.
- Chomsky, N. 1995. The minimalist Program. MIT Press, Cambridge, Mass.
- Cieschinger, M. 2006. Constraints on the contraction of preposition and definite article in German, B.A. Thesis, University of Osnabrück.
- de Vries, M. 2006. ‘The Syntax of Appositive Relativization: On Specifying Coordination, False Free Relatives, and Promotion,’ *Linguistic Inquiry* 37.2, 229–270.
- Déchaine, R.-M. & M. Wiltschko. 2002. Decomposing pronouns. *Linguistic Inquiry* 33:3, 409–442.
- Del Gobbo, F. 2005. Chinese relative clauses: Restrictive, descriptive or appositive? In Contributions to the XXX Incontro di Grammatica Generativa, ed. L. Brûge, G. Giusti, N. Munaro, W. Schweikert, and G. Turano, 287–305. Venezia: Cafoscarina.
- Delsing, L.-O. 1993. The Internal Structure of Noun Phrases in Scandinavian Languages. Doctoral Dissertation, Lund.
- Dryer, M. 1992. The Greenbergian word order correlations. *Language* 68:81–138.
- Ebert, K. 1971. Referenz, Sprechsituation und die bestimmten Artikel in einem Nordfriesischen Dialekt (Fering). PhD thesis, Christian-Albrechts-Universität zu Kiel.

- Eisenberg, P., Gelhaus, H., Henne, H. and Wellmann, H.: 1998, Duden. Grammatik der deutschen Gegenwartssprache, Dudenverlag, Mannheim.
- Elbourne, P. 2005. Situations and Individuals, MIT Press, Cambridge, MA.
- Emonds, J. (1979) "Appositive Relatives have no properties," *Linguistic Inquiry* 10, 211–243.
- Fabb, N. 1990. The difference between English restrictive and nonrestrictive relative clauses. *Journal of Linguistics* 26:57–78.
- von Fintel, K. 1994, Restrictions on Quantifier Domains, PhD thesis, University of Massachusetts Amherst.
- Gillon, C. 2006. *The Semantics of Determiners: Domain Restriction in Skwxwú7mesh*. PhD dissertation, University of British Columbia.
- Grimshaw, J. 1991. Extended projections. Ms. Rutgers University. Benjamins. 115-133
- Haberland, H. 1985. Zum Problem der Verschmelzung von Präposition und bestimmtem Artikel im Deutschen, Osnabrücker Beiträge zur Sprachtheorie 30, 82–106.
- Hartmann, D. 1967. Studien zum bestimmten Artikel in 'Morant und Galie' und anderen rheinischen Denkmälern des Mittelalters, Wilhelm Schmitz Verlag, Giessen.
- Hartmann, D.: 1978, Verschmelzungen als Varianten des bestimmten Artikels?, in D. Hartmann, H.-J. Linke and O. Ludwig (eds), Sprache in Gegenwart und Geschichte. Festschrift Für Heinrich Matthias Heinrichs., Böhlau, Köln, pp. 68–81.
- Hartmann, D.: 1980, Über Verschmelzungen von Präposition und bestimmtem Artikel. Untersuchungen zu ihrer Form und Funktion in gesprochenen und geschriebenen Varietäten des heutigen Deutsch, Zeitschrift für Dialektologie und Linguistik 47, 160–183.
- Hartmann, D. 1982. Deixis and anaphora in German dialects: The semantics and pragmatics of two definite articles in dialectal varieties, in J. Weissenborn and W. Klein (eds), Here and There: Cross-linguistic studies on deixis and demonstration, John Benjamins, Amsterdam, pp. 187–207.
- Hawkins, J. A. 1978. Definiteness and Indefiniteness, Croom Helm, London.
- Heim, I. 1982. The semantics of definite and indefinite noun phrases, PhD thesis, University of Massachusetts.
- Heinrichs, H. M. 1954, Studien zum bestimmten Artikel in den germanischen Sprachen, Wilhelm Schmitz Verlag, Giessen.
- Himmelmann, N. 1997, Deiktikon, Artikel, Nominalphrase: zur Emergenz syntaktischer Struktur, Niemeyer, Tübingen.
- Julien, Marit. 2005. Nominal phrases from a Scandinavian perspective. Amsterdam: John Benjamins.
- Julien, Marit. 2003. Double definiteness in Scandinavian. *Nordlyd* 31.1: 230-

