

# Possessive (Non-)Anterations in Idioms

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## 1 Introduction

One possessor expression in English, four alternatives in German.

- (1) I have already put on my make-up, but I still need to powder my nose.
- (2) Ich hab mich schon geschminkt, aber ...  
(I have already put on my make-up, but ...)
  - a. ich muss noch die Nase pudern. (Def)  
I must still the nose powder 'I still need to powder my nose.'
  - b. Ich noch meine Nase pudern. (Poss)  
I must still my nose powder
  - c. Ich muss mir noch die Nase pudern. (DatDef)  
I must myself still the nose powder
  - d. Ich muss mir noch meine Nase pudern. (DatPoss)  
I must myself still my nose powder

The same within the inventory of idioms.

- (3) keep one's cool, lose one's mind, ... (Kay & Sag, ms.) (Poss)
- (4)
  - a. Er hält den Mund. (Def)  
he holds the mouth 'He keeps his mouth shut.'
  - b. Alex tritt in meine Fußstapfen. (Poss)  
Alex steps in my footsteps 'Alex follows my example.'
  - c. Alex steht mir im Weg. (DatDef)  
Alex stands me in.the way 'Alex is in my way'
  - d. Sie haben sich darüber ihr Maul zerrissen (DatPoss)  
They have themselves on.this their mouth torn.apart 'They gossiped about this.'

The same idiom may appear in various of these constructions, but not all idioms behave the same.

- (5)
  - a. Er hält den Mund. (Def)  
he holds the mouth 'He keeps his mouth shut.'
  - b. Er hält seinen Mund. (Poss)
  - c. #Er hält sich den Mund. (DatDef)
  - d. #Er hält sich seinen Mund. (DatPoss)
- (6)
  - a. Da läuft mir das Wasser im Mund zusammen. (DatDef)  
there runs me the water in.the mouth together 'My mouth is watering'
  - b. #Da läuft das Wasser im Mund zusammen. (Def)
  - c. Da läuft das Wasser in meinem Mund zusammen. (Poss)
  - d. #Mir läuft das Wasser in meinem Mund zusammen. (DatPoss)

Research questions:

- Which patterns of possessive alternations do we find in German idioms?
- How can we model them?
- What is the relation between possessive constructions in the grammar of German and in German idioms?

### Structure of the talk

1. Introduction
2. Data overview: German possessive idioms
3. Possessive constructions in German
4. Possessive constructions in idioms
5. Framework for the analysis
  - 5.1 Syntax-semantics interface
  - 5.2 The 2-dimensional theory of idioms
  - 5.3 Analysis of the possessive constructions
6. Analysis of German possessive idioms
7. Conclusion

## 2 Data overview: German possessive Idioms

Data:

- 145 possessive idioms: Those mentioned in letter “A” of Duden 11, plus idioms that happened to come to my mind.
- Looked for occurrence of the idiom in the four possessive constructions on the internet. “ok” indicates that there had been at least some use with the idiomatic meaning on a website that looked like a natural, non-word play use by a competent speaker.
- ⇒ The data are neither representative nor solidly verified empirically. Nonetheless they represent some tendencies of which patterns of alternation occur and which patterns are more common than others.

#	Def	Poss	DatDef	DatPoss	example idiom
2	ok	ok	ok	ok	(sich) etwas an den Fingern abzählen (können)
2	ok	ok	ok	*	sich etwas aus dem Ärmel ziehen
0	ok	ok	*	ok	—
29	ok	ok	*	*	die Augen schließen
0	ok	*	ok	ok	—
2	ok	*	ok	*	(sich) die Ärmel hochkrepeln
0	ok	*	*	ok	—
5	ok	*	*	*	die Nase voll haben
17	*	ok	ok	ok	jm. das Herz brechen
14	*	ok	ok	*	jm. aus den Augen gehen
0	*	ok	*	ok	—
1	*	ok	*	*	in jms. Fußstapfen treten
35	*	*	ok	ok	sich die Hacken ablaufen
37	*	*	ok	*	jm. im Weg stehen
1	*	*	*	ok	sich seine Gedanken machen

145

First impressions on the data:

1. Most common patterns:

$$\begin{array}{c} \text{DatDef} \\ \text{DatDef-DatPoss} \end{array} > \text{Poss-DatDef} > \begin{array}{c} \text{Def-Poss} \\ \text{Poss-DatDef-DatPoss} \end{array}$$

2. Very large group of idioms which require a dative (73)
3. Large group of idioms which occur without a dative possessor (34)
4. There are only few idioms that allow a dative (DatDef or DatPoss) and a plain definite (6)
5. Whenever DatPoss is possible, so is DatDef (with 1 exception)
6. German idioms can allow for a multiple/redundant exponent of the possessor but never require it. (In DatPoss the possessor is both present in the dative and inside the possessum NP)
7. However, some idioms seem to forbid a redundant marking of the possessor (37 DatDef-only idioms; 14 Poss-DatDef idioms; 5 Def-only idioms)

Task:

- We want to account for the common patterns by generalization.
- We want to capture the uncommon patterns by lexical specification.

### 3 Possessive constructions in German

#### 3.1 Possessive readings

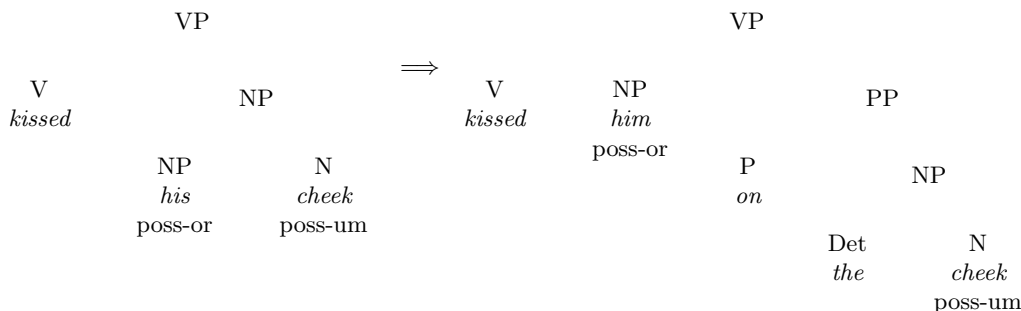
Generally assumed: “possession” is a cover relation for a set of possible semantic relations.

