

# The syntax of the content reading in German nominalizations\*

Johanna Benz

University of Pennsylvania

## 1. Introduction

In the investigation of nominalizations, especially since Grimshaw (1990), the systematic ambiguity of nominals like *observation* between an *event* reading (Complex Event Nominalization, CEN) and a *result* reading (Result Nominalization, RN) has been a central issue.

- (1) a. The frequent *observation* of the night sky delighted the captain. *Event*  
b. The captain's *observations* are on the table in his study. *Result*

In addition to the core issue (A) which is illustrated in 1, the morphological picture is complicated by issues (B) and (C):

- (A) Nominalizations are systematically ambiguous.<sup>1</sup>  
(B) Nominalizers can contribute meaning, but it is not the case that each specific nominalizer has a fixed meaning contribution.  
(C) Some Roots appear with more than one nominalizer, resulting in non-interchangeable derived nouns.

Together, (A)-(C) present a messy situation for form-meaning pairs in nominalization. With these issues in mind, consider that a third, less-studied reading is available for a subset of nominalizations:

- (2) His *observation* that dolphins have returned to the region was confirmed by another ship. *Content*

---

\*Thanks to Dave Embick, Florian Schwarz, Rolf Noyer, Lefteris Paparounas, Andrea Beltrama, and audiences at NELS 53 and Penn for their comments and their help.

<sup>1</sup>A note on terminology: I take the term *ambiguity* to refer to a general property of natural language whereby a given word or structure can have more than one meaning, without implying a commitment as to how the different meanings come about - the latter is the question to which I hope to contribute with this work.

Nominalizations like *observation* in (2), which I am here terming Complex Content Nominalizations (CCNs), are neither (simple) event nominalizations nor result nominalizations, putting new emphasis on the ambiguity problem in nominalization. Because of this, CCNs can help to adjudicate between previous proposals regarding the theorized relationship between the different readings in nominalizations, which fall into two broad classes:

1. **Homophony accounts:** The nominals in (1-2) sound the same, but are in fact different lexical items (Zimmermann 2019) or involve the same root but homophonous affixes or homophonous but distinct syntactic structures (Alexiadou 2001, Moulton 2013, Borer 2013).
2. **Polysemy accounts:** There is only one derived noun *observation*, which can be construed in any of the three senses above by means of a semantic shift in the lexicon (Bierwisch 1990), syntactic coercion (Harley 2009) or allosemy (Wood to appear).

Structural (non-lexicalist) homophony accounts are especially pervasive in the literature, but they are particularly burdened by additional readings – this type of theory typically accommodates one larger and one smaller structure; for example, one with a phrasal verbal projection below the nominalizer and one with the nominalizer Root-attached. Two structures, in such a theory, should correspond to (exactly or at most) two readings. Non-structural (‘lexical’) accounts, on the other hand, potentially predict sets of readings greater than two (‘> 2’), without inherently putting any limit on the expected number of readings. I argue here that a structural polysemy account, in which different interpretations derive from allosemy of a small set of functional heads in the syntactic structure, predicts a small (but ‘> 2’) set of readings, thereby accommodating Complex Content Nominalizations and their characteristic syntax of CP-complementation.

In the remainder of this paper, Section (2) gives the necessary background information on nominalizations in general and their properties in German in particular, Section (3) introduces lessons from the content reading, Section (4) contains the analysis, and Section (5) concludes.

## 2. Some background on (German) nominalizations

Concerning the syntactic context of nominalizations, the property that has received by far the most attention in the previous literature is the ability of some nominalizations to take arguments. According to Grimshaw (1990), Complex Event Nominals (CENs) obligatorily take (internal) arguments, distinguishing them from simple event nominals, result nominals, passive nominals, and nouns that take clausal complements - none of the latter group take arguments. This generalization has two component parts: First, that any CEN *has to* appear with an argument, otherwise the event interpretation will not be available<sup>2</sup>, and, second, any satellite XP appearing with a non-CEN nominal is not a ‘real’ argument. Grimshaw’s generalization is implemented in the syntactic literature in the form of tying

---

<sup>2</sup>There is a complication regarding the status of Simple Event Nominalizations (SEN), a class meant to include nominals with an event interpretation but without an argument. SENs are not discussed here for reasons of space.

