

Bound bridging definites in German and theta-induced binding

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Workshop “Locally bound possessives as a window on language structure”/SLE 2015

Leiden U

September 2-3, 2014

1. Introduction

- Despite the pioneering works of Vergnaud & Zubizarreta (1992) König & Haspelmath (1998), or Koenig (1999), among others, there’s a lot in the domain of bound bridging definites (BBDs) that awaits further elucidation.

(1) *Paula_i/ [Jede Schülerin] hob den_i Arm.*
Paula every student raised the arm
‘Paula_i/[Every student]_i raised her_i hand.’

- What are BBDs (bound bridging definites)?

BBDs are definite DPs which receive an interpretation which equals (or is very similar to) that of the same DP with a possessive pronoun instead of the definite determiner. Crucially, the possessive pronoun in such a paraphrase is locally bound (Hole 2008, 2012, 2014).

(2) *Paula_i hob den_i/ihren_i Arm, und Clara auch.*
Paula raised the/her arm and Clara too
‘Paula_i raised her_i hand, and Clara did, too.’
✓sloppy identity: Clara raised her own hand.
*strict identity: Clara raised Paul’s hand.

- **Main goals:** Pin down the distribution of BBDs and attempt to account for it
- **Points to take home:**
 - Tying co-phasal binding to theta heads (verbal functional heads) à la Kratzer (2009) and Reuland (2011) is probably a very good idea.
 - Distributive Morphology may find an interesting playground here.
 - The definite determiner in BBDs is *not* a bound possessive pronoun.

2. Descriptive generalizations

2.1 Possible “antecedents”

- Bound bridging definites occur with NOM, DAT and ACC “antecedents”. Hence we are not dealing with a subject-oriented phenomenon.

(3) a. NOM “antecedent”

Jeder_i hob die_i Hand.
everyone.NOM raised the hand
‘Everyone_i raised his_i hand.’

b. DAT “antecedent”

Paul klopfte jedem_i auf die_i Schulter.
Paul patted everyone.DAT on the shoulder
‘Paul patted everyone_i on the_i shoulder.’

c. ACC “antecedent”

? *Paul boxte jeden_i in den_i Bauch.*
 Paul stepped everyone.ACC on the belly
 ‘Paul boxed everyone’s belly.’

- A 100% diagnostic to tell anaphoric and bridging uses of definite determiners apart. (Hole 2008, 2014)
 Anaphoric uses of definite determiners can be replaced by *besagter* ‘said’ without any, or without much change in discourse felicity.
 Bridging definites become infelicitous if they are replaced by *besagter* ‘said’.

(4) a. anaphoric

[in a children’s museum]
Jeder hob die/besagte Statue hoch.
 everyone raised the/said statue up
 ‘Everyone_i lifted the/said statue.’

b. [at school]

Jeder_i hob die_i/[#]besagte Hand.
 everyone raised the/besagte hand
 ‘Everyone_i raised their_i/[#]said hand.’

- BBDs do not need to refer to body-parts.

(5) *Klara, die Veganerin, guckte jedem_i streng [auf die_i Wurst].*
 Klara the vegan looked everyone strictly on the sausage
 ‘Klara, the vegan, was looking at everybody’s sausage in a strict way.’

Bridging definites may be bound by any old c-commanding antecedent. (to be revised)

2.2 Strict locality

- BBDs are a strictly local (co-phasal) phenomenon.

(6) a. *Paul hat Paula_i in den_i Eintopf gespuckt.*

Paul has Paula.DAT in the stew spat
 ‘Paul spat into Paula’s stew’
 (lit.: ‘Paul spat Paula.DAT in the stew.’)

b. *Paul hat Paula_i in die Tasse, in die der*_i Eintopf sollte, gespuckt.*

Paul has Paula.DAT in the cup in which the stew should spat
 lit.: ‘Paul spat Paula.DAT into the cup that the stew was supposed to be served in.’
 nicht naheliegende Lesart von *der Eintopf* als ‘Paulas Eintopf’

(7) *Klara guckte jedem_i so streng [auf die_i/_j Wurst], dass der*_i Appetit verschwand.*
 Klara looked everyone so strictly on the sausage that the appetite disappeared
 ‘Klara was looking at everybody’s sausage in such a strict way that the appetite went away immediately.’