- Barker (1995) possessor is ambiguous:
  - when combined with a relational noun: no semantic contribution
  - when combined with a non-relational noun: introduction of some possessor relation
- Wunderlich (1996) **Poss**( $x, y$ ) means “ $x$  has  $y$  at  $x$ ’s disposal”.
- Jensen & Vikner (2004)
  - list a number of possible relations and how they can be linked to the lexical semantics of the possessum.
  - Non-relational nouns can be turned into relational nouns, activating some function from their qualia structure.
  - If no relational meaning of a noun is used, a possessor expresses a predicate that is similar to Wunderlich’s possessor relation.

#### 3.2 Possessor raising

Real Possessor Raising:

- Structure:



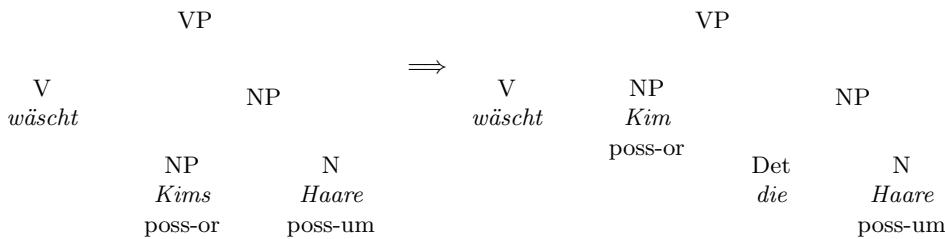
- The raised possessor does not receive a thematic role from the verb.
- Haspelmath (1999): Possessor raising wide spread in the languages of the world.

External dative possessor construction

- (7) a. Alex wäscht Kims Haare.  
 Alex washes Kim.GEN hair ‘Alex is washing Kim’s hair.’  
 b. Alex wäscht Kim die Haare.  
 Alex washes Kim.DAT the hair

- The DatDef (and the DatPoss) constructions are not possessor raising in the original sense.

- Structure:



- Possessor appears in oblique case
- Haspelmath (1999):
  - External possessor (EP) construction differs from possessor raising.
  - External possessor is typologically rare, but wide-spread in the languages of Europe, independent of their genetic relationship, i.e., it is an areal feature of “Standard Average European”. Present in Dutch, German, Romance, Slavic, Greek, Maltese
  - EP is absent from English and the Scandinavian languages (see also Lødrup (2009) for Modern Norwegian)
  - **Animacy hierarchy:** Possessor is 1st/2nd person  $\subset \dots \subset$  inanimate
  - **Situation hierarchy:** Eventuality is patient affecting  $\subset$  dynamic non-affecting  $\subset$  stative
  - **Inalienability hierarchy:** Possessum is body part  $\subset \dots \subset$  contextually unique item
  - **Syntactic relation hierarchy:** Possessum is PP  $\subset \dots \subset$  transitive subject
- German EP is relatively low on the hierarchies: Animate possessor, eventive verb, possessum contextually unique, unergative subject  
 Dutch: more restricted (Haspelmath, 1999); Modern Hebrew: less restricted (Linzen, 2014)

### Predictions for our idiom data

- Since dative external possessors are common in German, we expect to find them in the inventory of idioms, not being more flexible with respect to the hierarchies than what we find outside idioms.
- (Note: Lødrup (2009) observes that external possessors occur in Norwegian only in fixed expressions—they are relics of an earlier state of the language where an external possessor construction had still been productive.)

### 3.3 Semantics of the German dative external possessor

- (8) Dem Ede juckt die Kopfhaut. (Hole, 2005, p. 215)  
 the.DAT Ede itches the scalp ‘Ede’s scalp itches.’

Hole (2005): Dative encoded affectee role.

- Dative in EP construction is always affected!
- $\Rightarrow$  A semantic role can be added, Affectee.
- Proto-role entailments of affectees (Hole, 2005, p. 220):
  - Affectees are consciously/sentiently involved in the eventuality at hand, i.e. they have one property of the Agent Proto-Role.
  - Affectees are causally affected by the eventuality at hand, i.e. they have one property of the Patient Proto-Role.

Hole (2005): The possessum NP has a contextually fillable possessor slot.

- Nouns can be turned into relational nouns productively (see also Jensen & Vikner (2004))
- Definite NP has an open (contextually fillable) possessor slot.
- Affected Dative is introduced with an Affectee role and can control this possessor slot

### 3.4 Redundant marking of the possessor inside the possessum (DatPoss)

Lee-Schoenfeld (2006): Possible, but not with body-part nouns:

- (9) Data and judgements from Lee-Schoenfeld (2006), p. 105
- Mein Bruder hat der Mami leider ihr Auto zu Schrott gefahren.  
 my brother has the mom.DAT unfortunately her car to scrap driven  
 ‘Unfortunately my brother totaled mom’s car.’
  - ?Ein guter Ehemann massiert seiner Frau jeden Abend ihren Rücken.  
 a good husband massages his wife.DAT every evening her back  
 ‘A good husband massages his wife’s back every night.’

Naturally occurring examples of DatPoss:

- (10) ... dann breche ich ihm seine verdammte Hand  
 then break I him.DAT his damn hand  
 ‘then I will break his damn hand.’

German possessive pronouns can be bound by a clause-mate antecedent ((10), (11)). So, whenever a definite possessum can occur with an affectee, a possessive should be possible inside the possessor NP as well.

(Note: our data point in the opposite direction: Whenever DatPoss is possible, so is DatDef)

- (11) [Die Kinder]<sub>i</sub> lesen [ihre<sub>i</sub> Lieblingsbücher]  
 the children read their favorite books

### 3.5 Possessor relations without additional arguments

Possessive interpretation of a clause-mate body part term.

- (12) a. Alex hebt den Fuß.  
 Alex lifts the foot ‘Alex is lifting her foot.’  
 b. Alex hebt ihren Fuß  
 Alex lifts her foot

In German: No real possessor *raising*, only possessor *control* (Deal, 2013). only if the possessor constituent and the possessum constituent can occur with the predicate independently of the possessor construction.

