

The tense of infinitives in Dutch

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Abstract: This article argues that the perfect infinitive in Dutch is used as the morphological realization of the tense feature [past] in nonfinite contexts. The argument is based on the distribution of the perfect infinitive compared with the perfect and the simple past in finite contexts. The observations lead to the conclusion that finiteness is not to be defined in terms of tense features.

1. Introduction

The purpose of this article is to show that the Dutch perfect infinitive, illustrated in (1), is employed to express (simple) past tense in nonfinite clauses.

- (1) Jan moet geslapen heb-ben (toen de telefoon ging)
 John must ge-sleep-n have-inf when the phone ring:past
 'John must have been asleep (when the phone rang).'

We discuss differences between the simple past and the present perfect in Dutch, establishing a set of contexts in which it can be shown that the perfect infinitive is used as a nonfinite past. The article presents a counterargument to Wurmbbrand's (2007) claim that all infinitives are tenseless, and supports the earlier contention of Stowell (1982) that some infinitival complements are tensed (see also Stowell 2007 and Landau 2004: 838). One of the consequences of the findings presented here is that finiteness is not to be defined in terms of tense features (cf. George and Kornfilt 1981: 124 and Wiklund 2005).

2. The question of infinitival tense

Although the observation that perfect infinitives express past tense has been made before (e.g. Hoffmann 1966:8, Palmer 1974:54-55), discussion of infinitival tense has centered

¹ This paper was presented at the Linguistics in the Netherlands conference in Utrecht, February 3 2007. It is published here in the original version written for that occasion. I would like to thank Janneke ter Beek for much discussion in trying to sort these issues out. I would like to thank Frans Zwarts for his support, his inspiring presence, and his infectious laugh.

largely on the so-called ‘unrealized tense’ in infinitives of the type in (2a)(Stowell 1982:562):

(2) Jenny remembered to bring the wine

As Stowell (1982:*loc cit*) states:

It is true that *to*-infinitives lack the morphological feature [\pm past], but this does not necessarily imply that they lack a tense operator. Rather, their status as being neither present nor past has the effect of specifying that the time frame of the infinitival clause is unrealized with respect to the tense of the matrix in which it appears.

Wurmbrand (2007), revisiting this notion of ‘unrealized tense’ (also called ‘future irrealis’ or ‘dependent tense’, cf. Landau 2004:818), argues that it is more properly characterized as a form of modality, and concludes that all infinitives are tenseless. However, it appears to me that the clearer case of infinitival tense is presented by the perfect infinitives expressing past tense (see also Stowell 2007).

We will say that a clause is tensed if its morphology is adjusted in accordance with a value for the feature [tense]. I assume the traditional American structuralist position in which [tense] is a clausal property generated separately from the verb (cf. Harris 1961: 278, Chomsky 1957:39), i.e. as a functional head or an operator. Its value can be made explicit by a time adverbial or temporal modifier, which, in embedded clauses, should be independent of the tense of the matrix clause.

Before we present the data of past tense infinitives, a few preliminary remarks on the Dutch tense system must be made.

3. The Dutch tense system

Dutch finite verb forms show a present-past tense alternation, illustrated in (3).

- (3) a. Jan slaap-t nu
 John sleep-3sg now
 ‘John is asleep now.’
- b. Jan sliep toen
 John sleep:past.sg then
 ‘John was asleep then.’

The present appears to be the unmarked tense. It can be used for the narrative past (4a) and for reference to future events (4b)(see Ebeling 2006:154f. for extensive discussion; *wel* in (4b) is an attenuating modal particle):

- (4) a. Loop-∅ ik gisteren op de Dam, wat zie ik?
 walk-1sg I yesterday on the Dam what see I
 'So I'm walking on Dam Square yesterday and what do I see?'
 b. Ik kom-∅ morgen wel even langs
 I come-1sg tomorrow prt briefly by
 'I'll stop by tomorrow.'

In contrast, the past appears to be marked for reference to events in the past. More generally, we should state that the past refers to an event once removed from the here and now (cf. Ebeling 1962:92). This formulation covers cases like (5), where the past is used in counterfactuals (5a) and in the common and productive childplay register (5b):

- (5) a. Als ik rijk was
 if I rich be:past.sg
 'If I were rich.'
 b. Ik was de vader
 I be:past.sg the father
 '[We play that] I am the father.'

Next to the present and the past, Dutch has a complex perfect tense, consisting of an auxiliary (*have* or *be*), which may be marked for present or past tense, and a perfect participle (usually formed by means of a prefix *ge-* and a *-n* or *-d* suffix):

- (6) Jan heeft ge-slap-en / ge-werk-t
 John have:3sg ge-sleep-n / ge-work-d
 'John slept/worked.'