- This is parallel to the cross-sentential behavior of bridging definites.

- (8) a. *Sie kamen in einen kleinen Ort. Die Kirche war verschlossen.* (anaphoric bridging ok)
 ‘They got to a small village. The church was locked.’
- b. *Sie kamen in [jeden Ort]_i. Die*_i Kirche war verschlossen.* (bound bridging bad)
 ‘They got to every village. The church was locked.’
- An appropriate co-phasal quantifier salvages such structures.
- (9) *Sie kamen in [jeden Ort]_i. Die_i Kirche war immer_i verschlossen.* (bound bridging good)
 ‘They got to every village. The church was always locked.’

Bridging definites may be bound by any c-commanding co-phasal antecedent.

2.3 The special case of paired body-parts

- BBDs referring to body-parts that come in pairs (or small sets) behave in a peculiar way.
 - They are definite-marked DPs, but they do not have definite reference. Only the complete pair (or set) has definite reference.
 - Moreover, the uniqueness presupposition of definites is not fulfilled.
- (10) *Paul_i brach sich das_i Bein.*
 Paul broke REFL the leg
 ‘Paul broke his leg.’
- (10) leaves it open whether Paul broke his right or his left leg. (no real definiteness)
 - (10) does not presuppose that Paul has only one leg. (no uniqueness presupposition)
 - This behavior recurs with arms, feet, all pairwise joints, ears(?), but not with nostrils, kidneys, ovaries or testicles.
 Therefore, we are probably dealing with a phenomenon that is regulated by the lexical/functional endowment of words like *Arm*, *Fuß* etc.
 - Body-parts like hair(s) do(es) not display this effect.
- (11) *Trotz dieser Spülung ist mir_i das_i Haar gebrochen.*
 despite this conditioner is me.DAT the hair broken
 ‘My (single/collective referent) hair broke despite this conditioner.’
- Fingers sometimes pattern with the body-parts that come in pairs. Toes do as well.
- (12) a. *Paula_i hat sich_i in den_i Finger geschnitten.*
 Paula has REFL in the finger cut
 ‘Paula cut her finger.’
 - It is unclear which finger Paula cut.
 - does not presuppose: Paula has only a single finger.

- b. *Paula ist mir_i auf den_i Zeh getreten.*
 Paula is me on the toe stepped
 ‘Paula stepped on my toe.’
 - It is unclear which toe was stepped on.
 - does not presuppose: The speaker has only a single toe.

- I assume tentatively that sentences like (13a) (=10) receive an interpretation similar to (13b) and that the definite marking really signals the definiteness of the pair of legs in the partitive structure.

- (13) a. *Paul_i brach sich das_i Bein.*
 Paul broke REFL the leg
 ‘Paul_i broke his_i leg.’
- b. *Paul_i brach sich ein Bein von ^{DEF}∅ seinen_i zwei Beinen.*
 Paul broke REFL a leg of his two legs
 ‘Paul_i broke a leg from among his_i two legs.’

BBDs referring to some paired body-parts (or body-parts that come in small sets) are not truly definite in reference. Only the pairs (or sets) are.

3. The status of the definite determiner in BBDs – is it a possessive?

- It is surprisingly hard to tell if the definite articles in (14) (=3) are really possessive pronouns or not. (In the end I will argue they are not.)

- (14) a. *Jeder_i hob die_i Hand.*
 everyone.NOM raised the hand
 ‘Everyone_i raised his_i hand.’
- b. *Paul klopfte jedem_i auf die_i Schulter.*
 Paul patted everyone.DAT on the shoulder
 ‘Paul patted everyone_i on the_i shoulder.’

- Replacing the definite determiner of bound bridging definites by a possessive pronoun always leads to well-formed results with identical truth-conditions (Hole 2008, 2015). (Sometimes this replacement may lead to mild awkwardness or de-idiomatization, though.)

- (15) a. *Jeder_i hob seine_i Hand.*
 everyone.NOM raised his hand
 ‘Everyone_i raised his_i hand.’
- b. *Paul klopfte jedem_i auf seine_i Schulter.*
 Paul patted everyone.DAT on the shoulder
 ‘Paul patted everyone_i on his_i shoulder.’

