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The historical development of the Dutch posture-verb progressive construction: including a comparison with German

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The historical development of the Dutch
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For my uncle Takayuki Fuse.

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Abbreviations

Adv	adverbial
anim	animate
aux	auxiliary
C	connector
CC	coordinating conjunction
fin	finite
inanim	inanimate
inf	infinite
lit.	literally
Obj	object
pptcp	present participle
PV	posture verb
S	subject
V	verb
V ¹	first verb
V ²	second verb

Chapter 1 General introduction

1.1 Background

1.1.1 Introduction

This dissertation explores the grammaticalization of posture verbs in Dutch and German. The three kinds of posture verbs that are of importance for this study are shown in (1), in Modern Dutch and Modern German. These three verbs reflect the most common physical positions encountered in daily life, and are referred to as *cardinal posture verbs* by Lemmens (2005).¹

- (1) a. [Modern Dutch] *staan* 'to stand', *zitten* 'to sit', *liggen* 'to lie'
b. [Modern German] *stehen* 'to stand', *sitzen* 'to sit', *liegen* 'to lie'

Posture verbs are found cross-linguistically, and serve as common sources for semantic extension, leading to not only polysemy of the verbs (e.g. use as a locative verb) but also their development toward aspectual markers (Newman 2002: 12-17). One example of a posture verb used as an aspectual marker is observed in Modern Dutch. As various studies point out (Van den Hauwe 1992, Ebert 2000, Lemmens 2005, Behrens et al. 2013, among others), the posture verbs given in (1a) (i.e. *staan*, *zitten*, and *liggen*) can be used to express progressive aspect, as in the following examples.

- (2) a. Ik **zat te lezen**.
'I was (sitting and) reading'
b. Ik **stond te wachten**.
'I was (standing and) waiting'
c. Ik **lag te slapen**.
'I was (lying and) sleeping' (Lemmens 2005: 184)²

¹ The term *cardinal posture verbs* is intended to reflect the fundamental role of the standing, sitting, and lying postures in the physical world (Lemmens 2005). Since this research is not concerned with other, marginal posture verbs (e.g. (Dutch) *knielen* / (German) *knien* 'to kneel'), the term *posture verbs* will be used here to refer to the cardinal posture verbs (i.e. *staan*, *zitten*, *liggen* in Modern Dutch and their equivalents in Middle Dutch and *stehen*, *sitzen*, *liegen* in Modern German).

² Emphases in the examples are all mine. The examples are also sometimes adapted in order to maintain consistent style and punctuation.

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The construction highlighted in the examples in (2) expresses that the activity indicated by the verb after *te*, which is an infinitive marker, continues while the agent typically holds the posture denoted by the posture verb.

Earlier examples of posture verbs used as aspectual markers can be found in Middle Dutch (around 13th–15th century). Compared with the Modern Dutch construction presented in (2), the Middle Dutch construction has a different structure. In the Middle Dutch construction, posture verbs (*staen* ‘to stand’, *sitten* ‘to sit’, and *liggen* ‘to lie’) do not take an infinitive clause with *te*, but are coordinated with the following verb by a coordinating conjunction *en* or its older form *ende*, as shown in (3).

- (3) a. Doe **stond** Elegeast **en loech**
‘then, Elegast was standing and laughing’
b. De porters **saten** alle gemeenlike **ende aten**
‘the inhabitants were all sitting and eating together’
c. Daer die coninc **lach ende sliep**
‘when the king was lying and sleeping’
(Duinhoven 1997: 439; translations mine)

In the instances in (3), each posture verb (here in the past tense forms *stond* 'stood', *saten* 'sat', and *lach* 'lay') is linked to another verb (*loech* 'laughed', *aten* 'ate', and *sliep* 'slept') by a coordinating conjunction *en(de)*. Although formally coordinated, the construction expresses 'durative aspect' ('duuraspect') through the extension of the stative semantics of the posture verb to the verb following the coordinating conjunction (Duinhoven 1997: 439). For example, as Duinhoven (1997: 439) explains, the example given above as (3a) describes the situation where Elegast, who was standing, laughed for a while when king Karel took out a coulter (a knife-like blade of a plow). In short, the sentence describes the event as ongoing and hence progressive in meaning. In this way, the Dutch posture verbs in (3) can be seen as functioning as progressive markers.