- (13) a. Die Katze kratzt mich.  
 the cat scratches me.ACC

- b. Die Katze kratzt am Stuhlbein.  
the cat scratches on.the chair leg
- c. Die Katze kratzt mich am Bein.  
the cat scratches me.ACC on.the leg  
'The cat is scratching my leg.'

Lødrup (2009) reports that the possessor need not be an argument of the verb in Norwegian. In German, a dative external possessor construction must be used in such cases.

- (14) a. Eminem spyr ham i ansiktet. (Norwegian, Lødrup (2009))  
Eminem vomits him in face.DEF  
'Eminem vomits in his face.'
- b. \*Eminem spuckt ihn ins Gesicht. (German)  
Eminem vomits him.ACC in.the face
- c. Eminem spuckt ihm.DAT ins Gesicht. (German, dative EP)
  
- (15) a. Legen bør da lyse deg i halsen. (Lødrup, 2009)  
physician.DEF should then light you in throat.DEF  
'The physician should then shine a light in your throat.'
- b. Dann sollte der Arzt dir/ \*dich in den Hals leuchten.  
then should the physician you.DAT/ you.ACC in the throat light

German does not have a valence changing possessor raising rule. However, there is a special possessor interpretation, living on existing valence patterns.

## 4 Possessive constructions in idioms

### 4.1 English

Grammar of idioms: English lacks a dative external possessor construction and is more restricted in its possessive use of definites than German. Therefore, we mainly find idioms with a possessum-internal expression of the possessor.

- (16) keep one's cool; lose one's mind; ... (Poss)

Sag (2010), Kay & Sag (ms.): Obligatory coreference of the possessive pronoun with the subject is potentially problematic for locality assumptions in Modern phrase structure grammars (Head-driven PSG, Pollard & Sag (1994); Sign-Based Construction Grammar, Sag (2012))

### 4.2 Modern Hebrew

Grammar of idioms: Hebrew has a very productive dative external possessor construction (Landau, 1999) and means to express a possessor inside the possessum NP. We also find idioms with both types of constructions (Almog, 2012).

- Almog (2012): Quantitative and qualitative study of possessive idioms in Modern Hebrew. Attempt to test predictions of Horvath & Siloni (2009).
- Difference to German possessive constructions:
  - If there is an inalienably possessable noun, the dative is obligatory in core grammar” (Almog, 2012, p. 26, fn. 9)
  - Dative external possessor are more flexible than in German (Landau, 1999; Linzen, 2014)
- Main result: No dative possessives with alienable possession in Hebrew
- Report on some possessive alternations in idioms (Almog, 2012, p. 43)

- (17) a. šavar et libo šel X (Poss)  
 broke ACC the.heart of X ‘disappointed X’  
 b. šavar le-X et ha-lev (DatDef)  
 broke to-X ACC the-heart
- (18) a. nixnax la-na’alayim šel X  
 entered to-the.shoes of X ‘replace X at his job’  
 b. #nixnax le-X la-na’alayim  
 entered to-X to-the.shoes

## 5 Framework for the analysis

### 5.1 Syntax-semantics interface

- Head-driven Phrase Structure Grammar (Pollard & Sag, 1994):
  - surface-oriented syntax, monostratal
  - complex feature structures instead of complex syntactic structures
  - constraint-based
- Lexical Resource Semantics (Richter & Sailer, 2004): linguistically motivated version of underspecified semantics (Pinkal, 1996; Egg, 2011)

1. The “logical form” of a sentence is a semantic representation of its reading (encoded as value of the feature EXTERNAL-CONTENT (EXCONT):

- (19) Pat talked to Chris.  
 $[\text{EXCONT } \exists e(\mathbf{talk}(e, \mathbf{pat}, \mathbf{chris}))]$

2. All subexpressions of the sem.rep. must be contributed by some lexical elements.

- (20)  $\exists e(\mathbf{talk}(e, \mathbf{pat}, \mathbf{chris})):$

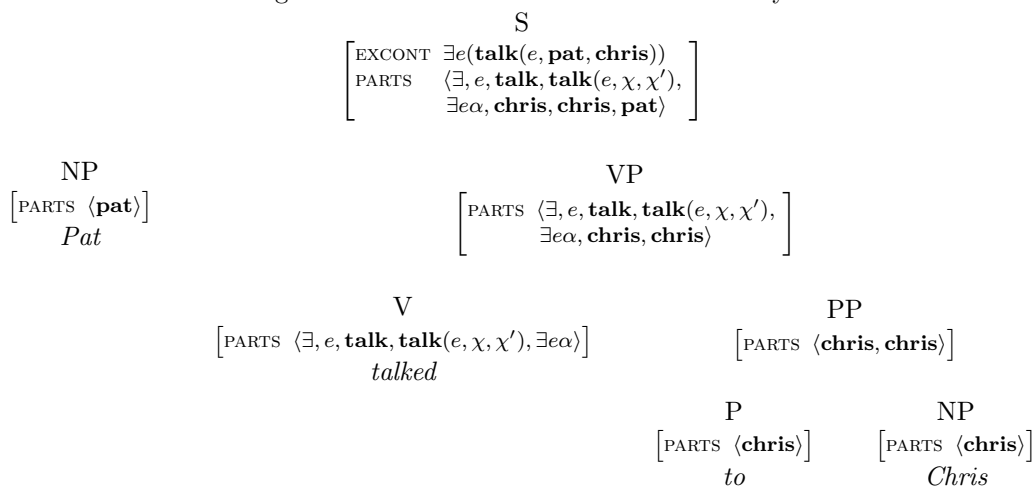
$\exists e(\mathbf{talk}(e, \mathbf{pat}, \mathbf{chris}))$

$\exists$        $e$                $\mathbf{talk}(e, \mathbf{pat}, \mathbf{chris})$