*The content reading in German nominalizations*

the event interpretation to more verbal structure in CENs (cf. especially Alexiadou 2001), which then also licenses arguments (cf. Alexiadou and Grimshaw 2008 for the argument that the lexical and syntactic analyses converge in empirical prediction).

Because most nominalizations as such are ambiguous between at least two readings, the argument for Grimshaw's generalization rests on *disambiguation in the syntactic context*: the internal argument becomes obligatory in the presence of material that disambiguates towards the CEN reading, as is illustrated in (3):

- (3) a. The **frequent** expression \*(of one's feelings) is desirable. *'frequent'*  
b. the translation \*(of the book) **in order to make it available to a wider readership** *purpose clause*  
c. the total destruction \*(of the city) **in only two days** *aspectual modifier*

This first set of facts translates more or less directly to German:

- (4) a. Der **häufige** Ausdruck \*(der eigenen Gefühle) ist notwendig.  
the frequent express.NMLZ the.PL.GEN own feelings is necessary  
'The frequent expression of one's feelings is necessary.'  
b. die Übersetz-ung \*(des Buches) **um** es einer breiteren Leserschaft  
the translate-NMLZ the.N.GEN book to it a wider readership  
zugänglich zu machen  
available to make  
'the translation of the book in order to make it available to a wider readership'  
c. die völlige Zerstör-ung \*(der Stadt) **in nur zwei Tagen**  
the total destroy-NMLZ the.F.GEN city in only two days  
'the total destruction of the city in only two days'

While event modifiers such as *'frequent'*, purpose clauses, and aspectual modifiers disambiguate towards the event reading, pluralization and concrete object locations are said to disambiguate away from the event and towards the result reading:

- (5) a. the assignments \*(of the problem) took a long time *plural*  
b. the examination \*(of the patient) **was on the table** *object location*

The first strategy, pluralization, has sparked some controversy for both English and German, and may not work for repeatable events (Ehrich and Rapp 2000, Wood to appear). In German in particular, there is an additional confound that follows from the interpretative possibilities of the postnominal genitive. The example in (6) is given by Bierwisch (1990) as an example of plural CEN in German:

- (6) Die Um disposition-en des Dirigenten zogen sich über Tage hin  
the rearrangement-PL the.M.GEN conductor went REFL for days on  
'The conductor's rearrangements went on for days'

However, the postnominal genitive is not interpreted as the theme, but as the agent of the event in (6), such that the nominalization in fact lacks an internal argument, in line with Grimshaw's generalization for result nominals. The interpretation of the postnominal genitive in German is complicated in general – as (7) shows, some nouns allow the interpretation of the genitive as either their theme or their agent, others are restricted.

- (7) a. die Befrag-ung des Kanzlers  
the question-NMLZ the.M.GEN chancellor  
'the questioning of the chancellor' OR 'the questioning by the chancellor'
- b. die Absetz-ung des Kanzlers  
the remove-NMLZ the.M.GEN chancellor  
'the removal of the chancellor' NOT 'the removal by the chancellor'

As Ehrich and Rapp (2000) discuss, the interpretation of the genitive is constrained by aspectual and event-structural properties of the underlying verb. They argue that telic change-of-state verbs force the theme interpretation of the genitive in the event nominalization as well as its realization. This of course is reminiscent of the most canonically obligatory internal arguments under the event reading in English as well - examples of the 'destruction \*(of the city)' type. To summarize, modulo the complications above, German, like English, abstractly instantiates Grimshaw's generalization: the interpretations of nominalizations interact with their syntactic context.

### 3. Lessons from the content reading

The more particular focus of this work is on clause-embedding nominalizations in German that allow a *content* reading, such as *Beobachtung* ('observation'), *Hoffnung* ('hope'), *Annahme* ('assumption'), *Entdeckung* ('discovery'), Complex Content Nominalizations (CCNs). The content reading is a third interpretation, distinct from the event and result readings, and thereby challenges the view that all non-event readings behave alike syntactically.

