THE ENGLISH -ING FORM

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Abstract

The English *-ing* form, also called *(verbal)* gerund, is often believed to display a mixture of verbal and nominal properties, thus posing problems for any theory of grammar. I will argue that this is actually not the case for every construction involving the *-ing* form, but only for two distinct subclasses, *-ing* forms after genitive subjects and after determiners like *no* or *any*. In the other cases, which are the majority of all cases, the *-ing* form only displays verbal properties. I show that tests traditionally considered to show nominal properties work for clausal phrases as well. Therefore, these tests have to be dismissed. A simple analysis is then proposed for the *-ing* form with accusative and null subject, as these forms do not display a mixture of properties.

1   Introduction

The usual view on the English *-ing* form in sentences like (1) challenges any kind of grammar theory as it is believed to display a mixture of verbal and nominal properties.[†] Thus, within LFG, the *-ing* form calls the principle of lexical integrity and the principle of endocentricity into question.

(1) We object to (his/him) joining the club.

The verbal properties of the *-ing* form include, for example, the governing of a direct object or the possibility of modification by adverbs. On the other hand, the use of the *-ing* form as subjects, objects and complements of prepositions is considered to indicate nominal properties.

In this paper, I argue that the traditional tests for the nominal properties of a phrase have to be revised as these tests also work for clauselike constructions, for example *to* infinitives and *that* clauses. In section 2, I look at the properties of the *-ing* form in detail with respect to the usual tests applied to distinguish between verbal and nominal properties of phrases. In section 3, the nominal properties are examined with respect to *to* infinitives and *that* clauses. It is shown that these clausal constructions also have the supposedly nominal properties and that therefore, these tests have to be dismissed.

Thus, other tests are needed to examine whether the *-ing* form really displays mixed properties. In section 4, I show that only two distinct subclasses of the *-ing* form, constructions with genitive subject and with negative determiners like *no* or *any* display mixed properties and therefore need a complex analysis. The other subclasses of the *-ing* form, forms with acusative or null subject, only display verbal properties and therefore do not pose problems for a syntactic analysis. At the end of the paper, after examining previous analyses briefly, analyses for the different constructions will be proposed.

2   Nominal and verbal properties of the *-ing* form

The usual view (e.g., Hudson 2003, Bresnan 2001, Malouf 2000) on the *-ing* form is that it displays a mixture of verbal and nominal properties. The verbal properties include the possibility of:

(2) a. **governing a direct object:** We object to joining *the club*.

   b. **modification by adverbs:** We object to *immediately* joining the club.

   c. **tense and voice distinctions:** We object to *having joined* the club.

   d. **negation by *not*:** We object to *not* joining the club.

   e. **subjects in non-genitive case:** We object to *him* joining the club.

On the other hand, the *-ing* form has the following properties, which are considered to show the nominal character of the *-ing* form. The *-ing* form can:

(3) a. **function as subject:** *Joining the club* is objected to.

   b. **function as object:** We object to *joining the club*.

   c. **be complement to prepositions:** We object *to* joining the club.

   d. **be coordinated with an NP:** We object to joining ourselves *and* your decision to join.

   e. **be replaced by *it*:** We object to *it*.

Bresnan (2001) also lists further tests which supposedly show the nominal character of the *-ing* form:

(4) a. **tough-movement:** Joining the club is hard to object to.

   b. **topicalization:** Joining this club, we don't want to object to.

   c. **pseudo-clefting:** What we want to object to is joining this club.

   d. **clefting:** It was joining the club that we objected to.

   e. **genitival subjects**: We object to his joining the club.

   f. **fronting:** Whose joining the club did we object to?

3 Dismissing tests for nominal properties

The fact that gerunds can appear in subject and object positions, that they can be coordinated with a nominal phrase and that they can be complements to prepositions has led many researchers to conclude that the external distribution of gerunds is the same as that of nominal phrases and that therefore, they should be nominal at some level (Hudson 2003). However, Kim (2003) challenges this view by pointing out that constructions involving CPs like *that* clauses or *to* infinitives can also occur as subjects (5) and objects (6). Additionally, clauses with *wh*-words (7) and embedded clauses introduced by *whether* or *if* (8) can function as complements of prepositions.

(5) a. To see is to believe. (Kim 2003, 128)

   b. That he arrived very early surprised everyone. (Kim 2003, 128)

(6) a. I like to play tennis. (Kim 2003, 128)

   b. No one remembered that he arrived very early. (Kim 2003, 128)

(7) Let me think about what the consequences will be. (Kim 2003, 129)

(8) a. It depends on whether you have the intention to do it or not. (Kim 2003, 128)

   b. We are not talking about if they get married but when. (Kim 2003, 128)

   Kim (2003) does not discuss any further tests to decide on the external category of gerund constructions. However, throughout the literature, many other tests have been proposed. Hudson (2003) lists coordination of the *-ing* construction with "normal" nominal phrases as a test. This, however, also works with *that* clauses, which can be coordinated with NPs just like the *-ing* form.

(9) a. Me going to Spain and my decision to do so quickly upset my family.

   b. That I would go to Spain and my decision to do so quickly upset my family.

   Malouf (1996) considers a further difference between nominal phrases and clauses. According to him, "clauses, unlike NPs, are generally prohibited from occuring clause internally". He gives the following examples:

(10) a. *I believe that Pat took a leave of absence bothers you. (Malouf 1996, 255)

   b. I believe that Pat's / Pat taking a leave of absence bothers you. (Malouf 1996, 255)

Looking at the data more closely reveals that while a main clause like *Pat took a leave of absence* cannot occur clause internally, an embedded clause might, at least with the appropriate intonation pattern, occur clause internally. Thus, putting (11a) and (11b) together results in the grammatical sentence in (11c).