$e$            $\mathbf{pat}$            $\mathbf{chris}$

3. Constraint-based lexical semantics: A word says: if I am used in a sentence, the sentence’s semantic representation must at least contain the following subexpressions: . . . .
4. For sentences: The sem.rep. of a sentence must consist exactly of the elements of the sentence’s PARTS list. (Everything on the PARTS list must be used, nothing else can be used)
5. Words and structures may impose constraints on how the bits of sem.rep. can be combined:
  - *talk*:  $\mathbf{talk}(e, \chi, \chi')$  is a subexpression of  $\alpha$  (short:  $\mathbf{talk}(e, \chi, \chi') \triangleleft \alpha$ )
  - Linking theory:  $\mathbf{pat} \triangleleft \chi$  and  $\mathbf{chris} \triangleleft \chi'$
6. Redundant contribution: Several words can contribute the same bit of logical form (**chris**)
7. Multiple uses: An element that occurs only once on the PARTS list can nonetheless be used several times inside the overall sem.rep. (*e*)

Figure 1: Semantic constraints contributed by the nodes in the tree



Redundant contribution as the norm:

- Multiple exponency, concord, ... is widely used in natural language: Negative concord (Richter & Sailer, 2006), cognate objects (Sailer, 2010), non-decomposable idioms (Bargmann & Sailer, 2015)
- However: Some expressions do not participate in concord.

(21) Standard French:

- Personne n'a rien dit.  
nobody not.has nothing said 'Nobody said anything.'
- Personne n'a pas parlè.  
nobody not.has not spoken 'Nobody has NOT spoken'

- Contribution constraint (Penn & Richter, 2004, 2005)
- We can mark if a bit of logical form may only occur once on the PARTS list of a sentence:

(22) Negative elements in French:

- personne (nobody)*, *rien (nothing)*:  $(-\alpha)^+$
- pas (not)*:  $(-\alpha)^1$

- Unless specified otherwise, all semantic contributions are contributed as potentially redundant.

## 5.2 The 2-dimensional theory of idioms

- Follows the tradition of Wasow et al. (1983), Nunberg et al. (1994), Kay & Sag (ms.)
- Any syntactically idiosyncratic idiom (*kingdom come*) is licensed by a *phrasal lexical entry* [Constructional dimension of idiosyncrasy]
- Any syntactically regular idiom is licensed by the regular combinatorial mechanism. The words in the idiom may have idiom-specific semantics. Their co-occurrence is regulated by collocational specifications [Collocational dimension of idiosyncrasy]
  - decomposable idioms (*spill the beans*, *pull strings*): The words have a clearly identifiable semantics.
  - non-decomposable idioms (*kick the bucket*): some of the words have an empty semantics (Kay & Sag, ms.) *or*: some of the words make a redundant semantic contribution (Bargmann & Sailer, 2015)



### 5.3 Analysis of the German possessive constructions

- We express lexical generalizations in terms of *lexical rules* (Müller, 2006)
- A lexical rule can change any property of a word. Here: the valence requirements and the semantics.
- External Possessor Lexical Rule: introduces a possessor-possesum relation within the selection domain of a verb.
- Affectee Lexical Rule: introduces an additional dative NP complement with an Affectee role.

#### 5.3.1 Definite article and possessive determiners

$$(23) \quad \begin{array}{ccc} \text{NP} \begin{bmatrix} \text{SPR} \langle \rangle \\ \text{DR} \ x \end{bmatrix} & & \text{NP} \begin{bmatrix} \text{SPR} \langle \rangle \\ \text{DR} \ x \end{bmatrix} \\ \text{H} & & \text{H} \\ \text{Det} & \text{N} & \text{Det} & \text{N} \\ \begin{bmatrix} \text{XSEL} \langle \text{[1]} \rangle \\ \text{DR} \ x \end{bmatrix} & \begin{bmatrix} \text{SPR} \langle \text{[2]} \rangle \\ \text{DR} \ x \end{bmatrix} & \begin{bmatrix} \text{XSEL} \langle \text{[1]} \rangle \\ \text{DR} \ y \end{bmatrix} & \begin{bmatrix} \text{SPR} \langle \text{[2]} \rangle \\ \text{DR} \ x \end{bmatrix} \\ \text{den} & \text{Kopf} & \text{ihren} & \text{Kopf} \end{array}$$

(24) Lexical entry of the definite determiner:

$$\left[ \begin{array}{l} \text{PHON} \langle \text{der} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \rangle \\ \text{COMPS} \langle \rangle \\ \text{SPR} \langle \rangle \\ \text{XSEL} \langle \text{N} [\text{DR} \text{[1]}] \rangle \end{array} \right] \\ \text{DR} \text{[1]} \\ \text{PARTS} \langle \iota, \text{[1]}, (\iota \text{[1]} : \alpha) \rangle \end{array} \right]$$

(25) Lexical entry of a possessive pronoun

$$\left[ \begin{array}{l} \text{PHON} \langle \text{ih-} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \rangle \\ \text{COMPS} \langle \rangle \\ \text{SPR} \langle \rangle \\ \text{XSEL} \langle \text{N} [\text{DR} \text{[1]}] \rangle \end{array} \right] \\ \text{DR} \text{[2]} \\ \text{PARTS} \langle \iota, \text{[1]}, \text{[2]}, (\iota \text{[1]} : \alpha), \beta \wedge \mathbf{Poss}(\text{[1]}, \text{[2]}), \mathbf{Poss}, \mathbf{Poss}(\text{[1]}, \text{[2]}) \rangle \\ \mathbf{and} \ \beta \wedge \mathbf{Poss}(\text{[1]}, \text{[2]}) < \alpha \end{array} \right]$$

- The definite article has the same DR value as the head noun.  
A possessive determiner has the DR value of the possessor (independently needed for HPSG's Binding Theory).
- A possessive determiner always contributes a **Poss** relation.
- When combining with a relational noun, this **Poss** relation is contributed redundantly.

#### 5.3.2 The External Possessor Lexical Rule

- (26) a. Alex hebt die Hand.  
b.  $\exists e(\mathbf{lift}(e, \mathbf{alex}, \iota x : (\mathbf{hand}(x) \wedge \mathbf{Poss}(x, \mathbf{alex}))))$

Intuition: The possessor relation is introduced by the verb!

