

## Nominal Compounds in German\*

Leah S. Bauke

University of Wuppertal/University of Massachusetts at Amherst

[bauke@uni-wuppertal.de](mailto:bauke@uni-wuppertal.de)

### 1 Introduction:

In (nominal root) compounding a distinction is commonly made between the Romance pattern and the Germanic pattern (cf. inter alia Roeper and Snyder: 2005). The most significant differences are:

Romance	Germanic
• unproductive	• productive
• lexicalized/fixed interpretation	• compositional meaning
• non-recursive	• recursive
➤ lexical process	➤ syntactic process

Some examples:

- (1) English: exile hypocrisy, crisis pundit, lion senator, governor frenzy, filibuster candidate, debacle speech, ...
- German: Weltenfahrt, Präsidentenexperte, Ämterberatung, Gesichterparade, Väterzentrum, Ämtergang, ...
- (2) French: homme grenouille  
Spanish: hombre rana  
English: frogman, i.e. undersea diver, man who sells frogs, man resembling a frog, man who knows an awful lot about frogs, ...

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(3) English: restaurant coffee cup, christmas tree cookie, peanut butter sandwich, baby doll napkin, student film committee, ...

German: Mäusefallentrick, Sonnenstrahlenschutz, Straßenverkehrsordnung, Studentenhäuserbüro, Zwergenschulenpolitik, ...

## **2 Some theoretical background:**

### **2a The Root Compounding Parameter (RCP)**

Languages of the Germanic type are characterized by a morphological parameter that allows Merge to create syntactic objects with the status of complex words (cf. Roeper, Snyder & Hiramatsu 2002).

- a formal distinction between maximal and non-maximal projections (in the representation of phrase structure in the syntactic component)
- set-merge and pair-merge (cf. Chomsky 2000) with two options for set merge:
  - set-merge of a head with a maximal category (complement)
  - set-merge of two non-maximal projections ⇒ RCP (cf. inter alia Snyder 1995, 1996, Snyder and Chen 1997, Slabakova 1999)

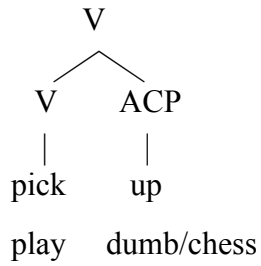
### **2b The Abstract Clitic Hypothesis (ACP)**

In English not only compounding is productive and recursive, English also allows for:

- particle constructions
- causative constructions
- resultative constructions
- double object constructions
- locative constructions
- perceptual constructions

Keyser and Roeper (1992) relate the above to an ACP for verbs and Roeper, Snyder and Hiramatsu (2002) extend this analysis to compounds for languages that follow the Germanic pattern.

(4)



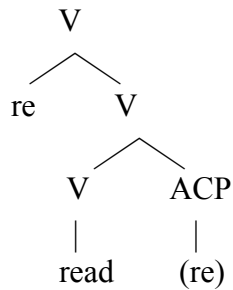
similarly: lose out, stand out, hold up,....

Note: the category of the item in the ACP can be P, N or A

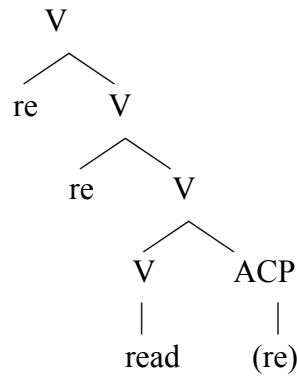
Potential problem:

particle-constructions are leftward-building, compounds are rightward-building

(5a)



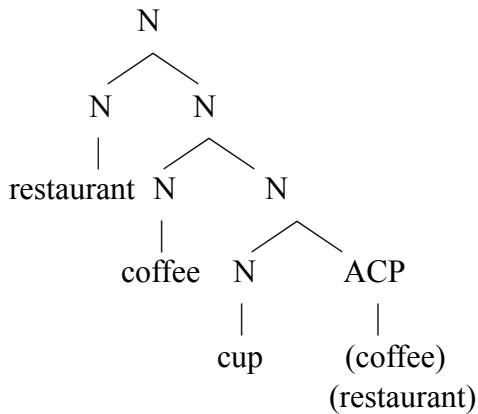
(5b)