This Middle Dutch construction with a posture verb and a coordinating conjunction has a formal equivalent in Modern German. Proske (2019), for example, provides some formally comparable instances extracted from spoken German data, as shown in (4).

- (4) a. weil ich halt da immer nur **sitze und** irgendwas **schreibe** oder
lerne
 ‘because I always sit there and write or learn something /
 ‘because I am writing or learning all the time’
 b. und Myrte **steht dann da und föhnt** sich die Haare als ich
 komme
 ‘and Myrte stands there and blow-dries her hair when I come’ /
 ‘and Myrte is blow-drying her hair when I come’
 (Proske 2019: 128, 129)

In (4a), the posture verb *sitze* 'sit' is coordinated with the two other verbs *schreibe* 'write' and *lerne* 'learn' by a coordinating conjunction *und* 'and'. In (4b), the verb *dastehen*, consisting of the posture verb *stehen* and the particle *da-*, is coordinated with another verb (*föhnen* 'to blow-dry'), expressing an ongoing activity. As indicated by the author's English translation, which employs the progressive *be V-ing* construction and not a posture verb, the temporal extension of the activity described by the second verb (*schreibe/lerne* and *föhnt*) is highlighted and postural information can be disregarded. Although the meaning of the sentences is progressive-like, the German posture verbs are not (yet) commonly considered grammaticalized aspectual markers. At the same time, however, Proske (2019: 128f.) argues that the examples in (4) indicate the potential of the verbs to grammaticalize further and become aspectual markers.

As shown in (2-4), Modern Dutch, Middle Dutch, and Modern German all have a construction with posture verbs which describes an activity as temporally protracted. The three types of posture-verb constructions illustrated in examples (2-4) for Modern Dutch, Middle Dutch, and Modern German are the subject of study for this dissertation. Special attention will be paid to the transition from the older type of construction (as in example (3)) to the newer type of construction in Dutch (as in example (2)), and to the potentially emergent status of the German construction (as in example (4)) in comparison with its Dutch equivalents.

1.1.2 Goals of this research

As described in the previous section, this research is concerned with the (emergent) progressive constructions using the three cardinal posture verbs in Dutch and German. In these constructions, posture verbs, which can also

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function as lexical verbs, are used as progressive auxiliaries. The acquisition of this auxiliary function by posture verbs can also be understood as grammaticalization of the lexical posture verbs into aspectual markers.

Grammaticalization has both a diachronic and synchronic dimension. A given linguistic item develops diachronically and this historical path of development may be attested as synchronic variation in the language (Lehman 1985). This research aims to answer the question of how posture verbs develop from a lexical verb to an aspectual marker, from both diachronic and synchronic perspectives. In the present research, the Dutch construction is investigated diachronically (cf. (2 & 3)) and the German one synchronically (cf. (4)).

The diachronic pathway of the Dutch posture-verb construction is described on the basis of historical textual data and examined principally with reference to observations from the literature on this construction in Dutch (cf. section 1.3.3.) and the steps of development proposed for posture-verb progressive constructions in other languages (cf. sections 1.3.2. & 2.1.1.). The research objectives for the investigation of the Dutch posture-verb progressive construction are to describe its historical development and to propose a corresponding step-by-step pathway of grammaticalization (cf. section 1.4.). As for German, the reportedly emergent status of the construction will be described and evaluated in terms of degree of grammaticalization, by comparing the described situation with the grammaticalization pathway proposed for Dutch (cf. Chapter 5). By pursuing these research objectives, this research will yield insight into both the diachronic change and the synchronic variation of the posture-verb construction.