- Hence, in the co-phasal domain, BBDs and possessive-marked DPs have the same distribution (not across phase boundaries, though; cf. (6b)/(7)).

- The distribution of BBDs is thus very much like that of bound possessives like Swedish *sin* (Kiparsky 2002).
- However, here is one reason why it would be premature to draw a quick conclusion: the determiner in BBDs cannot be used in stressed form and, thus, not deictically. If it is stressed, the BBD reading vanishes, and an anaphoric reading surfaces.

(16) *Jeder hob DIE Hand*
 everyone raised the hand

- ‘Everyone raised THAT hand.’ (accompanied by a pointing gesture)
- * ‘Everyone raised HIS hand.’

- As the possessive reading vanishes under these circumstances, it is not possible to test if the pointing gesture, if it accompanied the determiner in BBDs, targets the complete BBD referent, or the possessor.
- We could, therefore, be dealing with a clitic reflexive possessive, or with a definite determiner.
- In fact, there’s another structure in German which is akin to BBDs: D-POSS_N

(17) *Jeder_i hob die seine_i(*Hand).*
 everyone raised the his_N hand
 ‘Everyone raised his_i.’

- In this construction, the restriction that usually bans the co-occurrence of determiners and possessives in German (Haspelmath 1999) is lifted, because the possessive is nominalized and probably sits in N (or some other rather low position).
- Taking together all the evidence, I conclude that the best generalization about the categorial composition of BBDs is as in (18).

(18) *Jeder_i hob die ^{POSS}∅_i Hand.*
 everyone raised the his hand
 ‘Everyone raised the ^{POSS}∅_i hand.’

- Like this, the definite determiner in BBDs is *not* a reflexive possessive pronoun.

The bound possessive pronoun of BBDs may be analyzed as phonetically empty. The definite determiner and the possessive pronoun compete for spell-out in a single position at the left edge of the BBD.

4. Analysis

- **BINDING:**
The bound variable in BBDs is bound by a co-phasal antecedent.
- **D-LINKING:**
BBDs referring to some paired body-parts (or body-parts that come in small sets) are not truly definite in reference. Only the pairs (or sets) are.
- **COMPETITION FOR SPELL-OUT:**
The bound possessive pronoun of BBDs may be analyzed as phonetically empty. The definite determiner and the possessive pronoun compete for spell-out in a single position at the left edge of the BBD.

4.1 DP syntax/Truth and felicity conditions

- **COMPETITION FOR SPELL-OUT:**
The bound possessive pronoun of BBDs may be analyzed as phonetically empty. The definite determiner and the possessive pronoun compete for spell-out in a single position at the left edge of the BBD.

- (19) a. *Jeder_i hob die^{POSS}∅_i Hand.*
 everyone raised the his hand
 ‘Everyone raised the^{POSS}∅_i hand.’
- b. *Jeder_i hob^{DEF}∅ seine_i Hand.*
 everyone raised the his hand
 ‘Everyone raised^{DEF}∅ his_i hand.’

- Both the determiner and the possessive pronoun compete for the leftmost position in the DP.
 - The determiner, because it belongs there.
 - The possessive, because it can only get bound in the left-peripheral position (Hole 2008, 2012, 2014: ch. 7, Reuland 2011: 275).
- As in languages like German only one of the two may be pronounced (unless the possessive stays down under N), I assume that the possessive always moves to D (or π). In a DM fashion, one of the two categories undergoes impoverishment.

(20) a. The spell-out of D and POSS in BBDs:

