

# Deverbal Adjectives and Negatability Patterns

## Word-internal NPI/PPI roots

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Workshop 'History of Negation' hosted by Elitzur Bar-Asher Siegal  
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March 16, 2023

## Topic

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- **Phenomenon:** **Negative adjectives** where — if the negative affix is dropped —
  - (a) base does not exist: **\*(un)aufhörlich** 'incessant',
  - (b) we are uncertain whether the positive base exists:  
**?(un)glaublich** 'unbelievable', or where
  - (c) the positive base does exist but means something else:  
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  - (c) the positive base does exist but means something else: **\*(un)vergesslich** 'unforgettable'.
- We call these adjectives BNDAs. They are interesting because their interpretation still seems **compositionally transparent** and the formation is still **productive**: **unkaputtbar** 'unbreakable'.

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- **american** vs. **unamerican** vs. **non-american**: Intersective adjective becomes gradable by affixation.
- **sad** vs. \***unsad** negative adjectives do not like **un**-affixation
  
- Zimmer's Generalization (1964): **un-** does not attach freely with non-deverbal roots. If the root is negative in , **un-** may not attach.

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Deverbal roots: **un-** attaches freely, no emotional coloring

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**disput-ed** vs. **un-disput-ed** ok!
- Formation of the participle makes the negative root invisible for **un-**affixation. (Siegel's adjacency principle, pace Horn (1989, 277)) Bracketing matters: **un-[disput-ed]**.

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- Open question: Rebracketing?:  
**[un-disput]-ed** ⇒ **un-[disput-ed]**

## Our problem with respect to BNDAs

- BNDAs are deverbal, compositional and productive: Their roots should exist. But they don't.
- Sometimes the roots of BNDAs are negative in some sense - still **un**-affixation occurs. But it should not. Is there an independent explanation for that in case of BNDAs?
- Maybe BNDAs open a window onto the development of **un**- from a verbal affix to an adjectival affix.

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- German dialects still show stages of Jespersen's cycle: Bavarian as a Negative Concord Language.
- Polysemy: Sometimes **un-** may go back to the German equivalent of 'without', for example in **ungefähr** 'approximately' (from **ane gefærde** 'without bad intention', lit. 'without danger'). Denominal derivation.

## The questions and some answers

- What is the interpretation of BNDAs?  
And how do they develop?
- **Answers in the literature**  
BNDAs are **lexical idiosyncrasies**, boring phenomenon (Lenz, 1995; Motsch, 2004), grammaticalized (👉): This view cannot explain productivity/transparency.  
BNDAs are cases of **irregular simultaneous affixation** (Kempf, 2016): Ad hoc. Simultaneous affixation is usually inflectional, not derivational.  
BNDAs are just **relicts of an earlier stage** of a language. The bases are missing by accident. (Horn, 1989; Lenz, 1995; Reiß, 2006; Kempf, 2016; Schneider, 2019).
- BNDAs just an accident? Probably not.

## Our Hypothesis

- **Suggestion:** The existence of BNDAs has to do with the development of verbal negation in German, and from a negative concord language to a double negation language, i.e. with Jespersen's cycle.
- **Idea:** The base of a BNDA is kind of a NPI. **un-affixation licenses a word-internal NPI.** The base needs a wordmate licenser.
- We may observe a shift of the licensing paradigm from clausemate licensing to wordmate licensing (ultra-local licensing).
- **Prediction:** BNDAs with NPI bases should pair up with PPI counterparts in meaning: Duality groups (Löbner, 1990).

# Overview

- 1 Introduction
- 2 BNDAs
- 3 Analysis
- 4 Further NPI evidence
- 5 Conclusion

## Examples Type 1: Base does not exist (anymore)

- -lich-adjectives
 

unaufhörlich	*aufhörlich	,incessant'
unerbittlich	*erbittlich	,relentless'
undurchdringlich	*durchdringlich	,unpenetrable'
- -bar-adjectives
 

unabweisbar	*abweisbar	,irrefutable'
unentrinnbar	*entrinnbar	,inescapable'
unnahbar	*nahbar	,inaccessible'

Lenz (1995, 100ff.) lists 89 **un**-adjectives, where the positive base has been lost, but is attested for earlier language periods.

One occurrence in DWB: Ich hab das ewig leben **nit** für **aufhörlich** gehalten, sondern für ewig gehalten. Frank chron.430<sup>b</sup> 'I didn't consider life ever ending'.