- (27) a. Basic form of *heben*:  $\exists e(\dots \mathbf{lift}(e, x, y) \dots)$   
b. External possessor form of *heben*:  $\exists e(\dots \mathbf{lift}(e, x, (\iota y : \dots \wedge \mathbf{Poss}(x, y))) \dots)$

(28) Basic form of the verb

$$\left[ \begin{array}{l} \text{PHON} \langle \text{heben} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} [\text{DR } \underline{1}] \rangle \\ \text{COMPS} \langle \text{NP} [\text{DR } \underline{2}] \rangle \end{array} \right] \\ \text{DR} e \\ \text{PARTS} \langle \exists, e, \exists e\alpha, \mathbf{lift}, \mathbf{lift}(e, \chi, \chi') \rangle \end{array} \right]$$

**and**  $\mathbf{lift}(e, \chi, \chi') \triangleleft \alpha$       **and**  $\underline{1} \triangleleft \chi$       **and**  $\underline{2} \triangleleft \chi'$

(29) External possessive form of the verb

$$\left[ \begin{array}{l} \text{PHON} \langle \text{heben} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} [\text{DR } \underline{1}] \rangle \\ \text{COMPS} \langle \text{NP} [\text{DR } \underline{2}] \rangle \end{array} \right] \\ \text{DR} e \\ \text{PARTS} \langle \exists, e, \exists e\alpha, \mathbf{lift}, \mathbf{lift}(e, \chi, \iota \underline{2} : \beta), \mathbf{Poss}, \mathbf{Poss}(\underline{2}, \chi), \gamma \wedge \mathbf{Poss}(\underline{2}, \chi) \rangle \end{array} \right]$$

**and**  $\mathbf{lift}(e, \chi, \iota \underline{2} : \beta) \triangleleft \alpha$       **and**  $\underline{1} \triangleleft \chi$   
**and**  $\gamma \wedge \mathbf{Poss}(\underline{2}, \chi) \triangleleft \beta$

Description of the External Possessor Lexical Rule:

- Input is a verb with at least one argument (the designated possessor).
- This argument must be human (at least animate).
- There must be at least one more dependent of the verb (the designated possessum).
- The output contains a possessor relation holding between designated possessor and possessum.
- Further restrictions on verb, possessor, or possessum can be imposed.

Potentially redundant marking: If the possessum is a relational noun, it may already contributed a **Poss** relation. The Lexical Rule still outputs a verb with a **Poss** relation, which will then be just a redundantly contributed relation.

The Lexical Rule implements a version the control or binding approach to external possessors, as in Hole (2005). This is motivated for German as we do not allow for real possessor raising. Redundant marking allows for free variation of Def and Poss:

(30) Alex hebt die/ihre Hand.

$$\exists e(\mathbf{lift}(e, \mathbf{alex}, (\iota x : (\mathbf{hand}(x) \wedge \mathbf{Poss}(x, \mathbf{alex}))))))$$

- PARTS list of *die Hand*:  $\langle \iota, x, \iota x : \alpha, \mathbf{hand}, \mathbf{hand}(x) \rangle$
- PARTS list of *ihre Hand*:  $\langle \iota, x, \iota x : \alpha, \mathbf{hand}, \mathbf{hand}(x), \underline{2}, \beta \wedge \mathbf{Poss}(x, \underline{2}), \mathbf{Poss}(x, \underline{2}) \rangle$
- PARTS list of *hebt* (basic form):  $\langle \exists, e, \mathbf{lift}, \mathbf{lift}(e, \chi, \chi'), \exists e\alpha \rangle$
- PARTS list of *hebt* (external possessor form):  
 $\langle \exists, e, \mathbf{lift}, \mathbf{lift}(e, \chi, (\iota x : \gamma)), \mathbf{Poss}, \mathbf{Poss}(x, \chi), \delta \wedge \mathbf{Poss}(x, \chi) \rangle$

Under identity of the **Poss** relations, the definite and the possessive form of the sentence have identical PARTS lists.

## 5.4 The Affectee Lexical Rule

Lexical rule to add affectee:

(31) Alex kratzt Chris den Kopf.  
 $\exists e(\mathbf{scratch}(e, \mathbf{alex}), \iota x : (\mathbf{head}(x) \wedge \mathbf{Poss}(x, \mathbf{chris}))) \wedge \mathbf{Aff}(e, \mathbf{chris}))$

(32) a. Basic form of *kratzen*:  $\exists e(\dots \mathbf{scratch}(e, x, y) \dots)$   
 b. Affectee added:  $\exists e(\dots \mathbf{scratch}(e, x, y) \wedge \mathbf{Aff}(e, z) \dots)$

(33) Basic form of the verb

$$\left[ \begin{array}{l} \text{PHON} \langle \textit{kratzen} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} [\text{DR } \mathbf{1}] \rangle \\ \text{COMPS} \langle \text{NP} [\text{DR } \mathbf{2}] \rangle \end{array} \right] \\ \text{DR} e \\ \text{PARTS} \langle \exists, e, \exists e\alpha, \mathbf{scratch}, \mathbf{scratch}(e, \chi, \chi') \rangle \end{array} \right]$$

**and**  $\mathbf{scratch}(e, \chi, \chi') \triangleleft \alpha$       **and**  $\mathbf{1} \triangleleft \chi$       **and**  $\mathbf{2} \triangleleft \chi'$

(34) Affectee form of the verb

$$\left[ \begin{array}{l} \text{PHON} \langle \textit{kratzen} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} [\text{DR } \mathbf{1}] \rangle \\ \text{COMPS} \langle \text{NP} \left[ \begin{array}{l} \text{CASE } \textit{dat} \\ \text{DR } \mathbf{3} \end{array} \right], \text{NP} [\text{DR } \mathbf{2}] \rangle \end{array} \right] \\ \text{DR} e \\ \text{PARTS} \langle \exists, e, \exists e\alpha, \mathbf{scratch}, \mathbf{scratch}(e, \chi, \chi'), \beta \wedge \mathbf{Aff}(e, \chi''), \mathbf{Aff}, \mathbf{Aff}(e, \chi'') \rangle \end{array} \right]$$