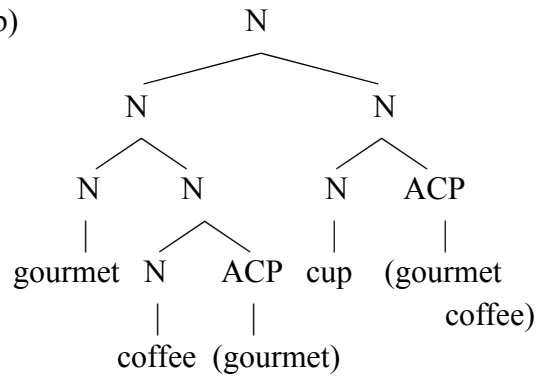
assumptions (cf. Kayne 1994, Chomsky 1995 & Roeper 1999):

- movement operates to the left
- leftward movement is universal
- Spec-Head-Comp structures are preserved
- (non-argument) traces can be deleted

(6a)



(6b)



### 3 A closer look at German

#### 3a The basic pattern

German also allows for the productive formation of recursive compounds with a compositional meaning (cf. example (1) - (3) above). A more detailed look, however, reveals interesting differences:

(7a)	Landkarte country + map 'map'	(7b)	Landsmann country + gen + man 'compatriot'
(7c)	Landeskirche country + gen + church 'national church'	(7d)	Länderspiel country + pl + match 'match between two national teams'

The -s affix on the first stem in (7b) is often described as a linking element (cf. e.g. Bauer 2004):

(8)	Liebesbrief love + s + letter 'love letter'	but note:	➤ Liebe (nom/gen) ➤ Land (stem/nom) - Lands-/Landes (gen)
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The pattern that emerges from the examples in (7) is the following:

- (9a) stem + stem (= 7a)
- (9b) stem + gen + stem (= 7b/c)
- (9c) stem + pl + stem (=7d)

Interpretational differences follow:

- (10a) Landkarte 'map'
- (10b) Landsman 'compatriot', or 'man who loves the countryside', or 'man who lives in the countryside', or 'man who advocates for the conservation of the countryside' etc.
- (10c) Landeskriche 'national church' or 'church that is associated with the country', 'church that shows the country's typical architecture' etc.

(10d) Länderspiel ‘match between two national teams’ or ‘game that involves knowledge about certain countries’, ‘game that is typically played in certain countries’ etc.

Observations:

- a compositional interpretation is only available, when the first stem is inflected for either genitive or plural
- uninflected stems do not allow for a compositional interpretation
- the preferred interpretation need not be the compositional one

(11a) Bettlaken

bed + sheet  
‘bedsheet’

(11b) Bettenburg

bed + pl + castle ‘big ugly hotel with lots of rooms’  
or ‘arrangement of several beds that so form a castle’ or ‘castle shaped like a bed’ etc.

- inflectional marking on the first stem does not force a compositional interpretation but makes it recoverable

The same can be observed in English:

(12a) income ‘money’

(12b) incoming as in ‘incoming mail/news’ etc.

(12c) outgoing as in ‘outgoing mail/person’ etc.

- an outgoing person can either be
  - someone prone to human interaction
  - someone leaving office
  - someone going out a lot

### 3c Further considerations

- compositionally derived compounds can have a lexicalized (preferred) interpretation
- compounding is a morphological process the result of which is stored in the lexicon
  - drift in the lexicon is expected

- drift can either affect the whole compound (cf. examples above)
- or an already drifted lexical item can be involved in compound formation (cf. below)

(13a) Wortwitz	(13b) Wörterbuch
word + wit	word + pl + book
‘verbal wit/pun’	‘dictionary’ (or ‘book that has many words printed on its cover’ etc)

German *Wort* (‘word’) has two plurals with slightly different meanings:

(14a) Wörter	‘words’ i.e. loose collection of words
(14b) Worte	‘words’, i.e. a coherent piece of speech

(15a) An der Tafel stehen viele verschiedene Wörter.

(15b) An der Tafel stehen viele verschiedene Worte.

‘There are many different words on the blackboard’

(16a) Seine Worte erregten viel Aufmerksamkeit.

(16b) Seine Wörter erregten viel Aufmerksamkeit.

‘His words caught a lot of attention’

- despite the lexicalized meaning of the plural meaning of *Wörter* in *Wörterbuch* the compound still has a compositional meaning

(17a) Glasdach	(17b) Gläserntuch
glass + roof	glass + plural + cloth
‘glassroof’	‘dishtowel’ or ‘cloth for wiping windows’ or ‘cloth for wiping glasses’ (or ‘towel that has glasses printed on it’)

- the plural inflection of the first stem of the compound in (17b) leads to a variety interpretation

Once again similar observations can be made in English:

- in English all compounds are compositional regardless of whether the first stem is inflected or not (cf. Roeper & Snyder 2005, Roeper, Snyder & Hiramatsu 2002)
- plural marking on the first stem is possible and leads to different interpretational possibilities

(18) arms race      ‘competition of two nations in producing and displaying all kinds of weapons’, ‘race in which the prize is a selection of arms’ or ‘race carried out to show the contestants support for or disapproval of the Second Amendment’ etc.