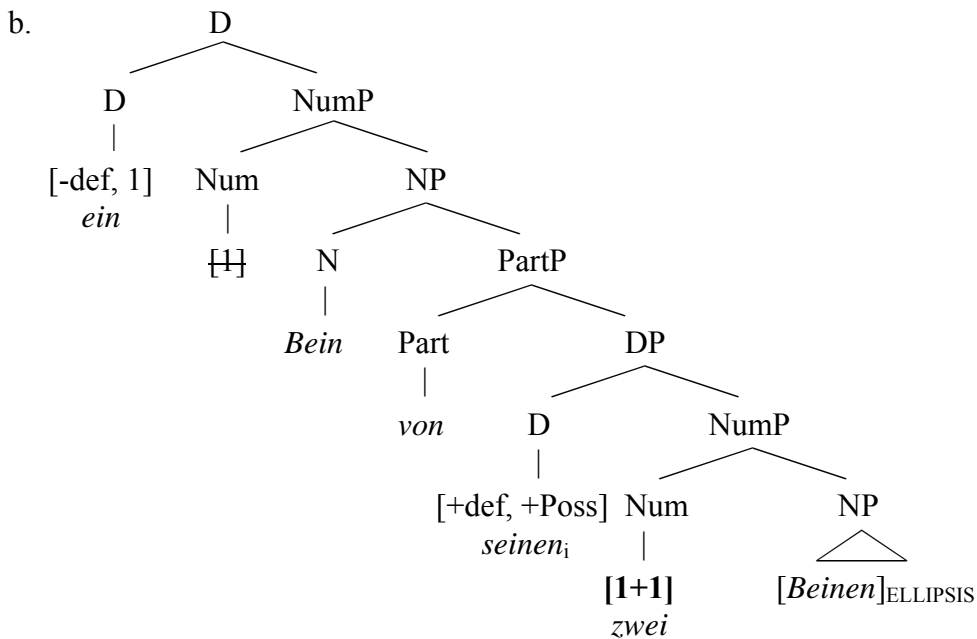
$$\begin{array}{c} | \quad | \quad | \\ \text{D+POSS} \rightarrow \text{D} \vee \text{POSS} \end{array}$$

- I have nothing to say here about the optionality that this introduces into the syntax.

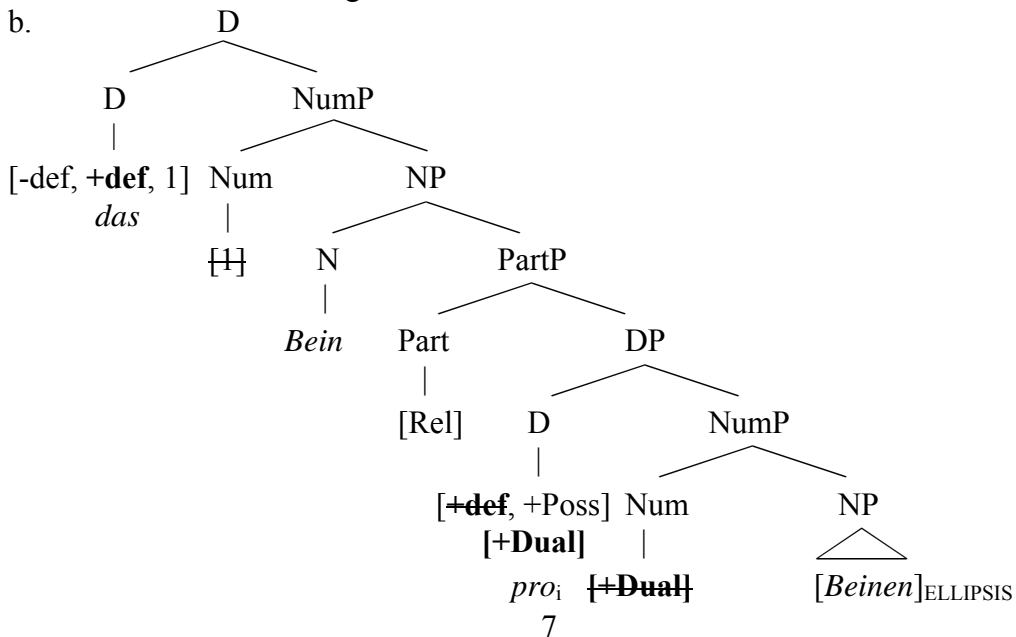
- **D-LINKING:**
BBDs referring to some paired body-parts (or body-parts that come in small sets) are not truly definite in reference. Only the pairs (or sets) are.

- If I could bake my own distributed morphology for this, it would look as in (21) and (22) (cf. Hirose 2003 for an account of Japanese d-linked *dono* ‘which’ that assumes a *pro* to model d-linking).