(11) a. I believe that it bothers you.

    b. That Pat took a leave of absence bothers you.

    c. I believe that that Pat took a leave of absence bothers you.

Thus, it seems that the test proposed by Malouf (1996) to distinguish between nominal and clausal phrases cannot be used in this respect.

Bresnan (2001) proposes some tests to distinguish between what she calls gerundive and participial VPs where she concludes that the gerundive VP, the *-ing* form under consideration in this paper, behaves like a nominal phrase externally. I will show that these tests also work for either *that* clauses or *to* infinitives. This then shows that the tests are not useful to decide whether a phrase is nominal.

The possibility of replacing the *-ing* form with *it* at first glance seems to show the nominal character of the gerundial construction, but the replacement works for *that* clauses or *to* infinitives as well which can be seen in (12) where *it* replaces the *that* clause and the *to* infinitive.

(12) a. I decided that I should go to Spain although it upset my family.

    b. I decided to go to Spain although it upset my family.

Bresnan also proposes "tough-movement" (13) and topicalization (14) as tests for the nominal character of verbal gerunds. However, these two tests work with *that* clauses or *to* infinitives as well.

(13) a. That I should go to Spain was hard for me to decide.

    b. To go to Spain was hard for me to decide.

(14) a. That I should go to Spain, I decided.

    b. To go to Spain, I decided.

Pseudo-clefting (15) works with all three constructions, the *to -ing* construction, *that* clauses and *to infinitives*. In contrast, clefting (16) seems strange with *that* clauses.

(15) a. What I decided was that I should go to Spain.

    b. What I decided was to go to Spain.

(16) a. *It was that I should go to Spain that I decided.

    b. It was to go to Spain that I decided.

To sum up, the tests proposed do not actually prove the nominal character of the verbal gerund construction, but they could also lead to the conclusion that one is dealing with a clausal construction.

4   Subclasses of the *-ing* form and their properties

In the previous section, I dismissed tests proposed to decide on the nominal properties of the *-ing* form. It was shown that the supposedly nominal properties also hold for *to* infintives and *that* clauses. However, the *-ing* form with a genitive subject behaves differently from *to* infinitives and *that* clauses. A genitive subject is not possible with these constructions. Consequently, the fronting of the *-ing* form in questions when asked for the subject is not possible with these two constructions, either.

(17) a. I decided for him/*his to go to Spain.

    b. I decided that he/*his should go to Spain.

Hudson (2003) points out another purely nominal property. He observes that the *-ing* form can also be used with a restricted class of determiners in two special constructions. This is the case for *no* or *any* in constructions like (18)

(18) a. No playing loud music! (Hudson 2003, 581)

    b. There isn't any telling what they will do. (Hudson 2003, 582)

This means that the claim that the *-ing* form in general has an external nominal distribution and is verbal as far as their internal structure is concerned (Hudson 2003, 583) has to be altered. In the tests discussed above, only the possibility of a genitive subject or the determiners *no* and *any* were not possible with either *to* infinitive or *that* clause. This points to a split between the *-ing* form with a genitive subject and the negative determiners on the one hand and the other forms on the other hand. In the other constructions, the external distribution does not need to be nominal. This means that there are different subclasses of *-ing* form constructions which have to be considered separately.

A distinction between three different subclasses of verbal gerund constructions has already been proposed by Malouf (2000). According to him, *POSS-ing* constructions are verbal gerunds with a genitive subject, whereas *ACC-ing* constructions have a subject in accusative case. *PRO-ing* constructions are *-ing* forms without an overt subject. I suggest establishing a fourth subtype, *DET-ing*, to accommodate the cases of the verbal gerund with the negative determiners *no* or *any*.

(19) a. **POSS-ing**: We object to his joining the club.

    b. **ACC-ing**: We object to him joining the club.

    c. **PRO-ing**: We object to joining the club.

    d. **DET-ing**: No joining this club!

It will prove useful to group the *POSS-ing* and *DET-ing* constructions together as they have the external nominal distribution in common. The case of *PRO-ing* is controversial in the literature, with Bresnan (2001) treating it as a subclass of *POSS-ing* and Malouf (2000) stating similarities between this construction and *ACC-ing*. Thus, I will look at some of the properties that the *ACC-ing* and *POSS-ing* constructions do not share and see how the *PRO-ing* construction fits in.

That the *POSS-ing* and *ACC-ing* constructions cannot have exactly the same syntactic analysis can be seen from the fact that they cannot be conjoined.

(20) *John's joining the club and Peter quitting was not a good idea.

As Horn (1975) pointed out (cited in Malouf 2000), the two constructions also behave differently in the triggering of number agreement on the verb in conjoined constructions. While the *ACC-ing* construction triggers singular number agreement, *POSS-ing* constructions normally trigger plural number agreement. In this respect, the *PRO-ing* construction behaves like the *ACC-ing* construction:

(21) a. Me joining the club and him quitting was / *were not a good idea.

    b. My joining the club and his quitting ?was / were not a good idea.

    c. Joining the club and quitting shortly after was /*were not a good idea.

In these conjoined constructions, the *ACC-ing* pattern behaves like a clause while the *POSS-ing* pattern behaves like an NP.

Another distinction between *POSS-ing* and *ACC-ing* constructions involves extraction. Malouf (2000), following Horn (1975), suggests that it is possible to extract a complement out of an *ACC-ing* and *PRO-ing* construction, but not out of a *POSS-ing* construction.