➤ in each case it is the special plural meaning of *arms* as weapons that is involved, i.e. it is the drifted meaning of *arms* that is used but the meaning of the whole compound is still compositional

➤ compare: arm race ≠ ‘weapon’ (whatever else the interpretation may be)

(19a) chair factory      ➤ either a large variety of chairs or large samples of just one type

(19b) chairs factory      ➤ definitely more than just one type of chairs

➤ the plural on *chair* in (19b) indicates a variety interpretation comparable to the example in (17b)

### 3d Recursivity

In German only those compounds that have inflectional marking on the first stems are recursive:

(20a) Kindbettfieber  
child + bed + fever  
‘childbeddever’

(20b) Kindbett  
child + bed  
‘childbed’

(20c) Kinderbett  
child + pl + bed  
‘crib’ or ‘bed that children sleep in’ or  
‘bed that has pictures of kids on it’

(20d) Kindergarten  
child + garden  
‘kindergarten’ or ‘small garden’ or  
‘garden for children’ or ‘garden  
maintained by children’

(20e) Kindergartenstuhl ➤ note:  
 child + garden + chair  
 ‘chair in a kindergarten’ or  
 ‘garden chair for children’ or  
 ‘garden chair with children’s motif  
 on its upholstery’ etc.

- none of the compounds in (20) are recursive
- only the compounds in (20c) - (20e) are compositional
- compounds that have been formed in the lexicon can be used for another process of word formation in the lexicon (cf. (20a) and (20b))

Analogously:

(21a) Haustürschlüssel ➤ Haustür  
 house + door + key house + door  
 ‘latchkey’ ‘frontdoor’

(21b) Salzbergwerk ➤ Bergwerk  
 salt + mountain + manufacture mountain + manufacture  
 ‘salt mine’ ‘mine/pit’

(21c) Plastikspielzeugauto ➤ Plastikspielzeug ➤ Spielzeugauto  
 plastic + toy + car plastic + toy toy + car  
 ‘plastic toy car’ ‘plastic toy’ ‘toy car’

(21d) Fensterbankpolster ➤ Fensterbank ➤ Bankpolster  
 window + bench + upholstery window + bench bench + upholstery  
 ‘upholstery for the ‘windowsill’ ‘windowsill’ ‘upholstery for bench’

- each of the compounds in (21) consists of one complex uninflected stem that is stored in the lexicon combined with another stem
- none of these compounds is compositional
- none of these compounds is formed in the syntax

Examples of recursive compositional German compounds productively formed in the syntax are:

(22a) Kindertassenmotiv  
 child + pl + cup + pl + motif  
 ‘motif on a cup designed for children’

(22b) Toilettenbürstenstiel  
 toilet + pl + brush + pl + handle  
 ‘toiletbrushhandle’