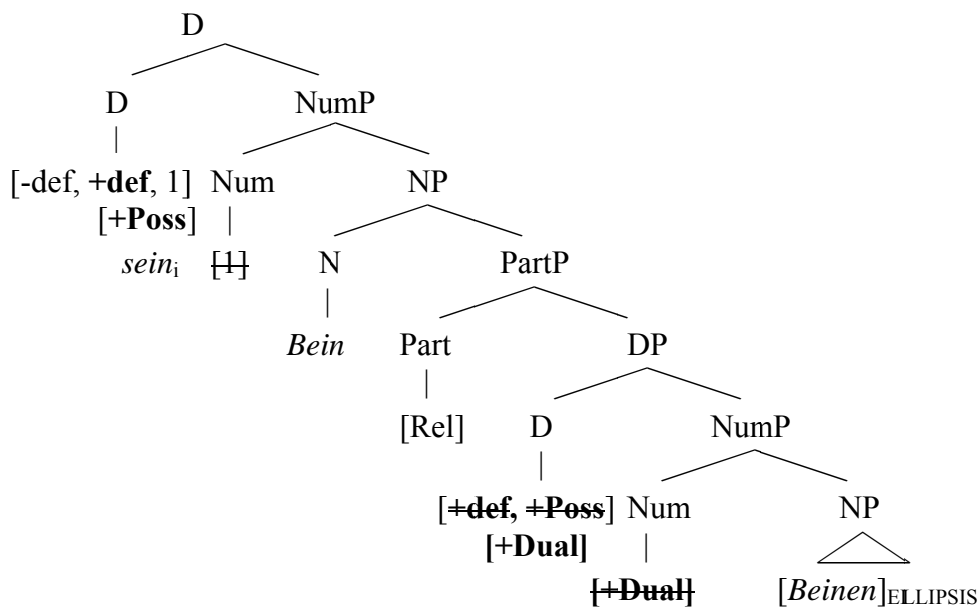
(21) a. *Paul_i brach sich ein Bein von^{DEF} ∅ seinen_i zwei [Beinen]_{ELLIPSIS}.*
 Paul broke REFL a leg of his two legs
 ‘Paul_i broke a leg from among his_i two legs.’



(22) a. *Paul_i brach sich das_i/sein_i Bein.*
 Paul broke REFL the/his leg
 ‘Paul_i broke the_i/his_i leg.’



c.



- However, at the present point I'm not in the position to really defend these structures.

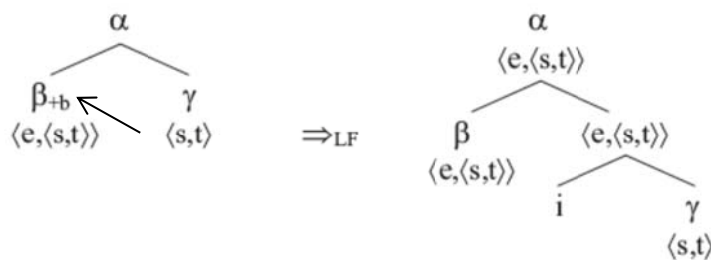
4.2 θ P syntax – Knight Move Binding

- **BINDING:**
The bound variable in BBDs is bound by a co-phasal antecedent.

“[S]emantic binders (λ -operators represented as binder indices) are introduced by verbal functional heads, rather than by “antecedent” DPs, as assumed in Heim and Kratzer 1998, for example. Verbal functional heads, rather than DPs, are then the true syntactic antecedents for bound pronouns.” Kratzer (2009: 193)

- Binder indices are tied to verbal functional heads (theta heads), not to so-called antecedent DPs.
- This will, then, tie co-phasal binding to the presence of certain functional heads of the Voice and higher theta domains.

(23)