The previous syntactic literature on nominalization ambiguity has tended to focus on the ambiguity between the *event* reading and the *result* reading, with the latter serving (to a degree) as a grab bag category for readings in which the noun refers to a state resulting from the event, or alternatively to an abstract or concrete object or entity that comes about in connection to the event. The non-event readings of nominalizations are usually taken to behave more or less like simple nouns, in the sense that they do not retain the properties of the verb in terms of argument and event structure. That is challenged by the syntactic and semantic distribution of nominalizations in the *content* reading, the three readings of *observation* are here illustrated again for German:

*The content reading in German nominalizations*

- (8) a. Die Beobacht-ung des Nachthimmels dauerte drei Stunden.  
 the observe-NMLZ the.M.GEN night.sky took three hours  
 ‘The observation of the night sky took three hours.’ *Event*
- b. Die Beobachtungen der Astronomin sind für immer verloren.  
 the observe-NMLZ-PL the.F.GEN astronomer are for ever lost  
 ‘The astronomer’s observations are lost forever.’ *Result*
- c. Seine Beobacht-ung, dass Planeten sich bewegen, veränderte die  
 his observe-NMLZ that planets REFL move changed the  
 Wissenschaft.  
 science  
 ‘His observation that planets move changed the science.’ *Content*

As the following table shows, the presence of a content interpretation does not depend on the presence of the *-ung* nominalizer, nor is there an implicational relationship between the content and event readings.

Verb	Noun	Result	Event	Content	
beobachten	Beobachtung	✓	✓	✓	observation
vermuten	Vermutung	✓	✓	✓	suspicion
entdecken	Entdeckung	✓	✓	✓	discovery
behaupten	Behauptung	✓	✓	✓	claim
gestehen	Geständnis	✓	✓	✓	confession
überzeugen	Überzeugung	✓	✗	✓	conviction
annehmen	Annahme	✓	✗	✓	assumption
meinen	Meinung	✓	✗	✓	opinion
erkennen	Erkenntnis	✓	✗	✓	realization
ergeben	Ergebnis	✓	✗	✓	result
denken	Gedanke	✗	✗	✓	thought
glauben	Glaube	✗	✗	✓	belief
hoffen	Hoffnung	✗	✗	✓	hope
✗	Gerücht	✓	✗	✓	rumour
etc.					

Table 1: Some German content nominalizations

In interpreting this table, it’s important to keep in mind that there is nuance concerning the interpretative possibilities and other types of polysemy have to be considered. Two nouns in the table, *Annahme* (‘assumption’) and *Behauptung* (‘claim’) are polysemous in an additional way – *Annahme* can mean ‘acceptance’ in addition to ‘assumption’, *Behauptung* can refer to a situation in which control is successfully retained. Both nouns and the corresponding verbs have a completely different argument structure when associated with these meanings, and crucially lack a content reading. The data summarized in the table shows it would limit the scope of the account to limit the data to one overt nominalizer, and that

there is no implicational relationship between readings. The characteristic syntax for content nominalizations is a clausal complement that specifies the propositional content that the nominalization is identified with. As we have seen, some argument-taking properties of the verb are maintained in nominalizations, this is also true of the ability to take a clausal complement.

- (9) a. Der Kapitän beobachtete, dass Delphine sehr schnell sind.  
the captain observed that dolphins very fast are  
‘The captain observed that dolphins are very fast.’
- b. die Beobachtung, dass Delphine sehr schnell sind  
the observe-NMLZ that dolphins very fast are  
‘the observation that dolphins are very fast’

The noun *Beobachtung* (‘observation’) takes a clausal complement, just like the verb *beobachten* does. On the other hand, the noun *Inspektion* (‘inspection’) does not take a clausal complement, just as the verb *inspizieren* lacks this ability for no obvious reason.

- (10) a. \*Die Biologin inspizierte, dass Octopusse sehr klug sind.  
the biologist inspected that octopuses very clever are  
‘The biologist inspected that octopuses are very clever.’
- b. \*die Inspektion, dass Octopusse sehr klug sind  
the inspection that octopuses very clever are  
‘The inspection that octopuses are very clever.’