(22) a. Which city do you remember him describing? (Malouf 2000, 38)

    b. Which city do you remember describing?

    c. *Which city do you remember his describing? (Malouf 2000, 38)

Malouf (2000), however, argues that the examples involving coordination and extraction might be ungrammatical due to the semantics of the coordinated structures and because definite NPs cannot be extracted. This challenges the view that

the distinction between *ACC-ing* as clause-like and *POSS-ing* as nominal-like is not as clear as these examples suggest. It still shows, though, that the *PRO-ing* construction is similar to the *ACC-ing* construction. As for the distinction between *ACC-ing* and *POSS-ing*, Malouf (2000) lists further evidence for the phrasal, respectively nominal, distribution of the two constructions.

He discusses the fronting of the *-ing* form with *wh*-subjects under pied piping in restricted relative clauses. While this is possible with *POSS-ing* constructions, it is not with *ACC-ing* constructions. This shows the similarity of the *ACC-ing* construction with clauses and the *POSS-ing* construction with NPs.

(23) a. The person whose being late every day Pat didn't like got promoted anyway. (Malouf 2000, 39)

b. *The person who(m) being late every day Pat didn't like got promoted anyway. (Malouf 2000, 39)

Pied piping with the *PRO-ing* construction does not work as in the *PRO-ing* pattern, the subject of the gerund construction is coreferential with the subject of the main clause. Thus, no conclusion can be drawn on how *PRO-ing* behaves from this argument.

Another difference between the two constructions can be seen in quantifier scope. While a quantified subject of a *POSS-ing* construction can have wide scope, it cannot in *ACC-ing* constructions (Malouf 2000, 33). Here again, the distribution corresponds to nominal and clausal phrases.

(24) a. Someone talked about every team's appearing on television.
$\exists x \forall y$ talk-about' $(x,$ appear-on-tv'$(y))$
$\forall y \exists x$ talk-about' $(x,$ appear-on-tv'$(y))$
(Malouf 2000, 33)

b. Someone talked about every team appearing on television.
$\exists x \forall y$ talk-about' $(x,$ appear-on-tv' $(y))$
(Malouf 2000, 34)

As in the pied piping example above, the test does not work with the *PRO-ing* construction as the subject of the *-ing* form is coreferential with the subject of the main clause. Consequently, (25) has only one reading.

(25) Everyone talked about appearing on television.
$\forall x$ talk-about' $(x,$ appear-on-tv'$(x))$

Considering all the differences discussed, a different analysis for the constructions is justified. This has not been the case in previous analyses. Although Malouf (2000) finds differences between the constructions, he still believes the traditional tests for nominal phrases to display the nominal character of the *-ing* form. Consequently, in his approach, the differences in the different subclasses are only minor

and he claims that "any approach which is unable to give them a uniform analysis will be missing important generalizations" (Malouf 2000, 42f). This will not be the case in my analysis as the traditional tests for nominal properties have been dismissed and thus, the differences in the behavior of the different forms in the tests discussed in this section have a greater impact. Thus, while the *POSS-ing* and *DET-ing* construction really display mixed properties, the *ACC-ing* and *PRO-ing* constructions are purely verbal:

(26)

```
                        -ing form
              _____|_____
             |                                 |
     mixed properties              purely verbal properties
        ____|____                        ____|____
       |         |                      |         |
   POSS -ing  DET -ing              ACC -ing   PRO -ing
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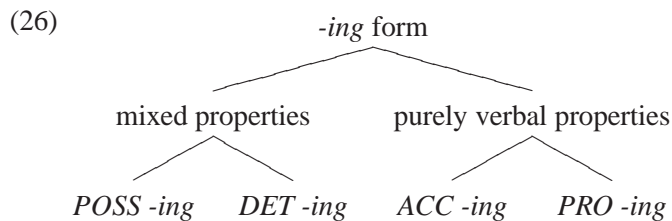
5   Previous analyses

The problem for analyzing the *-ing* form lies in the properties outlined above, the external nominal distribution of the *POSS-ing* and *DET-ing* constructions and their internal verbal structure. Many attempts have been made to find analyses for this problem, not only for gerundial constructions but for mixed categories in general as well. As Bresnan (1997) points out, mixed categories challenge grammar theories in two ways. First, they question phrasal endocentricity as to whether every category has to have a head and second, they raise the problem whether morphemes can belong to separate categories in the syntax and then be joined together into a single surface word, thus challenging lexical integrity.

Two different approaches have been taken to solve these problems: one solution were proposals within the framework of the already established lexical categories of the respective grammar theory. However, they often ran into the two problems mentioned above. The other approaches were proposals introducing a new indeterminate category for constructions with the *-ing* form. In the following, I outline some of the previous analyses and discuss some of the problems with these analyses.

Bresnan (2001) proposes a feature system for LFG with two features, *predicative* categories "which cannot stand alone as arguments but require an external subject of predication" (Bresnan 2001, 120) and *transitive* categories which "may take an object or direct complement function"(Bresnan 2001, 120). In this feature system, the following feature distribution can be assigned:

(27)

	+predicative	-predicative
+transitive	V	P
-transitive	A	N

As I have shown in the previous section, constructions with the *-ing* form take direct objects and do not need an external subject of predication. In this respect,
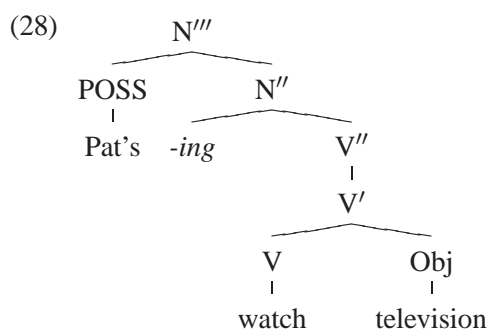
the *-ing* form would be [-predicative, +transitive], a cell which is already filled by prepositions. However, some researchers consider adverbs a major lexical category as well, which does not fit into this system either. Thus, the establishment of an additional category would probably be possible but, as will be seen below, not appropriate to the problem.

Within other grammar theories, there are a lot of different approaches to this problem. For example, Blevins (2005) uses a system with the features $\pm$ N, $\pm$ V and $\pm$ A in conjunction with the use of underspecified entries. Baker's (2005) approach is similar to Bresnan's (2001) system as he claims that the "distinctive property of verbs is that they license a specifier" and that nouns "bear a referential index in the syntax" (Baker 2005, 2). He concludes that the *-ing* form is a "purely nominal projection that exceptionally dominates a purely verbal projection" (Baker 2005, 7).

Some of the approaches to analyzing the *-ing* form as a new indeterminate category use a multiple inheritance hierarchy of categories (Malouf 2000, Chung et al. 2001, Hudson 2003). There are some differences between these proposals in placing the *-ing* form construction under either nouns and verbs on the one hand (Hudson 2003) or under nouns and relational categories, which, for example, also contain verbs and adjectives, on the other (Malouf 2000).

Bresnan (1997) lists two potential problems with what she calls indeterminate category projection theories. The first one is that in most cases the syntactic category of the form in question is morphologically clear. This is not the case with the *-ing* form as *-ing* can be used to form either a noun or an adjective, or, in my analysis, even a verb. A second problem is "that phrasal coherence constrains the mixing of categories" (Bresnan 1997, 4). This means that an indeterminate or underdeterminate analysis does not pay attention to the fact that the *-ing* constructions, more precisely the *POSS-ing* and *DET-ing* constructions, are verbal up to a certain stage and then have an external nominal distribution.

Theories which take the established categories for granted usually either assume no head or a shared head for the *-ing* construction. Approaches with no head were the very first proposals, for example as in (28), which is modeled on the theory of Jackendoff (1977), where the *-ing* "lowers onto the verb via some variation of Affix Hopping" (Malouf 2000) but they clearly violate both integrity and endocentricity principles.

(28)

$$
\begin{array}{c}
\text{N}''' \\
\diagup\ \diagdown \\
\text{POSS} \qquad \text{N}'' \\
\mid \qquad \diagup\ \diagdown \\
\text{Pat's} \quad \textit{-ing} \qquad \text{V}'' \\
\mid \\
\text{V}' \\
\diagup\ \diagdown \\
\text{V} \qquad \text{Obj} \\
\mid \qquad \mid \\
\text{watch} \qquad \text{television}
\end{array}
$$

To avoid this problem, it was suggested that either *-ing* (e.g., Baker 1985, Abney 1987) or the whole *-ing* form (e.g., Pullum 1991, Lapointe 1993) should be the head of the construction. The first kind of theory builds on morphological derivation in syntax and therefore violates the integrity principle. The analyses with the whole *-ing* form as head on the other hand violate the endocentricity principle.

All these approaches have in common that they assume a very similar structure for all subclasses of the *-ing* form, believing in the external nominal distribution with internal verbal properties. Kim (2003), who questions the external nominal distribution for the *-ing* form in general, proposes only an analysis for the *ACC-ing* and *PRO-ing* form. Thus, he ignores the special problems of mixed categories posed by the *POSS-ing* and *DET-ing* forms.

Within the LFG framework, different articles (Bresnan 2001, Bresnan and Mugane 2006) have been written to offer an analysis for the *-ing* form. Bresnan (2001) assumes that the *-ing* form has an external nominal distribution and that the *POSS-ing* construction is the basic form of it. She proposes to analyze the *POSS-ing* form as a VP embedded inside a DP.

Embedding the VP inside a DP rather than an NP avoids some problems previous analyses have had. First, a DP is a functional category and it is generally more accepted that functional categories do not need to have a head.

Second, if the VP is embedded inside an NP, it should be possible for the *-ing* form to be modified by adjectives or nominal negative prefixes, which is not the case (Bresnan 2001). This problem is avoided by embedding the VP inside a DP.

The genitive NP is analyzed as being in the specifier position of DP. As Bresnan (2001) points out and as was discussed in the previous section, there is evidence from quantifier scope that the genitive NP in the *POSS-ing* construction has the same properties as possessive NPs of nouns.

The 'CAT' function (Bresnan and Mugane 2006) is used as the theoretical device of how to embed the VP inside a DP.

(29) V (gerundive) $\Rightarrow n \, \varepsilon$ CAT ((PRED $\uparrow$))

The 'CAT' function adds a constraint that a nominal category n should be "among the c-structure categories of the nodes in the inverse image of the ϕ mapping from the f-structure containing the PRED" (Bresnan and Mugane 2006, 227). This means that the *-ing* form shares the categorization of the corresponding verb, but also has to occur in a nominal f-structure. For example, the *-ing* form *joining* needs a subject and an object like the verb *join*, but it functions as a nominal. Thus, *joining* has the lexical entry in (30).

(30) joining: V: 'joining$<<(\uparrow\text{SUBJ})(\uparrow\text{OBJ})>_v>_n$'

As the POSS function is restricted to the f-structure of nominal categories and thus cannot be linked to the subject of the *-ing* form directly, a lexical rule is needed to identify POSS with the subject of the *-ing* form.

(31) **Possessor Subject of Gerundive Verbs**
    V (gerundive) $\Rightarrow$ ($\uparrow$POSS) = ($\uparrow$SUBJ)

If there is no overt subject, a null subject is introduced into this structure. This means that in Bresnan's (2001) analysis, the *PRO-ing* construction is a subtype of the *POSS-ing* construction. The *DET-ing* construction could be analyzed in the same way.

The problem lies in incorporating the *ACC-ing* construction into the theory. As Bresnan (2001) claims that all *-ing* constructions have an external nominal distribution, she needs a DP which incorporates a sentence because the accusative subject cannot be in the specifier position of the DP. Thus, she suggests a c-structure as in (32b) for the embedded clause in (32a)

(32) a. Mary objected to him joining the club.

b.