The methodology employed in this research is in principle quantitative. More specifically, the research uses corpora to collect data, and the data is described in terms of the frequency and ratio of instances with and without a certain linguistic feature and analyzed using statistical tests. Details regarding the corpora and statistical methods used will be provided in Chapter 2.

In the rest of this chapter, the foundation will be laid for further discussion of the posture-verb progressive constructions in Dutch and German. First, the progressive constructions in Modern Dutch and Modern German will be characterized in general terms (1.2.1.) Then the posture-verb construction in each language will be outlined (1.2.2. & 1.2.3.). Section 1.3. sheds light on the historical development of posture verbs by presenting general theories of grammaticalization (1.3.1.) and auxiliation (1.3.2.) of posture verbs. Section 1.3.3. focuses on how the historical development of

the Dutch posture-verb progressive construction is explained in the literature. In section 1.4., the research objectives for my investigation of the Dutch posture-verb progressive construction are outlined in detail. Lastly, section 1.5. provides an overview of the structure of the rest of the dissertation.

1.2 Progressive constructions in Modern Dutch and Modern German

This section provides background information on progressive constructions in Modern Dutch and Modern German, focusing on the posture-verb progressive construction for Dutch and the so-called pseudo-coordinate construction with posture verbs for German.

1.2.1 Overview of progressive constructions in Dutch and German

As outlined in the previous sections, this research is concerned with progressive constructions. Progressive constructions are used to express progressive aspect, which means that they describe an event as ongoing or in progress (Behrens et al. 2013).³ Progressive aspect is not particularly well represented in Germanic languages, except for English with its *be V-ing* construction, according to Ebert (2000: 605). The author suggests that the low degree of grammaticalization of progressive markers in Germanic languages except for English is reflected ‘on the one hand in the optionality of the markers, on the other in a variety of alternative forms’ (*ibid.*: 605). Optionality of markers is observed for both Dutch and German, since aspectually unmarked sentences, such as *zij schreef een brief* in Dutch and *sie schrieb einen Brief* in German (lit. ‘she wrote a letter’), are open to a progressive interpretation, i.e. ‘she was writing a letter’, indicating that

³ Closely related to the progressive is the continuous/durative aspect. According to Mair (2012: 806ff.), the progressive is usually reserved for dynamic verbs, which typically convey the notion that the process or activity referred to is of limited duration, exhibits change in intensity, and is normally under conscious control of some agent. Non-progressive continuous aspectuality, on the other hand, covers stative predicates, which do not have any volitional agent involved and therefore do not usually occur in the imperative. In this study, these two aspects are not distinguished, since the languages under investigation (i.e. Dutch and German) do not distinguish them.

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progressive aspect need not be overtly marked. German is especially reluctant to mark progressive aspect in a linguistically overt manner: the language is, in general, well-known for a low frequency of aspectual constructions (Stutterheim et al. 2009, Flecken 2011, Krause 2012, Behrens et al. 2013) and ‘Standard German usually leaves progressive aspectuality implicit’ (Mair 2012: 804).

The latter feature, namely, the variety of progressive markers, is also attested in both Dutch and German. Based on large-scale questionnaires on progressive constructions in Germanic languages, Ebert (2000) identifies three types of progressive constructions available in Dutch (5a, b, and c) and two in German (6a/b, and c). First, the progressive constructions in Dutch are given in (5).

- (5) a. Hij zit de krant te lezen.
 ‘he is reading a/the newspaper’ (Ebert 2000: 608)
 b. Ze is aan het koken.
 ‘she is cooking’ (*ibid.*: 608)
 c. Ria is bezig haar fiets te herstellen.
 ‘Ria is fixing her bicycle’ (Van den Hauwe 1992: 2)

As shown in (5), Dutch expresses progressive aspect with the combination of a posture verb and an infinitive marker *te* (5a), with a prepositional phrase headed by *aan* ‘at’ (5b),⁴ or with the adverb *bezig*, meaning ‘busy’ (5c).