For this reason, it is sensible to speak of *verb-noun pairs* and their ability to take a clausal complement, a small number of nouns (*Gerücht* ‘rumour’, *Idee* ‘idea’) that license a CP complement without a corresponding verb notwithstanding. Most such verb-noun pairs do not obligatorily take a clausal complement, they can usually take a PP or DP complement instead. These options are equally parallel in the nominalizations to the verbal domain. For example, *hoffen* and *Hoffnung* (‘hope’) allow CP and PP complements, but not DPs.

- (11) a. Sie hofft, dass es regnen wird.  
she hopes that it rain will  
‘She hopes that it will rain.’ *CP complement*
- b. ihre Hoffnung, dass es regnen wird  
her hope that it rain will  
‘her hope that it would rain’
- c. Sie hofft auf Regen.  
she hopes on rain  
‘She is hoping for rain.’ *PP complement*

*The content reading in German nominalizations*

- d. ihre Hoffnung auf Regen  
her hope on rain  
'her hope for rain'
- e. \*Sie hoffte (den) Regen.  
she hoped (the) rain  
'she hoped rain' *no DP complement*
- f. \*Ihre Hoffnung des Regens  
her hope the.M.GEN rain  
'her hope of rain'

A further complication and further evidence for the close relationship between verbs and nominalizations is that some verbs and their nominalizations are picky with respect to the internal arguments that they allow.

- (12) a. \*Sie behauptete die Lüge.  
she claimed the lie
- b. \*Ihre Behaupt-ung der Lüge  
her claim-NMLZ the.F.GEN lie
- c. Sie behauptete das Gegenteil.  
she claimed the opposite
- d. Ihre Behaupt-ung des Gegenteils  
her claim-NMLZ the.N.GEN opposite  
'Her claim of the opposite'

Recognizing such restrictions is important because it makes clear that it would be misleading to conclude from one ungrammatical example of a plausible internal argument with a nominalization that that nominalization is incapable of appearing with *any* internal argument. In the grammatical examples above, the 'internal argument', in the verbal as well as nominal domain, is interpreted as the content of the claim, just as a CP complement would be. This shows that the specification of such a content interacts with the *event* interpretation differently from regular internal arguments. Recall that following Grimshaw (1990), the availability of the event reading is generally thought to be tied to the presence of an internal argument. The specification of the *content*, on the other hand, allows but does not force the *event* reading. However, the content specification does act as an internal argument in the sense that it becomes obligatory when the event interpretation is independently picked out:

- (13) Ihre ständige Behauptung \*(des Gegenteils) nervt ihn extrem.  
her constant claim \*(the.N.GEN opposite) annoys him extremely  
'Her constant claim of the opposite is extremely annoying to him.'

To reiterate this important point, nominalizations with a postnominal DP that specifies their content show a mixed behavior with respect to the availability of the *event* interpretation. On the one hand, they can serve as the obligatory argument in the event interpretation, as in (13). On the other hand, their presence does not force the *event* interpretation – in fact, the most salient interpretation is usually, trivially, the *content* interpretation.

This observation prompts us to briefly return to other putative counterexamples to the generalization that non-event nominalizations cannot take arguments. These have been puzzling to researchers in the previous literature because some of them are very clearly quite grammatical, yet nonetheless so many examples can be constructed in which the ‘result’ interpretation and an internal argument are incompatible. But consider the nature of the following counterexamples in English and German:

- (14)
- a. the discussion of the data (was published in a journal) (Alexiadou 2001)
  - b. the translation of the essay (was on the table) (Melloni 2010)
  - c. Lisa’s concoction of Cherry 7-Up and grain alcohol (Lieber 2017)
  - d. Die Bearbeitung der Sonate ist verschwunden  
the arrangement the.F.GEN sonata is vanished  
‘The arrangement of the sonata has vanished.’ (Ehrich and Rapp 2000)

What these examples have in common with our content noun examples is that postnominal genitive or English *of*-phrase are identified to some extent with the content of the head noun. It is reasonable to expect, then, that the explanation of the relationship between content nominalization and its content-denoting complement will extend to these cases as well.