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## Examples Type 2: Base is (still there but) rare

- -lich-adjectives  
unglaublich ?glaublich ,un-believable‘
- -bar-adjectives  
unabdingbar ?abdingbar ,in-dispensible‘

**Glaublich** ‘believable’ is attested to be licensed in the environment of **kaum** ,hardly‘, an NPI-context and there is one occurrence of **abdingbar** in the DWDS-Kernkorpus in the environment of **nicht** ,not‘.

⇒ **NPI-effect?**

## Examples Type 3: Base means something else

- -lich-adjectives  

<b>unvergesslich</b>	<b>vergesslich</b>	‘un-forgettable’
untröstlich	tröstlich	‘un-consolable’
unverantwortlich	verantwortlich	‘ir-responsible’
- ein vergesslicher Mensch ‘a forgetful person’ (active)  
ein unvergessliches Ereignis ‘an un-forgettable event’  
(passive)

The positive base serves as a predicate over the subject, and the **un**-adjective as a predicate over the object.

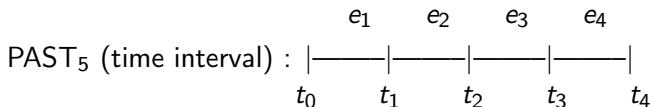
⇒ **argument shift/passivization**

## Intermediate Summary

- BNDAs might not be a uniform phenomenon.
- Some cases remind us of NPI effects though: dropping negation leads to unacceptability. The first one to note this was probably van der Wouden (1997).
- Some BNDAs have a special semantics: “not not *P* anymore”, “impossible to not *P*”: dual negation.
- The verbal bases fall into different semantic classes (see Dowty, 1979, for classes): aspectual verbs, attitudinal verbs, causative verbs, verbs of motion. All these verb classes are somehow quantificational and/or rely on a scale.
- In addition: Ergativity might play a role (Horn, 1989, 279): a question of scope of negation/scale reversal?

## Analysis Informally

- The aspectual adjective **unaufhörlich** 'incessantly' relates alternative propositions to a contextually given time frame (or topic time).
- **Es schneite unaufhörlich** 'It was snowing incessantly'
- One possible partition for events:



- All events must be events of snowing for our sentence to be true.

## An analysis like that for **only**

Following **Krifka 2000** roughly

- (1) **Es schneite unaufhörlich** 'It was snowing incessantly'

Two meaning components: presupposition and assertion

- (2) Component 1:

$$\exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ SNOW(t)]$$

- (3) Component 2:

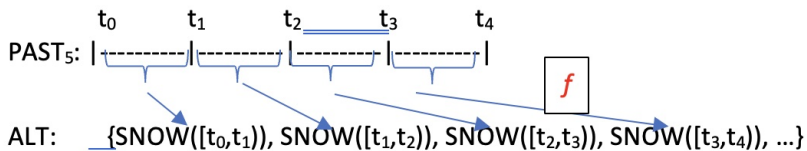
$$\forall p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ t \subseteq PAST_5 \ \& \ p(t)] \rightarrow p =_{ALT} SNOW]$$

where  $=_{ALT}$  is aligned with the time interval  $PAST_5$

- (4) Alternatives:  $ALT = \{ SNOW, \neg SNOW, \dots \}$  intensions

## Alignment informally

- There is a function  $f$  from time intervals to alternatives, that relates possible alternative events that follow each other to a subinterval of the time interval (see Krifka 2000, 406 for a definition of alignment)



## An analysis like that for **only**, reformulation

- (5) Component 1:  $\exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ SNOW(t)]$
- (6) Component 2:  $\forall p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ t \subseteq PAST_5 \ \& \ p(t)] \rightarrow p =_{ALT} SNOW]$

where  $=_{ALT}$  is aligned with the time interval  $PAST_5$

- (7) **Reformulation:**  $\neg \exists p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ p(t)] \ \& \ \ominus[p =_{ALT} SNOW]$

where  $=_{ALT}$  is aligned with the time interval  $PAST_5$

## Aufhörlich does not allow for **un**-dropping

- (8) **Component 1**:  $\exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ SNOW(t)]$
- (9)  $\# \neg \exists p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ p(t)] \ \& \ [p =_{ALT} SNOW]]$

where  $=_{ALT}$  is aligned with the time interval  $PAST_5$

Dropping the second negation in the reformulation would contradict the meaning component 1. **un-** corresponds to the internal negation cf. Heim (2006) und von Stechow (2009). An explanation in accordance with Krifka's NPI (1995) account.