**and**  $\mathbf{scratch}(e, \chi, \chi') \triangleleft \alpha$       **and**  $\mathbf{1} \triangleleft \chi$       **and**  $\mathbf{2} \triangleleft \chi'$   
**and**  $\beta \wedge \mathbf{Aff}(e, \chi'') \triangleleft \alpha$       **and**  $\mathbf{3} \triangleleft \chi''$

We can apply the External Possessor LR to the output of the Affectee LR:

(35) Alex kratzt Chris den Kopf  
 $\textit{kratzen} \rightarrow \mathbf{Aff}(\textit{kratzen}) \rightarrow \mathbf{Poss}(\mathbf{Aff}(\textit{kratzen}))$  .  
 a. Basic form of *kratzen*:  $\exists e(\dots \mathbf{scratch}(e, x, y) \dots)$   
 b. Affectee added:  $\exists e(\dots \mathbf{scratch}(e, x, y) \wedge \mathbf{Aff}(e, z) \dots)$   
 c. External possessor added:  
 $\exists e(\dots \mathbf{scratch}(e, x, (\iota y : \dots \wedge \mathbf{Poss}(y, z))) \wedge \mathbf{Aff}(e, z) \dots)$

Free variation between DatDef and DatPoss by redundant contribution of **Poss**:

(36) Alex massiert Chris gerne den/ ihren Rücken  
 Alex massages Chris.DAT with.pleasure the/ her back  
 ‘Alex likes to massage Chris’s back.’

## 6 Analysis of German possessive idioms

Ingredients of the analysis:

- Some idioms do not allow dative possessors  
 $\Rightarrow$  The semantics of the idiom is not compatible with an affectee, i.e., the Affectee LR cannot be applied.
- Some idioms do not allow a possessive pronoun  
 $\Rightarrow$  The possessum noun lexically restricts its specifier to have the same DR value as the noun itself.

- In the Poss–DatDef alternation pattern the possessor can be expressed only once  
⇒ Block redundant possessor marking by a contribution constraint.
- Generalization: Whenever DatPoss is possible, so is DatDef, but not the other way around.  
⇒ We cannot enforce redundant marking, only exclude it.
- Generalization: There is no real case of an idiom that allows a dative (DatDef or DatPoss) and a plain definite  
⇒ In such cases there would be no overt realization of the possessor.

## 6.1 Idiom with Def and Poss alternation

(37) Alex hat hier die/seine Zelte aufgeschlagen.  
 $\exists e(\mathbf{open}(e, \mathbf{alex}, (\iota x : (\mathbf{living-place}(x) \wedge \mathbf{Poss}(x, \mathbf{alex}))))))$

Analysis

- The idiomatic noun does not restrict the determiner’s DR value.
- The idiomatic verb looks like the output of the external possessor LR right away, specifying the required **Poss** relation.
- The idiom semantic is incompatible with an Affectee role.

(38) Lexical entry of the idiomatic noun *Zelte*:

$$\left[ \begin{array}{l} \text{PHON} \langle \text{Zelte} \rangle \\ \text{CAT} \left[ \text{VAL} \left[ \text{SPR} \langle \text{DET} \rangle \right] \right] \\ \text{DR} \quad x \\ \text{PARTS} \langle x, \mathbf{living-place}, \mathbf{living-place}(x) \rangle \end{array} \right]$$

(39) Lexical entry of the idiomatic verb *aufschlagen*:

$$\left[ \begin{array}{l} \text{PHON} \langle \text{aufschlagen} \rangle \\ \text{CAT} \left[ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP}[\text{DR } \mathbb{1}] \rangle \\ \text{COMPS} \langle \text{NP}[\text{DR } \mathbb{2}] \rangle \end{array} \right] \right] \\ \text{DR} \quad e \\ \text{PARTS} \langle \exists, e, \mathbf{open}, \mathbf{open}(e, \chi, (\iota \mathbb{2} : \gamma)), \exists e \alpha, \mathbf{Poss}, \mathbf{Poss}(\mathbb{2}, \mathbb{1}), \beta \wedge \mathbf{Poss}(\mathbb{2}, \mathbb{1}) \rangle \end{array} \right]$$

**and**  $\mathbf{open}(e, \chi, \chi') \triangleleft \alpha$     **and**  $\mathbb{1} \triangleleft \chi$     **and**  $\mathbb{2} \triangleleft \chi'$   
**and**  $\beta \wedge \mathbf{Poss}(\mathbb{2}, \mathbb{1}) \triangleleft \gamma$

## 6.2 Idiom with DatDef and DatPoss alternation

We saw that whenever the DatPoss is possible, so is the DatDef, but not always the other way around. The analysis is similar to the one for the Def/Poss-alternating idioms (Section 6.1, i.e.: The possessum does not restrict the DR of its determiner.

We need to distinguish two cases:

- Case 1: the dative is a reflexive obligatorilly  
Then, the analysis is just like for idioms with a Def/Poss alternation. We just have an additional argument on the verbs’s COMPS list, the obligatory reflexive.
- Case 2: the dative is not obligatorilly a reflexive  
The verb is lexically specified for an affectee role and has a corresponding argument on its COMPS list.  
This case also comprises cases where the possessum is the subject:

(40) jemandem gehen [die/ seine Augen] über  
 someone.DAT go [the/ his eyes].NOM over ‘cry’

### 6.3 Idioms with Poss–DatDef–DatPoss alternation

- The verb is lexically specified with a full possessor semantics, but with no explicit possessor expression.
- The semantics of the idiom is compatible with an affectee. So, the Affectee LR can freely apply.
- If the Affectee LR has not applied, there possessor must be lexically expressed, in this case we can only do this with a possessive inside the possessor.
- If the Affectee LR has applied, there is free alternation whether the possessum contains a redundant possessive or not.