```
           DP
           |
           S
         /   \
       NP      VP
       /\      / \
     him   joining the club
```
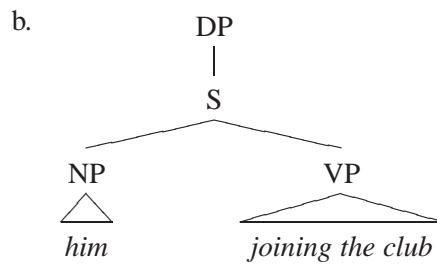
To account for the subject having accusative case instead of genitive case, Bresnan (2001) has to alter the lexical rule in (31) to incorporate the alternative with the accusative as well.

(33) **Subject of Gerundive Verbs**
    V (gerundive) $\Rightarrow$ ($\uparrow$POSS) = ($\uparrow$SUBJ) $\vee$ ($\uparrow$SUBJ CASE) = ACC

The problem with this account is that as was shown before, the *PRO-ing* construction has much more in common with the *ACC-ing* than with the *POSS-ing* construction. This problem is not a major one as the *PRO-ing* construction could be analyzed in the scheme of the *ACC-ing* construction as well.

However, the *ACC-ing* construction behaves much more like a clause in coordination, extraction, pied-piping and quantifier scope. If this clause is embedded inside a DP, though, it is not clear why the DP should still behave like a clause. Embedding S inside a DP is unnecessary and results in an exocentric phrase structure.

Thus, an analysis is needed that avoids the problems presented above. The analysis should also treat the *ACC-ing* and *PRO-ing* constructions alike. As was shown in section 3 and 4, these two constructions do not need to be analyzed as having an external nominal distribution.

6 A new analysis of the *-ing* pattern

As was discussed in section 3 and 4, the *ACC-ing* and *PRO-ing* forms do not have to have a nominal structure, as their distribution can be clausal as well. On the other hand, the *POSS-ing* and *DET-ing* forms display a mixture of properties and therefore need a different analysis. Thus, the basic structures are:

(34) a. ***ACC-ing*** & ***PRO-ing:***   b. ***POSS-ing*** & ***DET-ing:***