While the element *ge-* was originally a completive particle (Van Swaay 1899:37, 44), the perfect participle lost its meaning of completive or perfective aspect early on in the development of Dutch (Van Dijk 1998). As a result, the perfect can be used with atelic verbs or constructions, and is often infelicitous with endpoint oriented adverbials of the *in an hour* type:

- (7) Jan heeft (*in) drie uur aan zijn proefschrift ge-werk-t
 John have:3sg in three hour on his thesis ge-work-d
 'John worked at his thesis for three hours.'

The Dutch perfect locates the event in a point of time preceding a reference point, the location of which is determined by the (present/past) tense of the auxiliary. The contribution of the participle, then, appears to be the anteriority to the reference time, or *relative tense*. In contrast, the past describes the event as cotemporaneous with a reference point prior to the here and now (cf. Kiparsky 2002:117).

The use of the perfect among closely related languages like Dutch, High German and English shows subtle differences. In English, the use of the perfect is more restricted, and in German it is less restricted (no longer indicating relative tense in many varieties). To provide the reader with a feel for the use of the Dutch perfect, a number of contexts are listed below where the perfect cannot be used. These will also serve as a diagnostics for past tense infinitives later on.

4. Perfect vs. past tense

The present perfect differs from the simple past in (at least) the following five respects.

The present perfect cannot be used to express cotemporaneity with a reference point in the past

In (8), the reference point is provided by the adverbial clause in italics:

- (8) Jan beweert [dat hij {sliep /*ge-slap-en heeft } toen
 John claims that he sleep:past.sg/ge-sleep-n have:2/3sg when
de telefoon ging]
 the phone ring:past.sg
 'John claims that he was asleep when the phone rang.'

Changing the auxiliary *heeft* into its past tense form *had* restores grammaticality, but fails to yield the intended reading of cotemporaneity with the reference point in the past. Instead, the interpretation would then be that the sleeping took place prior to the moment that the phone rang (i.e. relative tense w.r.t. a point in the past).

The present perfect cannot be used to refer to an ongoing event in the past

- (9) a. Jan zei [dat hij het boek las]
 John said that he the book read:past.sg
 'John said that he was reading the book.' (reading = ongoing)
- b. Jan zei [dat hij het boek ge-lez-en heeft]
 John said that he the book ge-read-n have:3sg
 'John said that he read the book.' (reading = finished)

The present perfect does not allow the accessibility reading

The accessibility reading arises when the time frame associated with one event is included in that of another (De Vuyst 1985). In our example, the time frame of the adverbial clause is included in that of its matrix clause (i.e. the explosion took place during the playing).

- (10) a. Jan speel-de viool toen de bom ontplof-te
 John play-past.sg violin when the bomb explode-past.sg
 'John was playing the violin when the bomb exploded.'
- b. #Jan heeft viool ge-speel-d toen de bom ontplof-te
 John have-3sg violin ge-play-d when the bomb explode-past.sg
 not 'John was playing the violin when the bomb exploded.'

According to De Vuyst (1985), (10b) is not ungrammatical, but it allows only a reading where the playing follows the explosion directly.

The present perfect does not induce a lifetime effect

The lifetime effect entails that the event referred to lasted the entire stretch of time that the subject was alive. It arises with nonepisodic predicates in the past tense and is incompatible with the perfect (cf. Musan 1997).

- (11) a. Scriabin was een genie
 Scriabin be:past.sg a genius
 'Scriabin was a genius.'
- b.?? Scriabin is een genie ge-wees-t
 Scriabin be:3sg a genius ge-be-d
 'Scriabin has been a genius.'

The b-example is strange because *be a genius* is a nonepisodic (individual level) predicate and the use of the perfect, which lacks the lifetime effect, implies that Scriabin was a genius only part of his life.²

The present perfect does not allow a past-shifted reading

The past-shifted reading arises when the event of the embedded clause is located at a point in time prior to the reference point of the past tense matrix clause (Enç 1987, Stowell 1995). In (12), the past-shifted reference point is brought in by *daarvoor* 'before that', and the embedded verb hence refers to a point in time which is prior to the tense of the matrix clause.

- (12) Jan zei [dat hij Chomsky *daarvoor* al
 John said that he Chomsky before that already
 {**kende** / ***ge-ken-d heeft** }]
 know:past.sg ge-know-d have:3sg
 'John said that he already knew Chomsky before that.'

Again, the past tense auxiliary *had* for *heeft* would rescue the sentence, but the interpretation would then be that the knowing took place *prior* to the reference point in the past induced by *daarvoor* 'before that'. The perfect cannot refer to an event located at the past-shifted reference time.

5. Past tense infinitives

Given what we said about the meaning of the past tense in Dutch, we can define as a past tense infinitive any infinitival form (simple or complex), used to express cotemporaneity with a reference point in the past. Consider the pair in (13).