The last empirical reflection in this section concerns mood. In the verbal domain, the mood alternation in the following sentences seems to track tense:

- (15)
- a. Lukas **behauptet**, dass er schon auf 50 Metallica-Konzerten gewesen  
Lukas claims that he already at 50 Metallica-concerts been  
ist/?sei  
is.(IND/SUBJ)  
‘Lukas claims that he has been to 50 Metallica concerts already’
  - b. Lukas **behauptet-e**, dass er schon auf 50 Metallica-Konzerten gewesen  
Lukas claim-PST that he already at 50 Metallica-concerts been  
?ist/sei  
is.(IND/SUBJ)  
‘Lukas claims that he has been to 50 Metallica concerts already’

The indicative is preferred in the present, the subjunctive in the past tense. Once we turn to clausal embedding with the corresponding nominalization, we find that the mood distinction is preserved. This is unexpected given that there is no tense in the nominal domain.



*The content reading in German nominalizations*

- (16) a. Lukas' **Behaupt-ung**, dass er schon auf 50 Metallica-Konzerten gewesen  
Lukas claim-NMLZ that he already at 50 Metallica-concerts been  
ist/?sei, ist falsch.  
is.(IND/SUBJ) is false  
'Lukas' claim that he has been to 50 Metallica concerts already is false.'
- b. Lukas' **Behaupt-ung**, dass er schon auf 50 Metallica-Konzerten gewesen  
Lukas claim-NMLZ that he already at 50 Metallica-concerts been  
?ist/sei, wiederholt er jeden Tag lautstark.  
is.(IND/SUBJ) repeats he every day loudly  
'Every day Lukas loudly repeats his claim that he has been to 50 Metallica  
concerts already.'

What, if not tense, is reflected in this mood contrast? I contend that the linguistic contexts in (16) favor different readings of the nominalization. The matrix predicate 'is false' in (16a) picks out the *content* reading, while (16b) refers to a repeated event. In German, where one of the main uses of the subjunctive is in reportative contexts (Fabricius-Hansen and Sæbø 2004), it is perhaps not surprising that the subjunctive is licensed when the noun refers to the actually instantiated act of claiming, since this is the context in which a speech act takes place. Since this is somewhat of a peculiarity of German compared to subjunctives in other languages, we expect differences in the patterns of subjunctive licensing.

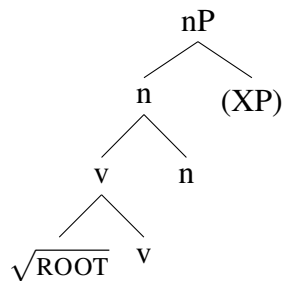
To summarize the empirical picture, nominalizations under the content reading preserve various syntactic properties of their verbal counterparts, notably as the ability to take clausal complements, including restrictions on their distribution as they exist in the verbal domain.

#### 4. The syntax of German nominalizations

Returning to the question of how the different interpretations of a nominalization come about, I hope to have shown that the German data in general supports the conclusion that the realization of the internal argument and the interpretation of the noun do interact, albeit somewhat less straightforwardly than in English due to the greater flexibility in interpretation associated with the postnominal genitive. I conclude that German is mischaracterized as a language where the realization of the nominal argument is divorced from the interpretation of the noun (see eg. Pross 2019 for such a claim). Instead, German, like English, presents ample evidence that event nominalizations, and, indeed, content nominalizations, do possess properties that we can make sense of when we see them as contributed by the embedded verbal head *v*. In this section, I outline a polysemy account of the ambiguity in German nominalizations. The account is an extension of the allosemy account of Icelandic (and English) nominalizations in Wood (to appear), applied to the German data and to the content reading more broadly. On the issue of bringing the content reading into the fold, the account is heavily influenced by insights from Bierwisch (1990), Moulton (2013), and Zimmermann (2019), although the latter two authors propose versions of what I have called the homophony account.

Under the polysemy account, the internal syntactic structure of the nominalization itself is the same across the different interpretations. This is in stark contrast to the pervasive homophony approach. The crucial property of the structure in (17) is as follows: across all interpretations of the noun, the syntactic structure includes a  $v$  and a  $n$  head which combine with the root in that order.