```
        VP                                      DP
       /  \                                    /  \
      NP   V'                                 NP   VP
      /\  / \                                 /\   / \
    him  V   DP                             his  V   DP
         |   /\                                  |   /\
      joining the club                        joining the club
```
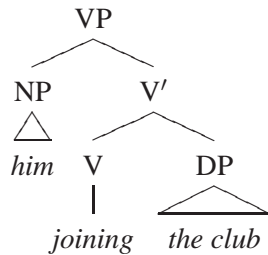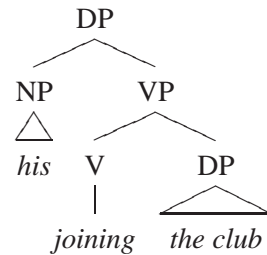
I follow Bresnan's (2001) proposal in that the *ACC-ing* form is a verbal form which requires a subject in accusative case. Thus, the lexical entry for the *ACC-ing* form in the construction is given in (35).

(35) *joining*: V
  (↑PRED)= 'joining <(↑SUBJ)(↑OBJ)>'
  (↑SUBJ CASE) = ACC

As the verb form is uninflected, I assume that the embedded clause is a VP which is headed by the *-ing* form with the accusative subject in the specifier position of the phrase. It was shown before that IPs can be complements of prepositions. Thus, it should not be impossible for other clausal phrases to function as complements of prepositions as well. With VP as complement to P, the f- and c-structure of sentence (36) are given in (37) and (38).

(36) We consent to him joining the club.

(37)
$$
\begin{bmatrix}
\text{PRED} & \text{'CONSENT <SUBJ, OBL>'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'WE'} \\ \text{CASE} & \text{NOM} \end{bmatrix} \\
\text{OBL} & \begin{bmatrix} \text{PRED} & \text{'TO <COMP>'} \\ \text{COMP} & \begin{bmatrix} \text{PRED} & \text{'JOINING <SUBJ,OBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'HIM'} \\ \text{CASE} & \text{ACC} \end{bmatrix} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'CLUB'} \\ \text{DEF} & + \end{bmatrix} \end{bmatrix} \end{bmatrix}
\end{bmatrix}
$$

(38)

IP
├── NP $(\uparrow \text{SUBJ}) = \downarrow$
│   └── N $\uparrow = \downarrow$
│   └── *We* $(\uparrow \text{PRED}) = \text{`WE'}$
└── I′ $\uparrow = \downarrow$
    └── VP $\uparrow = \downarrow$
        └── V′ $\uparrow = \downarrow$
            ├── V $\uparrow = \downarrow$
            │   └── *consent* $(\uparrow \text{PRED}) = \text{`CONSENT<SUBJ,OBL>'}$
            └── PP $(\uparrow \text{OBL}) = \downarrow$
                └── P′ $\uparrow = \downarrow$
                    ├── P $\uparrow = \downarrow$
                    │   └── *to* $(\uparrow \text{PRED}) = \text{`TO <COMP>'}$
                    └── VP $(\uparrow \text{COMP}) = \downarrow$
                        ├── NP $(\uparrow \text{SUBJ}) = \downarrow$
                        │   └── N $\uparrow = \downarrow$
                        │   └── *him* $(\uparrow \text{PRED}) = \text{`HIM'}$
                        └── V′ $\uparrow = \downarrow$
                            ├── V $\uparrow = \downarrow$
                            │   └── *joining* $(\uparrow \text{PRED}) = \text{`JOINING<SUBJ,OBJ>'}$, $(\uparrow \text{SUBJ CASE}) = \text{ACC}$
                            └── DP $(\uparrow \text{OBJ}) = \downarrow$
                                └── D′ $\uparrow = \downarrow$
                                    ├── D $\uparrow = \downarrow$
                                    │   └── *the* $(\uparrow \text{DEF}) = +$
                                    └── N $\uparrow = \downarrow$
                                        └── *club* $(\uparrow \text{PRED}) = \text{`CLUB'}$
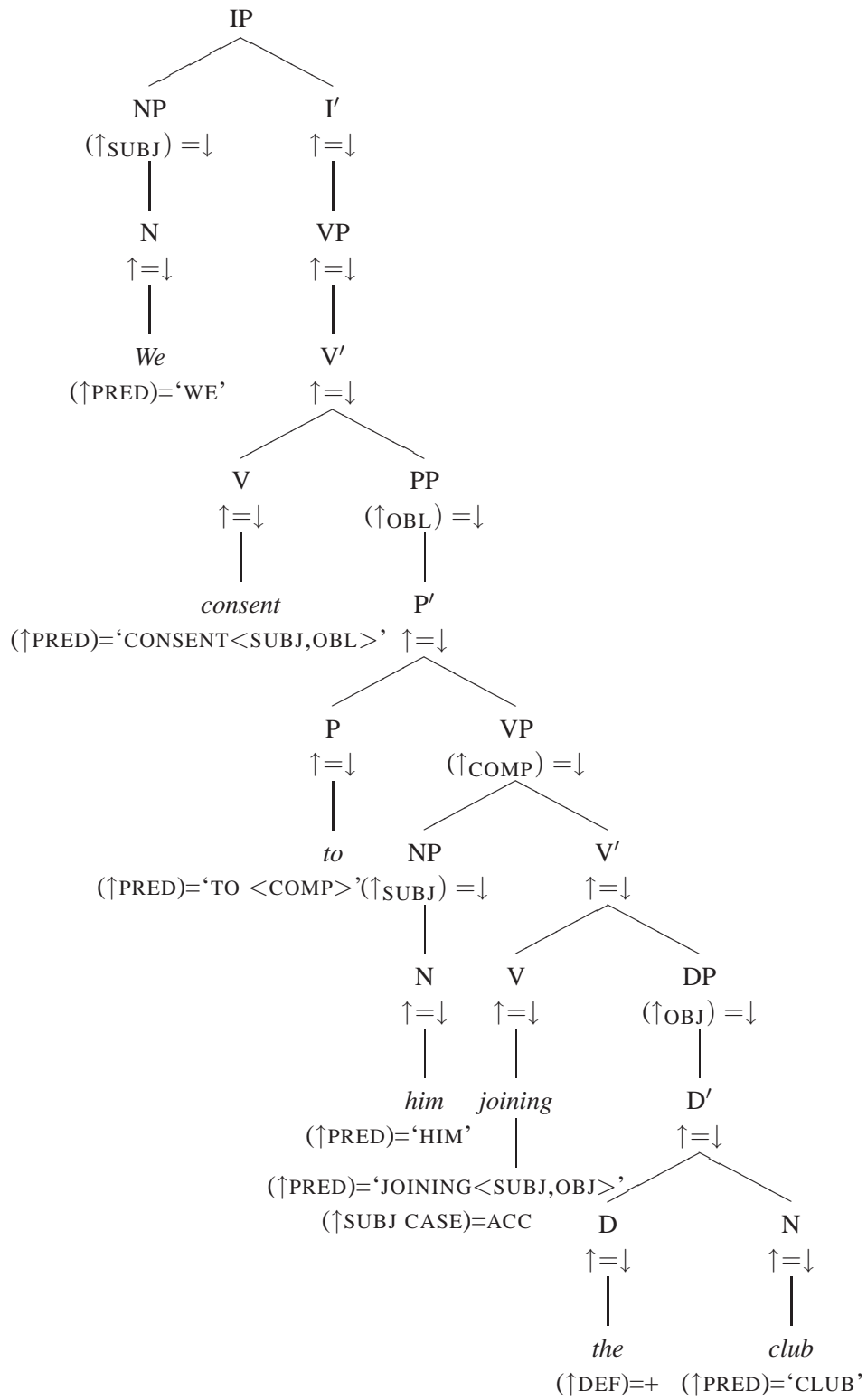
A *PRO-ing* construction exemplifies anaphoric control and will thus have a very similar f-structure:

(39) We consent to joining the club.

(40)
$$
\begin{bmatrix}
\text{PRED} & \text{'CONSENT <SUBJ, OBL>'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'WE'} \end{bmatrix} \\
\text{OBL} & \begin{bmatrix}
\text{PRED} & \text{'TO <XCOMP>'} \\
\text{XCOMP} & \begin{bmatrix}
\text{PRED} & \text{'JOINING <SUBJ,OBJ>'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'PRO'} \end{bmatrix} \\
\text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'CLUB'} \\ \text{DEF} & + \end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$
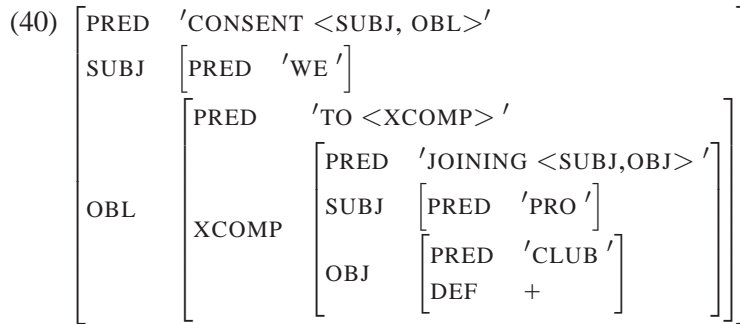
The problem thus remains of how to analyze the *POSS-ing* and *DET-ing* constructions. As was shown above, the external distribution was that of a nominal phrase with a sentential internal structure. The analysis I propose will follow Bresnan and Mugane's (2006) analysis. Thus, we analyze the *POSS-ing* construction as a DP with an embedded VP with the possessive NP in the specifier position of the DP. Therefore, the 'CAT' function is needed. This means we have a second lexical entry for the *-ing* form when combined with a genitive subject. As the POSS function is restricted to the f-structure of nominal categories and thus cannot be linked to the subject of the *-ing* form directly, POSS has to be identified with the subject of the *-ing* form. Thus, the *POSS-ing* form has the lexical entry in (41).

(41) joining: V: 'joining$<<(\uparrow\text{SUBJ})(\uparrow\text{OBJ})>_v>_n$'
$(\uparrow\text{POSS}) = (\uparrow\text{SUBJ})$

The preposition *to* in this case takes a nominal complement as is typically the case. The analysis of a sentence like (42) is given in (43) and (44).

(42) We object to his joining the club.

(43)
$$
\begin{bmatrix}
\text{PRED} & \text{'OBJECT <SUBJ, OBL>'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'WE'} \end{bmatrix} \\
\text{OBL} & \begin{bmatrix}
\text{PRED} & \text{'TO <OBJ>'} \\
\text{OBJ} & \begin{bmatrix}
\text{PRED} & \text{'JOINING <SUBJ,OBJ>'} \\
\text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'HIS'} \end{bmatrix} \\
\text{POSS} & \begin{bmatrix} & \end{bmatrix} \\
\text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'CLUB'} \\ \text{DEF} & + \end{bmatrix}
\end{bmatrix}
\end{bmatrix}
\end{bmatrix}
$$

(44)