## NPIs have counterparts: PPIs (from aspectual verbs)

**un-aufhörlich** 'not stopping/continuing' \***aufhörlich**<sub>NPI</sub>  
**anfänglich**<sub>PPI</sub> 'starting'

The counterpart *anfänglich* in fact avoids negation  
 (like *some*, Szablocsi (2004))

- a \***unanfänglich**: No **un-**affixation
- b **Es regnete anfänglich** 'It rained initially'
- c **Es regnete anfänglich nicht** 'Initially, it didn't rain'
- d **Ich glaube nicht dass es nicht anfänglich regnete**  
 'I don't think that it didn't rain initially'

Contrast: **Es regnete nicht ANfänglich, sondern unauFHÖRlich**  
 'It didn't rain iNItially, but inCESSantly.'

## Anfänglich: An analysis like that for first

Following Krifka 2000 roughly

- (10) **Es schneite anfänglich** 'It snowed initially'
- (11) Component 1:  $\exists t[t < t_0 \ \& \ t \subseteq PAST_5 \ \& \ SNOW(t)]$
- (12) Component 2:  $\forall p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ t \subseteq PAST_5 \ \& \ p(t)] \Rightarrow [p \geq_{ALT} SNOW]]$

where  $\geq_{ALT}$  is aligned with the time interval  $PAST_5$

**Idea:** **anfänglich** is like **erst** 'first', another PPI well known from the literature.

## Anfänglich does not allow for **un**-affixation

- (13) **Reformulation:**  $\neg\exists p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ p(t)]] \ \& \ \neg[p \geq_{ALT} SNOW]]$

where  $=_{ALT}$  is aligned with the time interval  $PAST_5$

Adding a third negation (internal negation) in meaning component 2 would contradict meaning component 1. **un**- corresponds to the internal negation cf. Heim (2006) und von Stechow (2009). An explanation in concord with Krifka's PPI (1995) account.

- (14)  $\# \neg\exists p[p \in ALT \ \& \ \exists t[t < t_0 \ \& \ PAST_5 \subseteq t \ \& \ p(t)]] \ \& \ \neg\neg[p \geq_{ALT} SNOW]]$

## NPI Evidence

- 1 Licensing conditions for the unnegated bases in **earlier stages** seem less strict (more research needed). Our hypothesis is that they pattern with sentential licensing in Present Day German: Negation, question, **if**-clause etc..
- 2 NPIs have counterparts: PPIs (compare **some/any/no**)
- 3 Negation may rescue a negated PPI.  
Negated PPIs behave like NPIs (Szabolcsi, 2004):  
**I don't think that John didn't say something<sub>ppl</sub>.**  
Thanks to Manfred Sailer.

How does **un**-affixation and BNDAs fit into the picture?

# 1 Earlier stages: comparative, question, conditional

Deutsches Wörterbuch von Jacob Grimm und Wilhelm Grimm, DWB

<https://www.dwds.de/wb/dwb/>

- **künig Ätzel ist vast gnedig und güetig gewesen, mer dan gläublich** ist Aventin 4, 1138 L. pace DWB 'King Etzel was almost gracious and kind, more than (ever) believable'
- **wo die red zweiflig oder das gesetz zu rauhe sei, soll man alweg den sinn ansehen** Seb. Franck sprüchw. (1541) 2, 189<sup>b</sup> pace DWB 'if it is possible to not believe the speech'
- **ich will in suochen als ein frünt, ob ich im tröstlich helfen künt** Murner v. d. gr. Luther. narren v. 4515 Merker pace DWB 'I want to look for a friend whether I can help him by consoling him.'

# 1 Alleged Counterexample: Denominal derivations

Denominal (**un**)**anfänglich** 'with/without beginning' has a different meaning from deverbal **anfänglich** 'initial'. **un**-derivations are polysemous.