(17)

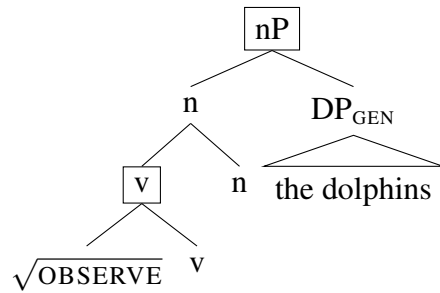


The head  $n$  nominalizes the structure and contributes the noun syntax to the nP. The nominalized structure behaves outwardly like a noun for purposes of further syntactic operations, modification, and distribution. DP arguments in the nominal domain receive genitive case. Meanwhile, the head  $v$  serves as the initial categorizer of the Root. In this capacity, it is able to introduce and make accessible verbal properties of the root, such as event and argument structure. It can also introduce restrictions on the XP complement in (17). Of course, the nominalizations are only syntactically identical. Morphologically, as we have seen,  $n$  can have different exponents, and semantically, different denotations for  $v$  and  $n$  can lead to different interpretations of the noun. On this view,  $v$  and  $n$  are subject to *allomorphy* and *allosemy*. The crucial advantage of this analysis is that it derives the dissociation of exponence and interpretation described in the previous subsection.

I will here briefly review the concept of allosemy, and how it relates to the analysis of the *event* and the *result* interpretation, following Wood (to appear). Then, I will show why the *content* interpretation poses special challenges, and how they can be addressed.

The application of the concept of allosemy to functional items is a relatively recent development in DM (Marantz 2013, Wood 2015, Myler 2016). The basic idea is that a single syntactic head can have different allosemes with different denotations inserted in the process of semantically interpreting the structure. As Wood (to appear) argues, the main difference between the *event* interpretation and the *result* interpretation of a nominalization is captured in an allosemy-based approach under the assumption that nouns under the *event* interpretation have essentially verbal semantics, contributed by  $v$ . As an example, consider the derivation of the *event* interpretation of the phrase *Beobachtung der Delphine* ('observation of the dolphins'), directly applying Wood's (to appear) analysis to the German data.

(18)

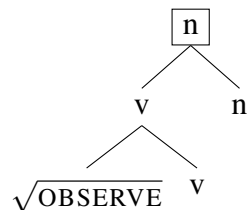


The crucial nodes in terms of the semantic interpretation are boxed in this representation, their denotation is given in (19).

- (19) a.  $\llbracket nP \rrbracket = \lambda e . \text{observe}(e) \ \& \ \text{theme}(\text{dolphins})(e)$   
 b.  $\llbracket v \rrbracket = \lambda x \lambda e . \text{observe}(e) \ \& \ \text{theme}(x)(e)$

As is immediately clear from these denotations, *n* is semantically vacuous in the *event* interpretation, with the result that the verbal denotation is passed up undisturbed and can combine with the internal argument. It is worth reiterating here that that does not mean that *n* should be omitted from the *syntactic* structure - as we have discussed, event nominalizations behave syntactically and morphologically as nouns. In contrast, *v* is semantically vacuous in the *result* interpretation. For this reason, the noun will be unable to take a real internal argument, ‘real’ meaning one that saturates an argument position semantically - it does not have such a position as part of its denotation, because none was introduced by *v*.

(20)



For the result interpretation, the allooseme of *n* introduces the result (with the denotation again directly taken over from Wood):

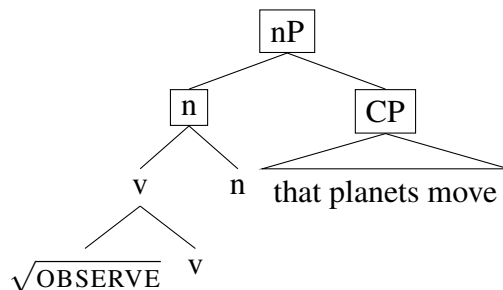
- (21)  $\llbracket n \rrbracket = \lambda x \exists e . \text{observe}(e) \ \& \ \text{result}(x,e)$

The *event* interpretation and the *result* interpretation are mirror images of each other in terms of semantic interpretation: In the *event* interpretation, *v* is interpreted, in the *result* interpretation, it is *n*.