```
                              IP
                  ┌────────────┴────────────┐
                 NP                         I′
             (↑SUBJ) =↓                    ↑=↓
                 │                          │
                 N                         VP
                ↑=↓                        ↑=↓
                 │                          │
                We                         V′
           (↑PRED)='WE'                   ↑=↓
                              ┌─────────────┴─────────────┐
                              V                           PP
                             ↑=↓                      (↑OBL) =↓
                              │                           │
                           consent                        P′
          (↑PRED)='CONSENT<SUBJ,OBL>'                    ↑=↓
                              ┌────────────────┴────────────────┐
                              P                                 DP
                             ↑=↓                            (↑OBJ) =↓
                              │                  ┌───────────────┴───────────────┐
                              to                NP                               VP
                    (↑PRED)='TO<OBJ>'      (↑POSS) =↓                           ↑=↓
                                               │                  ┌──────────────┴──────────────┐
                                               N                  V                             DP
                                              ↑=↓                ↑=↓                        (↑OBJ) =↓
                                               │                  │                             │
                                              his              joining                          D′
                                        (↑PRED)='HIS'                                          ↑=↓
                                                        (↑PRED)='JOINING<SUBJ,OBJ>'    ┌────────┴────────┐
                                                            (↑SUBJ)=(↑POSS)            D                 N
                                                                                     ↑=↓               ↑=↓
                                                                                      │                 │
                                                                                     the               club
                                                                                 (↑DEF)=+   (↑PRED)='CLUB'
```
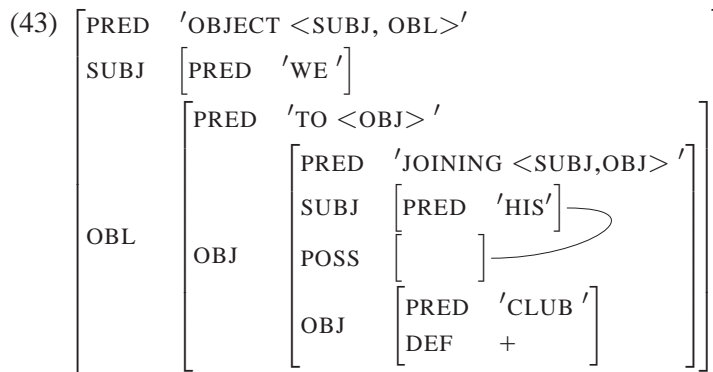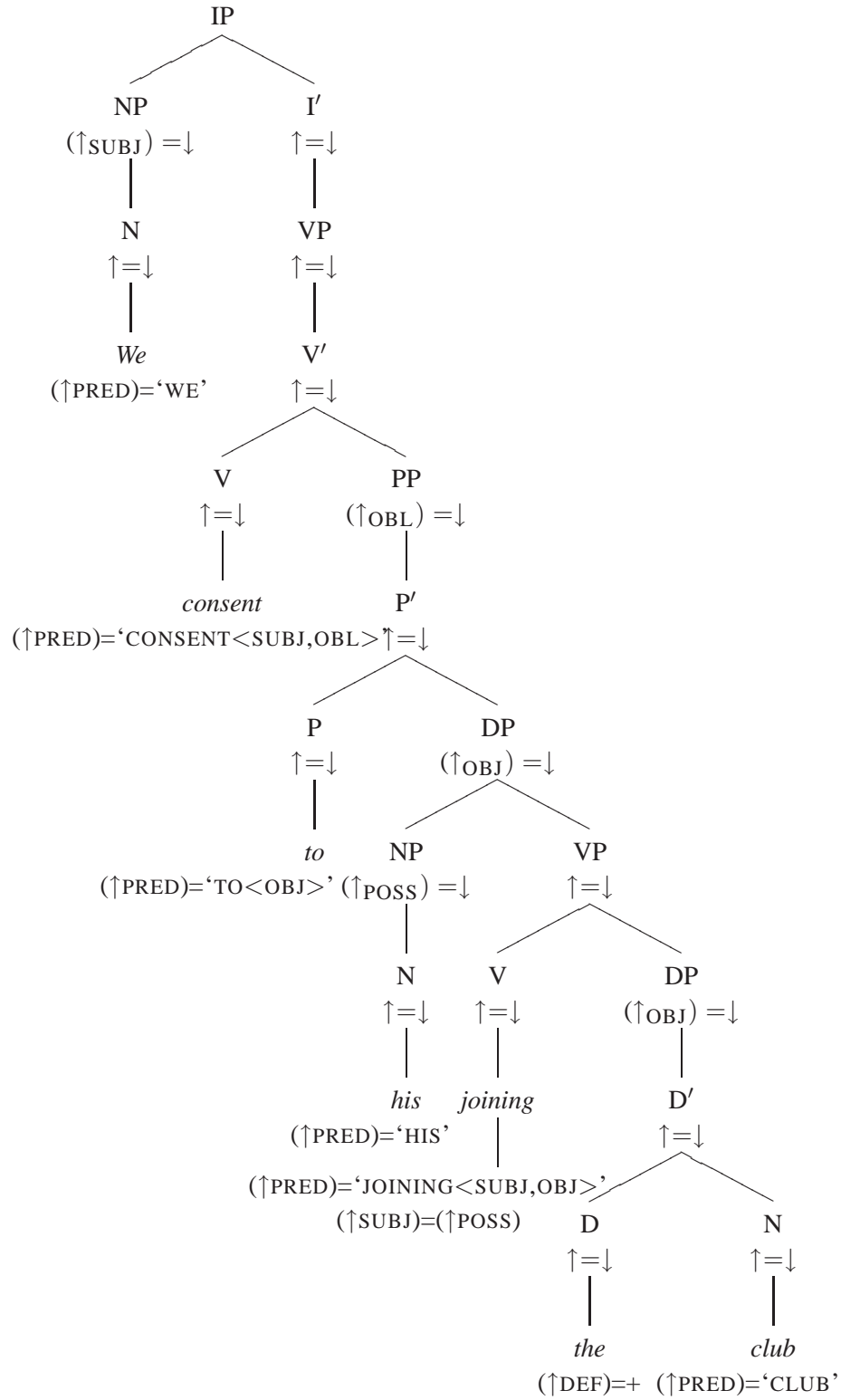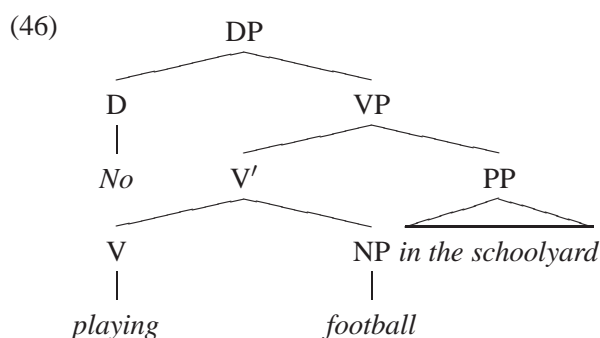
DET-ing constructions like (45) can be analyzed the same way. However, the possible determiners in the specifier position of the DP have to be limitied to *no* and *any*. A sentence with a *DET-ing* form will then have the representation in (46).

(45) No playing football in the school yard!

(46)