The progressive constructions in German are shown in (6).

- (6) a. Sie ist am Kochen.
 ‘she is cooking’ (Ebert 2000: 608)

⁴ The prepositional construction with *aan het V* is a major alternative to the posture-verb progressive construction. The difference between the constructions is briefly summarized as follows. The prepositional construction has more focus on the ongoing process itself, while the posture-verb progressive locates the process in a spatio-temporal frame (Lemmens 2015). According to Lemmens, the former is more grammaticalized and can be thus characterized by its processual focus and the latter is less grammaticalized and has a situational focus. See also Boogaart (1991), Ebert (2000), and Behrens et al. (2013) for more detailed characterizations in terms of comparison of the progressive constructions and Van den Hauwe (1992) and Boogaart (1999) for a comprehensive view and description of each Dutch progressive construction.

- b. Paula ist beim Singen.⁵
'Paula is singing'
- c. Sie ist dabei, 6 Pfund Kartoffeln zu schälen.
'she is peeling six pounds of potatoes' (Ebert 2000: 610)

German uses a prepositional construction with *am* 'at the' (as in (6a)), *beim* 'by the' (as in (6b)), or *im* 'in the', as well as the so-called 'busy' construction with *dabei* 'by there' (as in (6c)), which has a marginal status. However, the language does not use a postural construction with an infinitive clause as a complement (**er lag zu schlafen* lit. 'he lay to sleep').⁶

As can be seen from (5) and (6), both languages have several ways to mark progressive aspect in a linguistically overt way; according to Ebert, this could be associated with the low degree of grammaticalization of the progressive markers in both languages. The following section (1.2.2.) focuses on the postural construction in Modern Dutch, as given in (5a).

1.2.2 The posture-verb progressive construction in Modern Dutch

As already seen in (2) and (5a), the progressive construction with a posture verb includes one of the verbs *staan*, *zitten*, and *liggen*, an infinitive marker *te*, and a complement verb, as shown in (7).

- (7) a. Zij **stond** op de hoek **te wachten**.⁷
'she was (standing and) waiting at the corner'
- b. Hij **zat** een brief **te schrijven**.
'he was (sitting and) writing a letter'

⁵ grammis (IDS Mannheim), 'Grammatik in Fragen und Antworten: Darf man Ich bin am Schreiben schreiben? — Bereichert die Verlaufsform (der Progressiv) das Deutsche?', accessed 19.7.2021, <https://grammis.ids-mannheim.de/fragen/4551#typ12>.

⁶ For German, it should be noted that the use of progressive constructions is more common in some dialectal, regional, and informal variations, such as the *Rheinische Verlaufsform*, than in the standard language (Ebert 2000: 610, Behrens et al. 2013: 101). See also section 1.2.3. on regional variations of the German construction with posture verbs.

⁷ Examples without a source indication are constructed by the author. Forms that are unacceptable or questionable in present-day Dutch will be indicated by an asterisk or a question mark, respectively.

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- c. Het kind **lag te slapen**.
'the child was (lying and) sleeping'

This section outlines the major syntactic and semantic characteristics of this construction.⁸

In terms of syntax, there are two well-known phenomena that can be observed with regard to this construction. The first is the option to omit the infinitive marker *te*. As explained in *Algemene Nederlandse Spraakkunst* (henceforth ANS, 18.5.4.1.ii) the infinitive marker *te* is omissible or even preferably omitted in some environments, as can be seen in the examples reproduced here in (8).