(41) Alex pustet Chris das Licht aus.  
 $\exists e(\mathbf{end}(e, \mathbf{alex}, \iota x(\mathbf{life}(x) \wedge \mathbf{Poss}(x, \mathbf{chris}))) \wedge \mathbf{Aff}(e, \mathbf{chris}))$

(42) Lexical entry of *auspusten*:

PHON	<i>auspusten</i>				
VAL	<table style="border-collapse: collapse;"> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">SUBJ</td> <td style="padding-left: 5px;"><math>\langle \text{NP} [\text{DR } \boxed{1}] \rangle</math></td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 5px;">COMPS</td> <td style="padding-left: 5px;"><math>\langle \text{NP} [\text{DR } \boxed{2}] \rangle</math></td> </tr> </table>	SUBJ	$\langle \text{NP} [\text{DR } \boxed{1}] \rangle$	COMPS	$\langle \text{NP} [\text{DR } \boxed{2}] \rangle$
SUBJ	$\langle \text{NP} [\text{DR } \boxed{1}] \rangle$				
COMPS	$\langle \text{NP} [\text{DR } \boxed{2}] \rangle$				
DR	$e$				
PARTS	$\langle \exists e, \exists e\alpha, \mathbf{end}, \mathbf{end}(e, \chi, \iota \boxed{2} : \beta), \mathbf{Poss}, \mathbf{Poss}(\boxed{2}, \chi'), \gamma \wedge \mathbf{Poss}(\boxed{2}, \chi') \rangle$				

**and**  $\mathbf{end}(e, \dots, \dots) \triangleleft \alpha$       **and**  $\boxed{1} \triangleleft \chi$   
**and**  $\gamma \wedge \mathbf{Poss}(\boxed{2}, \chi') \triangleleft \beta$

### 6.4 Idioms with Poss and DatDef alternation

In these idioms the possessor can either be overtly present inside the possessum-NP or appear as an additional argument. While German is usually flexible with respect to redundant marking of possession, in this cases only one possessor marking is allowed.

- (43) a. Alex küsst Chris FüÙe.  
 Alex kisses Chris.GEN feet  
 $\exists e(\mathbf{obey}(e, \mathbf{alex}, \iota x(\mathbf{will}(x) \wedge \mathbf{Poss}(x, \mathbf{chris}))))$
- b. Alex küsst Chris die FüÙe.  
 Alex kisses Chris.DAT the feet  
 $\exists e(\mathbf{obey}(e, \mathbf{alex}, \iota x(\mathbf{will}(x) \wedge \mathbf{Poss}(x, \mathbf{chris}))) \wedge \mathbf{Aff}(e, \mathbf{chris}))$

- The possessum noun is compatible with a possessive or a definite.
- The verb is lexically specified in such a way that a possessor semantics must be present, but this semantics is not fully contributed.  
 $\Rightarrow$  Another element in the clause needs to contribute it.  
 But: There is some possessive semantics in the verb's PARTS list.  
 Ergo: The External Possessor LR cannot be applied.
- Contribution requirement: We also require that the possessor semantics may be contributed only once in the structure  $(\mathbf{Poss}(\boxed{2}, \boxed{3})^1)$

(44) Lexical entry of the idiomatic *Füße*:

$$\left[ \begin{array}{l} \text{PHON} \langle \text{Fü\ss}e \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \rangle \\ \text{COMPS} \langle \rangle \\ \text{SPR} \langle \text{DET} \rangle \end{array} \right] \\ \text{DR} \underline{2} \\ \text{PARTS} \langle \underline{2}, \text{will}, \text{will}(\underline{2}) \rangle \end{array} \right]$$

(45) Lexical entry of *küssen*:

$$\left[ \begin{array}{l} \text{PHON} \langle \text{küssen} \rangle \\ \text{VAL} \left[ \begin{array}{l} \text{SUBJ} \langle \text{NP} [\text{DR} \underline{1}] \rangle \\ \text{COMPS} \langle \text{NP} [\text{DR} \underline{2}] \rangle \end{array} \right] \\ \text{DR} e \\ \text{PARTS} \langle \exists e, \exists e\alpha, \text{obey}, \text{obey}(e, \chi, \iota \underline{2} : \beta), \gamma \wedge \text{Poss}(\underline{2}, \underline{3})^1 \rangle \end{array} \right]$$

**and**  $\text{obex}(e, \dots, \dots) \triangleleft \alpha$       **and**  $\underline{1} \triangleleft \chi$   
**and**  $\gamma \wedge \text{Poss}(\underline{2}, \underline{3})^1 \triangleleft \beta$

Case 1: The dative is not realized: Then, the only way to include a possessor is by realizing it inside the possessum.

Case 2: The dative is realized: In this case, a possessive may not occur inside the possessum NP, because a possessive pronoun would contribute the **Poss** relation a second time.

## 7 Conclusion

- Possessive alternations of idioms interact with the possessive constructions available in a given language.
- For German: no real possessor raising; affectee interpretation of dative external possessors.
- LRS allows to capture redundant marking directly.
- More detailed look at subcases within the alternation patterns.
- Extension to other languages? Also: microvariation

## References

- Almog, Lior. 2012. The formation of idioms: Evidence from possessive datives in Hebrew. MA thesis, Tel Aviv University. [http://humanities.tau.ac.il/linguistics\\_eng/images/stories/Lior\\_Ordentlich\\_MA\\_2012.pdf](http://humanities.tau.ac.il/linguistics_eng/images/stories/Lior_Ordentlich_MA_2012.pdf).
- Bargmann, Sascha & Manfred Sailer. 2015. Syntactic flexibility of non-decomposable idioms. Poster at the 4th General Parseme Meeting, Valletta, Malta, March 2015.
- Barker, Chris. 1995. *Possessive description*. Stanford: CSLI Publications.
- Deal, Amy Rose. 2013. Possessor raising. *Linguistic Inquiry* 44(3). 391–432.
- Dudenredaktion (ed.). 2002. *Redewendungen. Wörterbuch der deutschen Idiomatik*, vol. 11 Duden. Mannheim, Leipzig, Wien, Zürich: Dudenverlag 2nd edn.
- Egan, Andy. 2008. Pretense for the complete idiom. *Noûs* 42(3). 381–409.