```
                      DP
              _____/    _____
             D                  VP
             |           _____/  _____
            No          V'              PP
                   ____/  \____       __/|\__
                  V           NP  in the schoolyard
                  |           |
               playing      football
```

7 Brief Remarks on the Historical Development

The *-ing* form derived from an "abstract noun of action formed by the addition of the suffixes *-ung* or *-ing* to a verb stem" in Old English which could "take nominal dependents such as determiners, adjectives or genitive phrases" (Fanego 2004, 7). In the Middle English period, *-ung* died out and at the same time *-ing* nominals "began to acquire verbal properties"(Fanego 2004, 7). Until around 1900, it was possible for the *-ing* form to have completely mixed properties as in (47b) and (47d) (van der Wurff 1991, 367).

(47) a. the writing of this book

b. the writing this book

c. writing this book

d. writing of this book

After 1900, however, the only two possibilities were either with determiner and *of* clause (47a), often called *nominal gerund* today, or without determiner and direct object as shown in (47c) which is the form I was concerned with in this paper.

Today, the *POSS-ing* construction is, at least in British English, considered a formal alternative to the *ACC-ing* pattern, but is often felt "awkward or stilted" (Quirk et al. 1985). It cannot be used with all verbs which allow the *ACC-ing* form. Verbs like *keep, have* or *leave* and many perception verbs cannot be matrix verbs to the *POSS-ing* construction (Biber et al. 1999). Additionally, the *POSS-ing* form only occurs in less than 10 % of the cases (Biber et al. 1999). This completes the picture of the development of the *-ing* form from a nominalized verb to a structure displaying mixed properties to a now purely sentential complement, the *ACC-ing* and *PRO-ing* constructions which do not display any nominal characteristics any more.

8 Conclusion

In this paper, I have looked at the properties of the different subclasses of the English *-ing* form. The view that the *-ing* form displays mixed verbal and nominal properties in general has been questioned. Instead, it was found that the *-ing* form with accusative or null subject only displays verbal properties. A simple, straightforward LFG analysis has thus been proposed for these forms. As the *-ing* form with genitive subject or after negative determiners like *no* or *any* really displays mixed properties, a more complex analysis was needed for those forms. For these cases, Bresnan and Mugane's (2006) analysis of mixed categories has been applied. This means that actually two different lexical entries are needed for the different subclasses of the *-ing* form. This then can also explain why some verbs can only be matrix verbs to the *-ing* form with accusative or null subject, but not with the genitive subject.

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