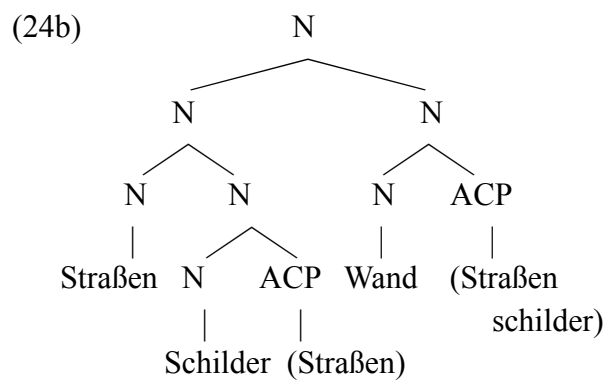
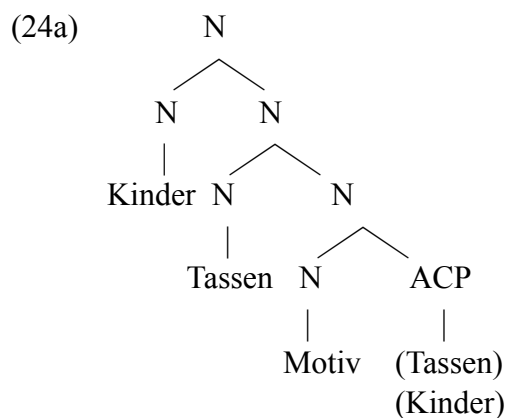
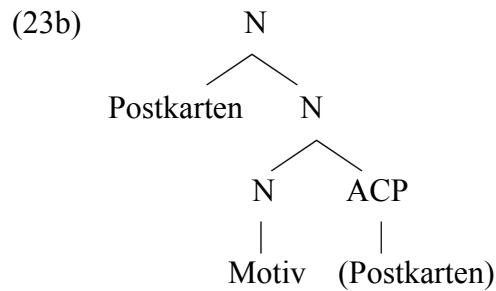
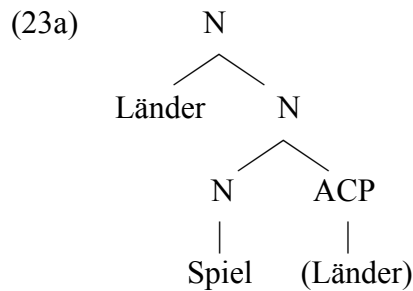
(22c) Sonnenbrillentuch  
 sun + pl + glasses + pl + cloth  
 ‘cloth for wiping sunglasses’

(22d) Straßenschilderwand  
 street + pl + sign + pl + wall  
 ‘wall constructed of streetsigns’

#### 4 The Abstract Clitic Hypothesis in German

##### 4a Theoretical considerations

- compositional (recursive) compounds in German are formed in the syntax
- compositional (recursive) compounds in German have an Abstract Clitic Position



What is the explanation for a compositional interpretation in the examples (23) - (24)?

- in phrasal syntax CP and transitive vP are identified as phases (cf. Chomsky 2001)
- Spell-Out takes place at the phase level
- unaccusative v and all other little x-heads also constitute phases (cf. Marantz 2007)
- two processes of syntactic word formation need to be distinguished:
  - combination of a root with a little x-head (‘outer morphology’)
  - combination of a functional head with a piece of structure that already has a category determining node (‘inner morphology’)
- roots cannot constitute phases
  - combination of two stems does not constitute a phase
  - meaning contribution of the first stem is not realized independently
  - interpretation cannot be compositional
  - inflectional marking on the first constituent of a compound indicates that this is not just a root
    - it is a root combined with a category determining little n head
    - this constitutes a phase and triggers Spell-Out
    - inflectional marking is either plural or genitive Case
      - both are interpretable N-features (cf. Chomsky 1995)

#### 4b Additional consequences

Attachment of a category determining node bears interesting consequences for the ACP:

- ACP can in principle be filled with lexical items of any lexical category (cf. Keyser and Roeper 1992) → (25a)
- it is possible to insert more than one element of the same category type → (25b)
- it is **not** possible to insert several elements of different category types → (25c)

(25a) pick up      V-P lose faith    V-N play dumb     V-A	(25b) reread      V-prt  (25c) *rewrite up
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- **ungrammaticality of (25c) suggests that lexical items inserted into ACP must be specified for a lexical category**
- **items inserted cannot be just stems**

(26a) Nashorn nose-stem + horn 'rhinoceros'	(26b) Nasenrücken nose + pl + back 'bridge'
(27a) Augapfel eye-stem + apple 'eyeball'	(27b) Augenlicht eye + pl + light 'eyesight'
(28a) Münztelefon coin-stem + telephone 'payphone'	(28b) Münzenschrank coin + pl + cabinet 'coin cabinet'
(29a) Sprachdefizit language-stem + deficit 'language deficit'	(29b) Sprachenschule language + pl + school 'language school'

## 5 Phases and phrases

- CP and vP come out as phases naturally under the assumption that every second phrase head is a phase head (cf. Boeckx 2008)
- not every merge of two items leads to transfer, as this would reduce merge to string formation or concatenation
- every second instance of merge leads to a phase, as this ensures that merge is an instance of set formation (with one set-member remaining active for further computation and the other being shipped off to the interpretational component)

(30) . . . - {Phase, Non-Phase} - {Phase, Non-Phase}.