- (8) a. Wim **zit te slapen**.
'Wim is (sitting and) sleeping'
b. *Wim **zit slapen**.
'lit. Wim sits sleep'
c. Wim heeft de hele les **zitten te slapen**.
'Wim was (sitting and) sleeping for the whole lesson'
d. Wim heeft de hele les **zitten slapen**.
'Wim was (sitting and) sleeping for the whole lesson'
e. Als die jongens de hele les **zitten te slapen**, zullen ze niet veel opsteken.
'If the boys are (sitting and) sleeping for the whole lesson, they will not learn a lot'
f. Als die jongens de hele les **zitten slapen**, zullen ze niet veel opsteken.
'If the boys are (sitting and sleeping) for the whole lesson, they will not learn a lot'
g. ?Wim schijnt de hele les te **zitten te slapen**.
'Wim seems to (sit and) sleep for the whole lesson'

⁸ The same structure is also possible with other verbs, such as *lopen* 'to walk, run' and *hangen* 'to hang' (cf. ANS: 18.5.4.2., Lemmens 2005). These variants are not taken into consideration in this research, in order to restrict the scope to one semantic category of verbs, namely, cardinal posture verbs (see also Lemmens 2005 and Anthonissen et al. 2019 for differences in usage between the posture-verb progressive and the motion-verb progressive with *lopen*). Moreover, *lopen*, as a motion verb, seems to have followed a different path of development compared to the posture verbs (cf. footnote 32 in this chapter). Therefore, the verb is not diachronically comparable with the posture verbs.

h. Wim schijnt de hele les **te zitten slapen**.

‘Wim seems to (sit and) sleep for the whole lesson’

(ANS: 18.5.4.1.ii; translations mine)

Omission of *te* is possible when the posture verb appears in the clause-final verbal complex directly before the complement verb cluster (hence it is impossible in (8b)). In the circumstance where the verbs are postposed, *te* is omissible in the following three situations: (i) when the posture verb is governed by another verb which takes an infinitive without *te* (such as the auxiliaries *kunnen* ‘can’, *zijn* ‘to be’, and *hebben* ‘to have’, see (8c) and (d)); (ii) when the posture verb is in the indicative, plural, present tense form, which formally coincides with the infinitive form (see (8e) and (f)); or (iii) when the posture verb is governed by another verb which takes an infinitive with *te* (like *schijnen* ‘to seem’). In the last case, the presence of a second *te* is even undesirable according to the literature (see (8g) and (h)).

The necessity that the temporal auxiliaries *zijn* and *hebben* take a complement verb in the infinitive, as shown in *zitten (te) slapen* in (8c) and (d), is known as the *infinitivum pro participio* (IPP) effect. As a general rule, the IPP effect requires a past participle to be replaced by an infinitive when the clause-final verbal complex contains more than one verb (ANS: 18.5.4.2.), as in *zitten (te) werken* in (9a).

(9) a. Ton heeft de hele middag aan zijn bureau **zitten (te) werken**.

‘Ton was (sitting and) working the whole afternoon at his desk’

b. *Ton heeft de hele middag **gezeten** aan zijn bureau **(te) werken**.

lit. ‘Ton has the whole afternoon sat at his desk (to) work’

(ANS.: 18.5.4.2.; translations mine)

As can be seen in the examples in (9), the posture verb *zitten*, which usually appears in its past participle form *gezeten* under the temporal auxiliary *hebben*, is in its infinitive form *zitten* in (9a) due to the IPP effect. The necessity of using the infinitive form can be observed in the ungrammaticality of a sentence like (9b), in which the posture verb is in the past participle form (*gezeten*). The appearance of the IPP effect is considered a good indication that the verb in the infinitive has auxiliary or auxiliary-like status (Van der Horst 2008: IV 9.5.1.3., Cavirani-Pots 2020: 27f.).

In terms of semantics, the posture-verb progressive construction in Modern Dutch is characterized by the fact that the posture verbs in these constructions are semantically not fully bleached. Lemmens (2005: 211), for example, states that the Modern Dutch posture-verb construction is ‘very

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much tied to the verb's stative and locational character'. This means that the postural meaning is mostly retained, requiring the activity indicated by the complement verb to be compatible with the posture encoded by the main verb (e.g. *ik lig te slapen* 'I was lying and sleeping' but **ik lig te wandelen* 'I was lying and walking', see also Behrens et al. 2013 and Lemmens 2005: 203ff.).