The ambiguity of nominalizations then comes about through the allosemy of the categorizing heads that are a part of their structure. For the content interpretation, this means that the same combination of syntactic heads with the right alloesemes will on the one hand introduce the CP complement, and also semantically identify its content with that of

nominalization itself. There is an interesting disconnect between the assumptions that are typically made about complement clauses in the verbal and nominal domain, respectively (also see Djärv 2019 for discussion). In the verbal domain, complement clauses are usually taken to be relatively argument-like – they do not get case, but are in complement position and have the ability to essentially saturate an argument position (although cf. Kratzer 2006). In the nominal domain, complement clauses are usually taken to be adjuncts (going back to Stowell 1981) and combine by some version of Predicate Modification (Zimmermann 2019) or Restrict (Moulton 2013). CP complements, under this view, are implicitly or explicitly treated as relative clauses (Arsenijević 2009, Krapova and Cinque 2016), see references and discussion in de Cuba (2017). This treatment has the advantage of deriving the identification of noun and propositional content of the complement clause - in this sense, the semantic analysis seems to be on the right track. However, the relative clause analysis does nothing to derive the *distribution* of complement clauses. As I show above, the distribution of CP complements is not the distribution of relative clauses - where the latter combine with just about any noun, clausal complements are restricted to appear with nouns that derive from verbs with the same selectional restriction. I propose here that the allosemy analysis of nominalizations allows us to reconcile this tension. Consider how the approach can be applied to *die Beobachtung, dass Planeten sich bewegen* ('the observation that planets move'). As we have seen, this nominalization has a *content* interpretation, where the noun *Beobachtung* refers to the content of an observation, and the CP specifies that content.

(22)



To achieve the identification of the content of the CP and the content that the noun refers to, I adopt the proposal developed in Kratzer (2006), Moulton (2013), Zimmermann (2019) that the CP and the noun combine by Predicate Modification<sup>3</sup>. Following Zimmermann, the CP is taken to have undergone a type shifting operation to be of type  $\langle e, t \rangle$ .

- (23)
- a.  $\llbracket n \rrbracket = \lambda x \exists e . \text{observe}(x)(e) \ \& \ \text{content}(x)$
  - b.  $\llbracket CP \rrbracket = \lambda x . \text{the content of } x \text{ is 'that planets move'}$
  - c.  $\llbracket nP \rrbracket = \lambda x \exists e . \text{observe}(x)(e) \ \& \ \text{the content of } x \text{ is 'that planets move'}$

<sup>3</sup>Within the specific proposal, the operation is sometimes taken to be Restrict, but this is to deal with a type mismatch that does not arise in the present account because the CP is introduced after the nominalization takes place.

On this analysis, the *content* interpretation is like the *result* interpretation in the sense that it depends on an alloseme of *n*, not *v*. Unlike in the result interpretation, where the presence of *v* is only clearly diagnosed when a verbalizer is morphologically overt, the content interpretation shows that *v* is *syntactically* active - the presence of a CP complement depends on it. As mentioned above, the exponence of *v* and *n* is potentially independent from their meaning. That is, just as *n* has different allosemes, it also has different allomorphs, with no connection between one and the other. This helps to explain why the available interpretations of the nominalizations depend only on the Root and *v*, not on properties that are specific to one exponent of *n*. The ‘small’ syntax of nominalizations also has structural implications that arise from the lack of a phrasal vP below *n*, which correctly rules out adverbial modification, see Wood (to appear) and Paparounas (this volume) for discussion. To summarize, CCNs preserve various syntactic properties of their verbal counterparts, challenging the view that only event nominalizations are syntactically complex and include verbal structure. Under a structural polysemy account, implemented in terms of allosemy of *n* and *v*, the nominalizations of a given a Root have the same syntactic structure, but vary in interpretation according to the different allosemes that are employed.