- (13) a. Jan { **is** / ***was** } rijk
 John be:3sg / be:past.sg rich
 'John is rich.'

² The present perfect also seems to imply that the subject is still alive, which would add to the oddness of (11b), but speaker judgments differ with respect to this aspect of its meaning (cf. Kiparsky 2002:117).

- b. Jan {**was / *is**} rijk voor de oorlog
 John be:past.sg / be:sg rich before the war
 'John was rich before the war.'

In (13b), a reference point in the past is introduced and the verb must shift to past tense morphology. Now consider the pair in (14):

- (14) a. Jan beweert-t [rijk te zijn]
 John claim-3sg rich to be:inf
 'John claims to be rich.'
- b. Jan beweert-t[rijk *(ge-wees-t) te zijn voor de oorlog]
 John claim-3sg rich ge-be-d to be:inf before the war
 'John claims to have been rich before the war.'

In (14b), the introduction of *voor de oorlog* 'before the war' marking a reference point in the past necessitates a morphological adjustment of the infinitive, to the effect that the simple infinitive *te zijn* must be replaced by the perfect infinitive *geweest te zijn*. It follows that the perfect infinitive is (obligatorily) used to express cotemporaneity with a reference point in the past.

Recall from section 4 that the perfect itself cannot be used to express cotemporaneity with a reference point in the past. The morphology of the embedded verb in (14b) is perfective, but its semantics is that of the simple past.

We can now show that the perfect infinitive sides with the past tense in all contexts where past and perfect were shown to diverge (section 4). Thus, the perfect infinitive, unlike the perfect, but like the simple past, can be used to refer to an ongoing event in the past (15), allows an accessibility reading (16), induces a lifetime effect (17), and allows a past-shifted interpretation (18):

- (15) Jan beweert-t[het boek ge-lez-en te heb-ben]
 John claim-3sg the book ge-read-n to have-inf
 'John claims to have been reading the book.' (reading = ongoing/finished)

- (16) Jan beweert-t [viool ge-speel-d te heb-ben *toen de bom ontplof-te*]
 John claim-3sg violin ge-play-d to have-inf when the bomb explode-past.sg
 'John claims to have been playing the violin when the bomb exploded.'³
- (17) Scriabin word-t ge-acht [een genie ge-wees-t te zijn]
 Scriabin pass.aux-3sg ge-consider:d a genius ge-be-d to be:inf
 'Scriabin is considered to have been a genius.'
- (18) Jan beweert-de [Chomsky *daarvoor* al ge-ken-d te heb-ben]
 John claim-past.sg Chomsky before.that already ge-know-d to have-inf
 'John claimed to have known Chomsky already before then.'

In (15), the event of reading the book can be interpreted as ongoing (the event is not necessarily telic). In (16), the time frame of the exploding event is included within the time frame of the playing event. The infinitive in (17) induces the lifetime effect and does not force the strange reading of the perfect in (11b). In (18) the perfect infinitive is interpreted as coterminous with the past shifted reference point in time prior to the reference point of the matrix clause event.

These observations suggest quite strongly that the perfect infinitive is not only used as a nonfinite version of the perfect, but also as a nonfinite past tense.

Importantly, not all infinitives need to adjust their morphology in order to express coterminousness with a reference point in the past. The infinitives embedded in complement clauses illustrated in (15)-(18) contrast with infinitives contained in nominalizations (nominal infinitives). As (19) illustrates, nominal infinitives need not (in

³ Another example discussed by De Vuyst in connection with the accessibility reading yields an interesting twist when considered in the context of an infinitival complement. The example is in (i) and involves the mutative verb *lopen* 'walk' which forms the perfect with *hebben* 'have' when the event is atelic and with *zijn* 'be' when the event is telic (i.e. the destination is reached). In (ii) we see that the past tense infinitive must be formed with *hebben*, indicating that the verbal complex does not express completive aspect but past tense manner of motion (with *zijn* a reading results where Jan went home right after the explosion, not the intended accessibility reading).

- (i) Jan liep naar huis *toen de bom ontplof-te*
 John walk:PAST.SG to house when the bomb explode-PAST.SG
 'John was walking home when the bomb exploded.'
- (ii) Jan beweert-t [naar huis ge-lop-en te {hebb-en / #zijn} *toen de bom ontplof-te*]
 John claim-3SG to house GE-walk-N to have-INF / be:INF when the bomb explode-PAST.SG
 'John claims that he was walking home when the bomb exploded.'

fact, may not) be turned into perfect infinitives when the nominalization contains reference to a point in the past:

- (19) [Dat slap-en *toen* *de telefoon ging*] was stom
 That sleep-inf when the phone go:past.sg be:past.sg stupid
 ‘Sleeping when the phone rang was stupid.’