At the same time, there is evidence that the construction may be grammaticalizing further in this respect (Hoekstra 1999, Lemmens 2005: 209), as can be seen from such examples as *ik zat te lopen* 'I was walking' (Coppen 2009: 164) and *[o]mdat ik achter een trein aan zit te hollen, heb ik de trein waar ik eigenlijk in hoor te zitten gemist* '[b]ecause I was running for a train, I missed the one that I actually had to be on' (Lemmens 2005: 205), where the compatibility of the posture indicated by the posture verb (here, sitting) and the activity illustrated by the complement motion verb (here, walking or running) is lost.⁹ This possible development seems to be (still) generally limited and marginal, meaning that motion verbs as a complement verb in the construction are still restricted.

There are certainly other cases where the posture verbs seem to be desemanticized, such as *lig/zit niet te zeuren* 'stop whining' (Ebert 2000: 628), where the agent is not strictly required to be in the posture designated by the posture verb. With this kind of sentence, the irritation or annoyance of the speaker is expressed, and it is hence labeled as 'emotive' (*ibid.*: 628) or 'non-neutral' and 'expressive' (Van den Hauwe 1992: 13, see also Overdiep 1919: 384, Anthonissen et al. 2019, De Wit et al. 2020, ANS: 18.5.4.2.). In sum, then, except for some marginal grammaticalized cases and the emotive use, the construction usually requires compatibility between the posture indicated by the posture verb and the activity indicated by the complement verb; this is therefore adopted as a general feature of the construction.

Besides the compatibility of the posture and the activity, some other semantic features of the construction can be observed concerning the complement verb. First, the construction accepts both atelic and telic verbs. The compatibility of atelic verbs with this construction is reported by Behrens et al. (2013), who observe that the construction is often used to describe situations without temporal development. This type of situation includes activities like fishing, jogging, swimming, or playing an instrument, which are highly continuous without step-by-step change. Such activities

⁹ With such examples, Lemmens (2005: 205) also argues that *zitten* is the verb that shows most semantic bleaching, in line with typological observations that regard the 'sit' verb as most subject to grammaticalization.

also do not have an inherent endpoint, in the sense that the ‘endpoint coincides with the cessation of the activity’ (*ibid.*: 111). These situations can therefore be characterized as atelic events and can be described using the posture-verb progressive construction (e.g. *hij zit te vissen* ‘he is (sitting and) fishing’). At the same time, the authors point out that the use of the construction is not excluded for telic events, that is, change-of-state situations with an inherent endpoint (e.g. a candle burning down, a man peeling potatoes), although telic verbs feature in this construction far less often than atelic verbs. Second, Ebert (2000) points out that verbs of low dynamicity in particular, such as ‘wait’, seem to be more compatible with the construction (*ibid.*: 111, 622; e.g. *zij stond te wachten* ‘she was (standing and) waiting’). In short, according to the literature, the Dutch posture-verb construction can involve both telic and atelic complement verbs, but atelic verbs and verbs with low dynamicity are preferred.

Furthermore, based on general properties of the progressive aspect, which typically presents a dynamic event as ongoing and continuous, the construction is usually incompatible with stative and punctual situations (Ebert 2000: 614f.). Stativity is incompatible since it does not involve temporal development and hence cannot be progressive (e.g. **ik sta te weten* lit. ‘I stand to know’).¹⁰ Punctuality indicates that the event is momentaneous and non-durative and hence difficult to interpret as ongoing or continuous. The combination of a progressive construction and a punctual event usually yields an iterative interpretation, in other words, that the event is repeated (e.g. *he is knocking on the door*).