## 5. Conclusions

The study of word formation and word meaning faces special challenges where form-meaning mappings are not one to one. One such domain is the pervasive ambiguity in nominalizations. This paper’s contribution is to bring German nominalizations in the content reading to bear on broader questions of polysemy, the syntax-semantics interface, and a theory of derivational morphology. I argue for a polysemy account to nominal ambiguity, based on allosemy of *v* and *n* in nominalization structures. The broader claim under investigation is that the polysemy approach affords the right amount of flexibility to the interpretation and structural configuration of nominalizations, and on meaning composition in derivational morphology more generally.

## References

- Alexiadou, Artemis. 2001. *Functional structure in nominals: Nominalizations and ergativity*. Amsterdam: John Benjamins.
- Alexiadou, Artemis, and Jane Grimshaw. 2008. Verbs, nouns and affixation. In *Working papers of the SFB 732 Incremental Specification in Context*, ed. by Florian Schäfer, 1–16.
- Arsenijević, Boban. 2009. Clausal complementation as relativization. *Lingua* 119:39–50.
- Bierwisch, Manfred. 1990. Event nominalizations: Proposals and problems. *Acta Linguistica Hungarica* 40:19–84.
- Borer, Hagit. 2013. *Structuring Sense: Volume III: Taking form*. Oxford: Oxford University Press.
- de Cuba, Carlos. 2017. Noun complement clauses as referential modifiers. *Glossa* 2(1):1–46.

- Djäv, Kajsa. 2019. Factive and assertive attitude reports. Doctoral dissertation, University of Pennsylvania, Philadelphia, PA.
- Ehrich, Veronika, and Irene Rapp. 2000. Sortale Bedeutung und Argumentstruktur: ungnominalisierungen im Deutschen. *Zeitschrift für Sprachwissenschaft* 19:245–300.
- Fabricius-Hansen, Cathrine, and Kjell Johan Sæbø. 2004. In a mediative mood: The semantics of the German reportative subjunctive. *Natural Language Semantics* 12:213–257.
- Grimshaw, Jane. 1990. *Argument structure*. Cambridge: MIT Press.
- Harley, Heidi. 2009. The morphology of nominalizations and the syntax of vp. In *Quantification, definiteness, and nominalization*, ed. by Anastasia Giannakidou and Monika Rathert, 321–343. Oxford: Oxford University Press.
- Krapova, Iliana, and Guglielmo Cinque. 2016. On noun clausal ‘complements’ and their non-unitary nature. *Annali di Ca’ Foscari. Serie occidentale* 50:77–108.
- Kratzer, Angelika. 2006. Decomposing attitude verbs. Talk given in Honor of Anita Mittwoch at The Hebrew University of Jerusalem.
- Lieber, Rochelle. 2017. *English nouns: The ecology of nominalization*. Cambridge: Cambridge University Press.
- Marantz, Alec. 2013. Locality domains for contextual allomorphy across the interfaces. In *Distributed Morphology today: Morphemes for Morris Halle*, ed. by Ora Matushansky and Alec Marantz, 95–116. Cambridge, MA: MIT Press.
- Melloni, Chiara. 2010. Action nominals inside: Lexical-semantics issues. In *The semantics of nominalizations across languages and frameworks*, ed. by Monika Rathert and Artemis Alexiadou, 141–168. Berlin: Mouton de Gruyter.
- Moulton, Keir. 2013. Simple event nominalizations: Roots and their interpretation. In *Cross-linguistic investigations of nominalization patterns*, ed. by Ileana Paul, 119–144. John Benjamins.
- Myler, Neil. 2016. *Building and interpreting possession sentences*. Cambridge: MIT Press.
- Pross, Tillmann. 2019. What about lexical semantics if syntax is the only generative component of the grammar? *Natural Language and Linguistic Theory* 37:215–261.
- Stowell, Tim. 1981. Origins of phrase structure. Doctoral dissertation, MIT, Cambridge, MA.
- Wood, Jim. 2015. *Icelandic morphosyntax and argument structure*. Dordrecht: Springer.
- Wood, Jim. to appear. Icelandic nominalizations and alloosemy. Manuscript, available at [lingbuzz/005004](http://lingbuzz/005004).
- Zimmermann, Ilse. 2019. Nominalisierungen zu intensionalen Verben. *Linguistische Berichte* 259:319–347.