- Egg, Markus. 2011. Underspecification. In Claudia Maienborn, Klaus von Heusinger & Paul Portner (eds.), *Semantics: An international handbook of natural language meaning*, 533–572. Berlin: de Gruyter.
- Haspelmath, Martin. 1999. External possession in a European areal perspective. In Doris L. Payne & Immanuel Barshi (eds.), *External possession*, 109–135. Amsterdam and Philadelphia: Benjamins.
- Hole, Daniel. 2005. Reconciling ”possessor” datives and ”beneficiary” datives — towards a unified voice account of dative binding in German. In Claudia Maienborn & Angelika Wöllstein (eds.), *Event arguments: Foundations and applications*, 213–242. Tübingen: Niemeyer.
- Horvath, Judith & Tal Siloni. 2009. Hebrew idioms: The organization of the lexical component. *Brill’s Annual of Afroasiatic Languages and Linguistics* 1. 283–310.
- Jensen, Per Anker & Carl Vikner. 2004. The English prenominal genitive and lexical semantics. In Ji yung Kim, Yury A. Lander & Barbara H. Partee (eds.), *Possessives and beyond: Semantics and syntax*, vol. 29 University of Massachusetts Occasional Papers in Linguistics, Amherst: GLSA Publications.
- Kay, Paul & Ivan A. Sag. ms. A lexical theory of phrasal idioms. Available at: [www1.icsi.berkeley.edu/~kay/idioms-submitted.pdf](http://www1.icsi.berkeley.edu/~kay/idioms-submitted.pdf).
- Landau, Idan. 1999. Possessor raising and the structure of VP. *Lingua* (107). 1–37.
- Lee-Schoenfeld, Vera. 2006. German possessor datives: Raised and affected. *Journal of Comparative Germanic Linguistics* 9(2). 101–142.
- Linzen, Tal. 2014. Parallels between cross-linguistic and language-internal variation in Hebrew possessive constructions. *Linguistics* 52(3). 759–792.
- Lødrup, Helge. 2009. Looking possessor raising in the mouth: Norwegian possessor raising with unergatives. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the LFG09 conference*, 420–440. Stanford: CSLI Publications.
- Müller, Stefan. 2006. Phrasal or lexical constructions? *Language* 82(4). 850–883. [www.cl.uni-bremen.de/stefan/Pub/phrasal.html](http://www.cl.uni-bremen.de/stefan/Pub/phrasal.html).
- Nunberg, Geoffrey, Ivan A. Sag & Thomas Wasow. 1994. Idioms. *Language* 70. 491–538.
- Penn, Gerald & Frank Richter. 2004. Lexical resource semantics: From theory to implementation. In Stefan Müller (ed.), *Proceedings of the 11th international conference on hpsg 2004, leuven*, 423–443. Stanford: CSLI Publications. [csli-publications.stanford.edu/HPSG/5/penn-richter.pdf](http://csli-publications.stanford.edu/HPSG/5/penn-richter.pdf).
- Penn, Gerald & Frank Richter. 2005. The other syntax: Approaching natural language semantics through logical form composition. In Henning Christiansen, Peter Rossen Skadhauge & Jørgen Villadsen (eds.), *Constraint solving and language processing. first international workshop, csip 2004, roskilde, denmark, september 1-3, 2004, revised selected and invited papers*, vol. 3438 Lecture Notes in Computer Science, 48–73. Springer.
- Pinkal, Manfred. 1996. Radical underspecification. In Paul Dekker & Martin Stokhof (eds.), *Proceedings of the tenth amsterdam colloquium*, 587 – 606. ILLC/Department of Philosophy, University of Amsterdam.
- Pollard, Carl & Ivan A. Sag. 1994. *Head-driven phrase structure grammar*. Chicago and London: University of Chicago Press.
- Potts, Christopher. 2005. *The logic of conventional implicatures* Oxford Studies in Theoretical Linguistics. Oxford: Oxford University Press.
- Pulman, Stephen G. 1993. The recognition and interpretation of idioms. In Cristina Cacciari & Patrizia Tabossi (eds.), *Idioms: Processing, structure, and interpretation*, chap. 11, 249–270. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

- Richter, Frank & Manfred Sailer. 2004. Basic concepts of lexical resource semantics. In Arne Beckmann & Norbert Preining (eds.), *Esslli 2003 – course material i*, vol. 5 Collegium Logicum, 87–143. Vienna: Kurt Gödel Society Wien.
- Richter, Frank & Manfred Sailer. 2006. Modeling typological markedness in semantics. the case of negative concord. In Stefan Müller (ed.), *Proceedings of the 13th international conference on head-driven phrase structure grammar, varna 2006*, 305–325. Stanford: CSLI Publications. [csli-publications.stanford.edu/HPSG/7/richter-sailer.pdf](http://csli-publications.stanford.edu/HPSG/7/richter-sailer.pdf).
- Sag, Ivan A. 2010. Feature geometry and predictions of locality. In Greville Corbett & Anna Kibort (eds.), *Features. perspectives on a key notion in linguistics*, 236–271. Oxford: Oxford University Press.
- Sag, Ivan A. 2012. Sign-Based Construction Grammar: An informal synopsis. In Hans C. Boas & Ivan A. Sag (eds.), *Sign-based construction grammar*, 69–202. Stanford: CSLI Publications.
- Sailer, Manfred. 2010. The family of english cognate object constructions. In Stefan Müller (ed.), *Proceedings of the 17th international conference on head-driven phrase structure grammar, paris, 2010*, 191–211. Stanford: CSLI Publications. [csli-publications.stanford.edu/HPSG/2010/sailer.pdf](http://csli-publications.stanford.edu/HPSG/2010/sailer.pdf).
- Wasow, Thomas, Ivan A. Sag & Geoffrey Nunberg. 1983. Idioms: An interim report. In S. Hattori & K. Inoue (eds.), *Proceedings of the xiiiith international congress of linguistics*, 102–115.
- Wearing, Catherine. 2012. Metaphor, idiom, and pretense. *Noûs* 46(3). 499–522.
- Wunderlich, Dieter. 1996. Dem Freund die Hand auf die Schulter legen. In Gisela Harras & Manfred Bierwisch (eds.), *Wenn die Semantik arbeitet*, 331–360. Tübingen: Niemeyer.