¹⁰ In English, not all stative verbs are equally incompatible with the progressive V-ing construction. Quirk et al. (1985: 200) distinguish two stative situation types, namely, qualities (i.e. ‘relatively permanent and inalienable properties of the subject referent’) and states (i.e. less permanent or temporary situation of the subject referent); they point out that the former is excluded as a progressive sentence (**Mary is being a Canadian*) and the latter too, but to a lesser degree (*?Mary is having a bad cold*). In cases where the progressive construction takes a stative verb as a complement verb in English, as in *[s]he’s being silly* (Freund 2016: 51), the momentary and temporary behavior of the subject is indicated (Atasever Belli 2018: 122f.). The posture-verb progressive construction in Dutch also seems to reflect this dichotomy but in a more subtle manner (cf. **ze zat getrouwd te zijn* lit. ‘she sat married to be’ and *??ze zat het koud te hebben* ‘she was (sitting and) feeling cold’ lit. ‘she sat it cold to have’). Since stative verbs are generally only very marginally acceptable as a complement verb in the Dutch posture-verb progressive construction, stative verbs will be regarded here as generally incompatible with the construction.

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In sum, the posture-verb progressive construction preferably takes an atelic dynamic verb of low dynamicity as a complement verb, and requires that the activity described by the complement verb is compatible with the posture indicated by the posture verb. Motion verbs and stative verbs occur less frequently or not at all in the construction. Momentaneous events are incompatible with progressive aspect, but momentaneous verbs can occur in the construction with an iterative interpretation.

These selection restrictions on the complement verb are reflected in observed distributions of complement verbs in the construction. According to Lemmens (2005: 197), who drew his data from a corpus of contemporary Dutch (i.e. the subcorpus of contemporary Dutch prose (1970–1995) of the INL corpus), the most frequent complement verbs per posture verb are those given in Table 1. In this table, the frequency of each verb is given in the column ‘N’, along with the corresponding percentage of the total number of complement verbs in the dataset. Totals are provided in the bottom row.

It is notable that *wachten* ‘to wait’ is the most frequent complement verb with all three posture verbs.¹¹ This observation aligns with proposals from the literature that verbs with low dynamicity cohere well with the posture-verb progressive construction. Turning to the posture verbs themselves, it can be seen that *staan* frequently co-occurs with verbs with relatively high dynamicity, such as *dringen* ‘to jostle’, *springen* ‘to jump’, and *trappelen* ‘to stamp’; however, it should be noted that some of these verbs form a fixed expression with an idiomatic meaning (e.g. *staan te trappelen* ‘be excited, keen’, *staan te springen* ‘be eager’, *staan te popelen* ‘be eager’) and therefore do not truly reflect variety in the complement verbs of the posture-verb progressive construction.¹² The author explains the compatibility of *staan* with highly dynamic verbs by pointing out that the standing posture is the starting position for dynamic activities and has a close connection with dynamicity. The verb *staan* also occurs with perceptual verbs (e.g. *kijken* ‘to watch’) and communicative verbs (e.g. *praten* ‘to talk’). These two types of verbs are also frequently found with *zitten* (e.g. *kijken*, *praten*, and *luisteren* ‘to listen’). In addition, the verb *zitten* often appears with verbs describing activities that are usually conducted in a sitting posture, such as reading,

¹¹ Lemmens (2005: 197f.) further points out that *wachten* can also be used in the prepositional progressive construction (e.g. *Ik ben aan het wachten* ‘I am waiting’) but its occurrence is limited compared to the posture-verb progressive. See also footnote 5 for the difference between the postural and prepositional constructions.

¹² Note that *zitten er aan te komen* ‘be on the way, coming’ is another such idiomatic expression.

thinking, meditating, writing, eating, and drinking. *Liggen* is characterized by its strong orientation toward *slapen* and other verbs that express resting (e.g. *rusten* 'to rest'). Such activities are, according to the author, typically associated with *liggen* as a resting posture.