Turning the simple infinitive *slapen* into a perfect infinitive *geslapen hebben* does not make the sentence ungrammatical, but it yields the relative past reading where the sleeping had been terminated by the time the phone rang.

The fact that nominal infinitives show no morphological adjustment to express cotemporaneity with a reference point in the past indicates that nominalizations lack tense altogether (as independently argued by Alexiadou 2001:59f).

6. Consequences

The first conclusion to draw from the observations discussed is that not all infinitives are tenseless. We see a contrast between (complement) infinitives that adjust their morphology to express cotemporaneity with a reference point in the past, and (nominal) infinitives that do not.

This raises a question which we can only touch upon briefly in the context of this article, namely whether all complement infinitives are tensed. Based on the diagnostics employed here, this question can be answered only for complement clauses with potential independent time reference. These include complements to propositional (*claim*) and factive (*regret*) control verbs, complements to raising verbs (*seem*) and complements to epistemic modal verbs. The latter category is illustrated in (1), which has the epistemic ‘necessary conclusion’ reading, not the deontic ‘obligation’ reading. Complements to deontic modal verbs, causative and perception (‘Exceptional Case Marking’) verbs, and conative (*try*), implicative (*manage*) and ‘future irrealis’ (*expect*) control verbs are incompatible with a past reference time inducing time adverbial. This makes it impossible to diagnose infinitival tense in these complements, as the contexts in which we would expect a morphological adjustment cannot arise for independent reasons.

A second conclusion is that finiteness is not to be defined in terms of tense. Traditionally, finiteness receives a disjunctive definition, where a clause (or verb) is considered finite if it shows tense and/or agreement morphology. If infinitives may be

tensed, it would seem that a definition of finiteness in terms of (subject) agreement holds more promise. Ultimately, if Zwart (2006) is correct in analysing agreement as a direct reflex of a subject-predicate relation (so that agreement relations are not mediated by a functional head or a ‘probe-goal’ mechanism à la Chomsky 2001), this would suggest that finiteness is a clausal property reflecting a particular kind of subject-predicate nexus (present in [20a], absent in [20b] and in gerunds/nominalizations).

- (20) a. John bought a house
 b. (What?) John buy a house? (I don’t believe it!)

Finally, we may conclude from the infinitival tense observations that tense features are not projected by the finite verb. Instead, it appears that tense is an independent morpheme merged to the derivation at some point (say, to XP) and giving rise to a particular morphological spell-out on a term of XP (mostly on the verb/auxiliary). Apparently, the spell-out procedure taps into both finite and nonfinite paradigms to come up with a form that expresses the relevant features best. This view of tense is compatible with the American Structuralist position we adopted, but not with approaches to morphosyntax which seek to reflect in the structure a closer association between morphological categories (like tense) and the lexical elements on which these categories are realized (like the verb) (e.g. Reuland’s 1986 simultaneous projection of V and Infl, or Koeneman’s 2002 idea that the tense head T is in fact a raised V with tense features). The dissociation of tense and morphology suggested by the infinitival tense observations was also necessitated by observations by Wiklund (2005) on certain Swedish dialects, where the tense morphology of a matrix verb may be copied onto the embedded verb:

- (21) Han försökte o skrev ett brev (Swedish)
 he try:past link write:past a letter
 ‘He tried to write a letter.’

As Wiklund (2005:61) observes, copying is only allowed when the complement clause is tenseless. Here, the finite morphology is a function of agreement with the matrix tense and we are in fact dealing with nonfinite clauses in disguise.

In closing, we may note that the perfect infinitive fails to generate the so-called simultaneous reading in sequence of tense contexts. Thus, next to (22), where the embedded predicate may be interpreted as referring to a state which is simultaneous with

or past shifted with respect to the matrix event, we find that (23), with infinitival past tense, yields only the past shifted reading.⁴

(22) Jan beweer-de [dat hij ziek was]
 John claim-past.sg that he ill be:past.sg
 'John claimed that he was a genius.'

(23) Jan beweer-de [ziekte zijn ge-wees-t]
 John claim-past ill to be:inf ge-be-d
 'John claimed to have been ill.'

The separation of tense and finiteness offers a fresh perspective on these phenomena: we may assume that the embedded clauses in both (22) and (23) are marked by a genuine past tense feature, but that the sequence of tense effect (i.e. the simultaneous reading) requires the particular subject-predicate nexus found only in finite clauses.

7. References

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⁴ Stowell (2007) finds the simultaneous reading to be available in English examples like (i). I have no explanation for the difference with Dutch.

(i) Caesar (had) once alleged Pompey to have been a scoundrel

English and Dutch do behave alike in not allowing the simultaneous reading of the perfect infinitival in more involved cases like (ii), where the most deeply embedded state of being sick would be interpreted as simultaneous with the future event of claiming:

(ii) John told me yesterday that next week he would claim { that he was / *to have been } sick

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