244. [=Dahl, A.; Bentzen, K.; Svenonius, P. (eds.) Proceedings of the 19th Scandinavian Conference of Linguistics]
- Kratzer, A. 2004. Covert quantifier restrictions in natural languages, talk given at Palazzo Feltrinelli in Gargnano June 11 2004.
- Kratzer, A. 2007. Situations in natural language semantics, in E. N. Zalta (ed.), Stanford Encyclopedia of Philosophy, CSLI, Stanford
- Krifka, M. 2008. Basic notions of Information structure. *Acta Linguistica Hungarica*, Vol. 55 (3–4), pp. 243–276 (2008)
- Larson, R., and N. Takahashi. 2002. Order and interpretation in prenominal relative clauses. In MIT Working Papers in Linguistics 54: Proceedings of the Workshop on Altaic Formal Linguistics II, ed. Meltem Kelepir and Belkiz Ōztūrk, 101–120. Cambridge, MA: MITWPL.
- Larson, R. 1998. Events and modification in nominals. In Proceedings from SALT VIII , ed.D. Strolovitch and A. Lawson. Ithaca, NY, Cornell University.
- Leu, T. 2008, The Internal Syntax of Determiners, PhD thesis, NYU.
- Lowenstamm, J. 2008. On little *n*, √, and types of nouns. In: J.M.Hartmann, V. Hegedus, and H.van Riemsdijk. (eds). Sounds of Silence. Empty elements in Syntax and Phonology. Elsevier.
- Marantz, A. 1997. No escape from syntax: Don't try morphological analysis in the privacy of your own lexicon. UPenn Working Papers in Linguistics 4:201–225.
- Neale, S. 2004, This, that, and the other, in A. Bezuidenhout and M. Reimer (eds), Descriptions and Beyond, Oxford University Press, pp. 68–182.
- Partee, B. 1975. ‘Montague Grammar and Transformational Grammar,’ *Linguistic Inquiry*. 6. No. 2 (Spring, 1975), pp. 203-300Published
- Ritter, E. 1991. Two functional categories in noun phrases: Evidence from Modern Hebrew. In Syntax and Semantics 25. Perspectives on phrase structure, ed. Susan Rothstein, 37–62. New York: Academic Press.
- Rooth, M. 1985. Association with focus. Doctoral dissertation, University of Massachusetts, Amherst.
- Rooth, M. 1992. A theory of focus interpretation. In: Natural Language Semantics 1 : 75–116.
- Sauerland, U. 1998. *The Meaning of Chains*. Ph.D. dissertation, Massachusetts Institute of Technology.
- Sauerland, U. 2002. Unpronounced heads in relative clauses. In Kerstin Schwabe and Susanne Winkler (eds.), *The Interfaces, Deriving and Interpreting Omitted Structures*.Amsterdam: John Benjamins. 205–226
- Saxon, L & Wilhelm, A. 2010. *The 'possessed noun suffix' and "possession" in two Northern Athabaskan languages*. Invited talk given at the Workshop on Nominal Dependents, Banff, May 8, 2010.

- Schaub, S. 1979. Verschmelzungsformen von Präpositionen und Formen des bestimmten Artikels im Deutschen, in H. Vater (ed.), *Phonologische Probleme des Deutschen*, Narr, Tübingen, pp. 63–96.
- Scheutz, H. 1988. Determinantien und Definitheitsarten im Bairischen und Standarddeutschen, *Festschrift für Ingo Reiffenstein zum 60. Geburtstag*, Kümmerle, Göppingen, 231–258.
- Schmitt, V. 2006. Hessische Relativsätzte. MA thesis, Universität Wien, 2007.
- Schuster, M. and H. Schikola. *Sprachlehre der Wiener Mundart*. Österreichischer Bundesverlag, Wien, 1984.
- Schwager, M. 2007. (Non-)functional concepts: Definite articles in Bavarian. Talk presented at the 8th Szklarska Poreba Workshop.
- Schwarz, F. 2009. Two types of definites in Natural Language. PhD, Amherst.
- Selkirk, E. 2005. Comments on intonational phrasing in English. In Frota, S., M. Vigario, & M. J. Freitas (eds.) *Prosodies. (Selected papers from the Phonetics and Phonology in Iberia Conference, 2003)*. Phonetics and Phonology Series. Mouton de Gruyter. 11–58.
- Stanley, J. and Szabo, Z.: 2000, On quantifier domain restriction, *Mind and Language* 15(2), 219–261.
- Stvan, L. 1998. The Semantics and Pragmatics of Bare Singular Noun Phrases. PhD thesis, Northwestern University, Evanston, Illinois.
- Waldmüller, E. 2008. Contracted preposition-determiner forms in German: Semantics and Pragmatics. PhD, University Pompeu Fabra, Barcelona.
- Westerståhl, D. 1984. Determiners and context sets, in J. van Benthem and A. ter Meulen (eds), *Generalized Quantifiers in Natural Language*, Foris, pp. 45–71.
- Williams, E. 1997. ‘Blocking and Anaphora,’ *Linguistic Inquiry*, 28.4 577–628
- Wiltschko, M. 1998. On the syntax and semantics of (relative) pronouns and determiners. *Journal of Comparative Germanic Linguistics* 2:143–181.
- Ziv, Y. & Cole, P. (1974). Relative extraposition and the scope of definite descriptions in Hebrew and English. In La Galy, M. W., Fox, R. A. & Bruck, A. (eds.) *Papers from the Tenth Regional Meeting of the Chicago Linguistic Society*, April 19-21, 1974. Chicago: Chicago Linguistic Society, pp. 772–786.