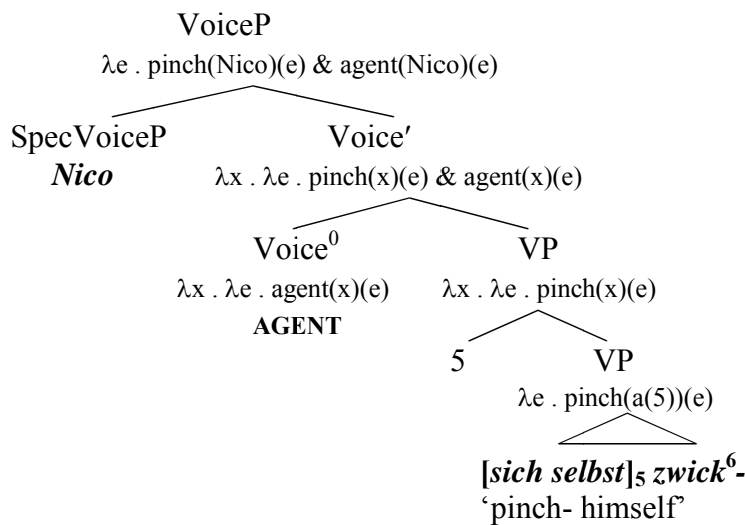


(Hole 2014: 129)

- Structures with a bare numerical index like the output of (23) trigger predicate abstraction. Consequently, the DP in the specifier of β will bind the variable in γ .

Application 1: Reflexivity (Hole 2008, 2012, 2015, Kratzer 2009, Reuland 2011)

(24) For any assignment a:



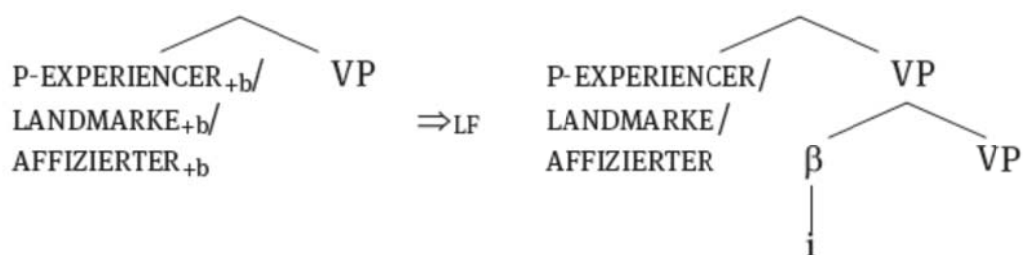
Application 2: German free datives

- Subscribing to the undercurrent of control/binding analyses in this domain (Guéron 1985, Borer/Grodzinsky 1986, Vergnaud/Zubizarreta 1992, Brandt 2003, 2006), I put such binder theta heads to work to model German free datives.

- (25) a. Paul kicked **me** in the shin. (“possessor” datives)
 b. Paul fixed **me** a drink. (“beneficiary”/TO-applicative)
 c. **Mir** fiel eine Vase runter. (“possessor”/“maleficiary” datives)
 me_{DAT} fell a vase down
 ‘A vase fell down on me.’
 d. **Mir** zerbracheine Vase. (“maleficiary” datives/“oblique
 me_{DAT} broke a vase causers”)
 ‘A vase broke on me.’
 e. **Mir** war die Treppe zu steil. (*dativus iudicantis*)
 me_{DAT} was the staircase too steep
 ‘I found the staircase too steep.’

- Hole (2008, 2012, 2014) unifies all data types in **Fehler! Verweisquelle konnte nicht gefunden werden.** under the roof of a binding analysis with binder theta heads.

(26)



Application 3: Bound bridging definites

- Bound bridging definites may have the binder variant of any theta head(=verbal functional head) as their antecedents. This explains their broad distribution.
- Accusatives as antecedents may pose a problem, though. Kratzer (2003) claims that the theta role of non-incremental themes must come from the verb stem/root, and cannot come from a theta head.
- If Kratzer (2003) is right, themes that are not incremental (=themes that are directly theta-marked by verbs) ought to be impossible “antecedents” of BBDs. This prediction is preliminarily borne out by data as in (27).

(27) a. ACC as a non-incremental theme

*Sie brachten Paul_i langsam in den*_i Garten*
They carried Paul slowly in the garden
'They slowly carried Paul into the garden.'

no incrementality: despite the slowness the change of location remains momentaneous

no bound bridging reading available

b. ACC as an incremental theme

Sie brachten Paul_i langsam um den_i Verstand.
They brought Paul slowly so.as.to.lose the mental.sanity

'They slowly made Paul go crazy.' (more lit.: 'They slowly made him lose his sanity.')

incrementality: their action incrementally affects more and more of Paul and his sanity.

bound bridging reading available

- A note on Knight Move Binding (Hole 2008, 2012, 2014)

4. Conclusions and outlook

5. References

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