<b>ungefährlich</b>	<b>gefährlich</b>	‚without/with danger‘
<b>unbändig</b>	<b>*bändig</b>	‚lit. without/*with bonds‘
<b>unanfänglich</b>	<b>anfänglich</b>	‚without/with a beginning‘

There is a literal use of **unanfänglich** in the mystic/philosophical literature: **was uranfänglich ist ist auch unanfänglich** Rückert 8,629 pace DWB 'If something is URANFÄNGLICH (primitively starting) it is without beginning, as well'; compare the more recent **Das Sein ist nicht unanfänglich** Khella 2014, pace Google 'Existence doesn't come without a beginning'. We thank reviewer No.1 for the (critical) remark on this topic.

## 2 Other examples: Dual negation and possibility

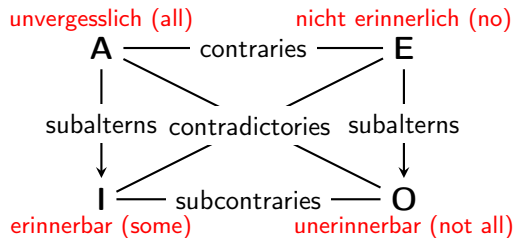
Not every counterpart element that does not allow for **un**-affixation is a PPI.

<b>unvergesslich</b>	'impossible to <b>not</b> remember'	* <b>vergesslich</b> <sub>npi</sub>
nicht <b>erinnerlich</b> <sub>npi</sub>	'impossible to remember'	* <b>unerinnerlich</b>
<b>unerinnerbar</b>	'possible to <b>not</b> remember'	<b>erinnerbar</b>

- a Ein **unvergessliches Gefühl**                    'An unforgetable feeling'
- b Ein **nicht erinnerliches Gefühl**                'An unconscious feeling'
- c Ein **erinnerbares Gefühl**                        'A rememberable feeling'
- d Ein **unerinnerbares Gefühl**                    'A unrememberable feeling'

Tentative conclusion: **un**-affixation triggers low (verbal) negation.

## 2 Square of opposition





### 3 How does all this relate to non-deverbal **un**-affixation?

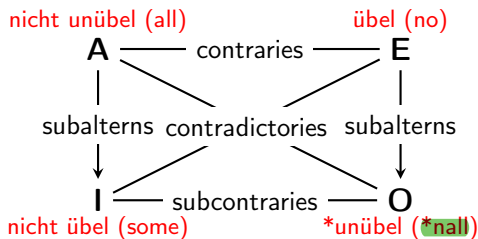
Dual negation may rescue certain PPIs, Szabolscsi (2004). We would like to transfer this observation to adjectives, even those with a negative base.

**übel**<sub>ppi</sub> 'bad'  
\***un-übel**<sub>ppi</sub>  
**nicht unübel**<sub>ppi</sub> 'good'

- a Die Lösung ist **übel** 'The solution is bad'
- b Die Lösung ist **nicht unübel** 'The solution is good'

Zimmer's generalization seems questionable, if second negation occurs. Negation does not cancel out as Horn (1989) observes. Open question: Negative Concord?

### 3 Square of opposition



Open question: How is the adjective analyzed (my other talk):  
Positive operator intervenes between sentential negation and internal **un**-affixation.

Pattern: **nicht un-übel**  $\Rightarrow$  **NEG POS NEG-übel**<sub>ppi</sub> in accordance with Siegel's adjacency principle (for sentential negation though).  
And Zimmer's generalization may be related to that pattern, as well.

## Conclusions, questions, remarks

- BNDAs show patterns of negatability: **no accident**.
- **un-affixation** may **signal low negation** in interaction with an existential quantifier (in addition to high negation).
- Patterns of negatability are related to the topic of **NPI/PPI development**.
- The pairs of BNDA and counterpart may differ in licensing: **wordmate licensing** vs. **sentential licensing** vs. **non-local licensing**.
- Many open questions: What are the licensing conditions for the bases of BNDAs? How does **-lich** and **-bar** formation compare?
- Sometimes a degree word may rescue a base: **\*verdaulich** 'digestable' vs. **leicht verdaulich** vs. **unverdaulich**. What is the relation between **un-** and degree words?

## Thank you!

Thanks also go to the group of linguists at GU, Frankfurt, especially Manfred Sailer, and in addition, Carla Umbach, Manfred Krifka, Ian Roberts, Caro Reinhard and Ede Zimmermann for comments on earlier versions of this talk and also several anonymous reviewers for conference abstracts and the participants of FoDS 7 in Budapest, in particular Josh Phillips and Will Wegner.

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