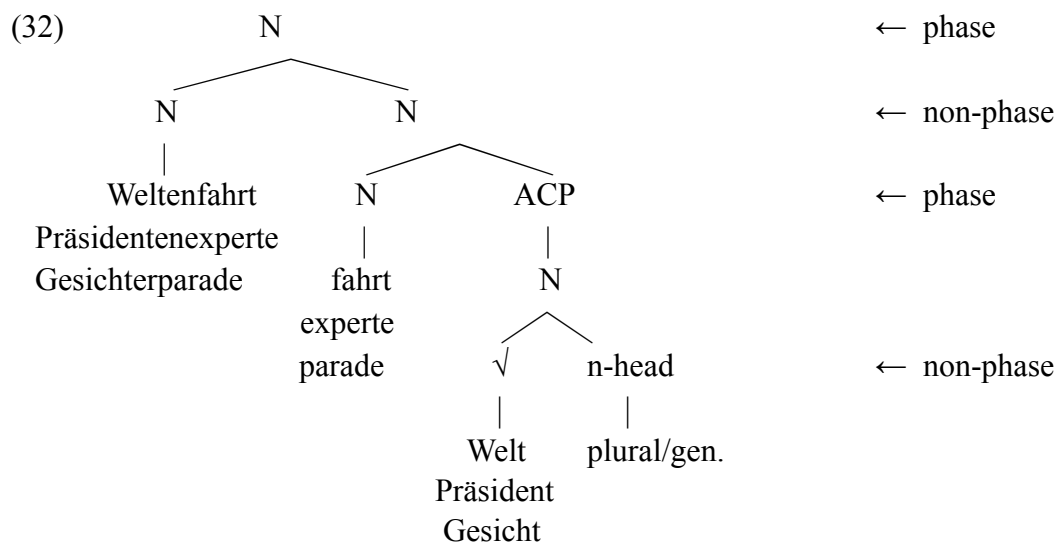
What does this mean for non-phrasal syntax?

- compositional compounding in the ACP is an operation of set-merge of two non-maximal projections (cf. Roeper, Snyder and Hiramatsu 2002)
- the item inserted into the ACP is a root merged with a category determining head (i.e. a piece of structure created by another instance of set-merge of two non-maximal

projections) (cf. Marantz 2007)

- also at the non-phrasal level every second instance of merge leads to a phase
- the structures for the compositional compounds is as follows, (here illustrated for the German compounds in (1) repeated as (31):

- (31) Weltenfahrt  
 Präsidentenexperte  
 Gesichterparade  
 Väterzentrum  
 Ämtergang



- syntactic operations of merge below and above the word level lead to the same pattern

## 6 The question of asymmetry

Transfer at the phase level “creates an asymmetry between what gets spelled out and what doesn’t” (Boeckx 2008: 5). A similar point for nominal compounding is made in Delfitto (et al.) (2008):

- merging two nouns creates a point of symmetry that blocks the derivation from proceeding
- a repair strategy is needed:
  - insertion of a head that attracts one of the set members created by parallel merge

- asymmetry is broken by movement of the attracted set member
- probe head in Germanic languages is a functional head that attracts a gender feature
  - gender and declension class in German are related
  - probe head is realized as a linking element that blocks lexical semantics of the NPs involved
- in Romance languages the relation between declension class and gender does not hold
  - point of symmetry can only be broken at the level of  $\varphi$ -phrases
  - larger pieces of structure
  - interpretative features are involved
  - interpretation is far more restricted

Differences and similarities:

- approach to compounding that involves phases
- full phrases are involved, i.e. either NPs or  $\varphi$ Ps
  - compound parts should behave like phrases in other respects (cf. Roeper, Snyder & Hiramatsu 2002)
- combination of just two roots is “universally unavailable” (Delfitto et al. 2008: 14)
  - what about all the non-recursive, non-compositional compounds in French
  - the compounds in (26a), (27a), (28a) & (29a) are predicted to be illicit
- selection of the linking element based on declension class and gender is unique for every noun
  - excludes all the compounds discussed in this paper
- gender is the phase inducing feature
  - gender is not an interpretable feature and thus must be checked off before Spell-Out

Further considerations:

- cyclically occurring phases and non-phases
- lack of particle constructions, causative constructions, resultative constructions etc. in Romance

## 7 Conclusion

- two types of nominal compounds in German
  - compositional and recursive compounds that are formed in the syntax
  - non-compositional and non-recursive compounds formed in the lexicon
- distinction based on presence vs. absence of inflectional marking on the first stem
  - inflectional features are either plural or genitive Case both are interpretable at Spell-Out
  - ACP allows for an explanation of recursivity and shows that the first element cannot be just a stem but must be a stem combined with a category defining little n-head
  - syntactic processes below and above the word-level behave alike

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