Table 1. Most frequent co-occurring verbs with each posture verb in the posture-verb progressive construction in Modern Dutch
(based on Lemmens 2005: 197)

<i>staan</i>	N	%	<i>zitten</i>	N	%	<i>liggen</i>	N	%
<i>wachten</i> 'to wait'	120	18.2	<i>wachten</i> 'to wait'	147	27.8	<i>wachten</i> 'to wait'	45	24.7
<i>kijken</i> 'to watch'	56	8.5	<i>kijken</i> 'to watch'	29	5.5	<i>slapen</i> 'to sleep'	44	24.2
<i>trappelen</i> 'to stamp'	38	5.8	<i>lezen</i> 'to read'	18	3.4			
<i>dringen</i> 'to jostle'	27	4.1	<i>eten</i> 'to eat'	18	3.4			
<i>opwachten</i> 'to wait (for someone)'	23	3.5	<i>springen</i> 'to jump'	18	3.4			
<i>springen</i> 'to jump'	21	3.2	<i>praten</i> 'to talk'	13	2.5			
<i>juichen</i> 'to cheer'	19	2.9	<i>spelen</i> 'to play'	12	2.3			
<i>popelen</i> 'be anxious'	16	2.4	<i>luisteren</i> 'to listen'	11	2.1			
<i>praten</i> 'to talk'	15	2.3	<i>mediteren</i> 'to meditate'	10	1.9			
<i>spelen</i> 'to play'	15	2.3	<i>schrijven</i> 'to write'	10	1.9			
<i>pronken</i> 'to prance, flaunt'	11	1.7	<i>aankomen</i> 'to arrive, happen'	10	1.9			
<i>slapen</i> 'to sleep'	10	1.5						
verbs with N<10	287	43.6	verbs with N<10	233	44.0	verbs with N<10	93	51.1
TOTAL	658			529			182	

In sum, Table 1 shows that the most frequent complement verbs express activities that are compatible with the posture. In other words, the posture

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verbs in the construction do not seem to be fully desemanticized, as pointed out above.¹³ It is also confirmed that dynamic verbs, such as *wachten*, frequently co-occur with posture verbs while stative verbs and motion verbs do not.

In conclusion, this section has summarized some syntactic and semantic characteristics of the posture-verb progressive construction in Modern Dutch. With regard to syntax, the omission of the infinitive marker *te* and the IPP effect have been discussed. As for the semantic features of the construction, it has been shown that posture verbs still retain their postural meaning. This entails that the activity described by the complement verb needs to be compatible with the posture indicated by the posture verb. Furthermore, the complement verb is typically a dynamic verb and not a stative or a motion verb.

1.2.3 Posture-verb progressive construction in the context of pseudo-coordination

As seen in the previous section, the posture-verb progressive construction in Modern Dutch is formed with the infinitive marker *te*. However, in a previous stage of the language, a comparable posture-verb construction was formed with the coordinating conjunction *en*, or its earlier form *ende*, as shown in (10).

- (10) Walewein **lag en sliep** ‘Walewein was lying and sleeping’
(Van der Horst 2008: 418; translation mine)

This type of postural construction, which consists of a posture verb, a coordinating conjunction, and a complement verb, is still present in some of the Germanic languages, like Norwegian and Swedish, and is called a pseudo-coordinate construction. The pseudo-coordinate construction

¹³ Sentences in which the posture verb and the complement verb are identical (e.g. *ik zit hier maar te zitten* ‘I am just sitting here’ (lit. ‘I sit here just to sit’)) can also be regarded as showing semantic bleaching of posture verbs, since division of function can be assumed between the verbs (i.e. the first as an aspectual marker devoid of postural meaning and the second as a lexical verb that does have a postural meaning). This kind of structure is theoretically not impossible but seems to be infrequent according to Lemmens (2005). In my database, too, no such instances were found with the construction involving *te*.

formally overlaps with a regular coordinate structure but behaves in some respects as a single complex phrase and has a unified meaning that combines both conjuncts. This section outlines pseudo-coordination and illustrates its Dutch and German forms.

Pseudo-coordination, also known as verbal hendiadys, typically refers to a phenomenon in which a coordinated two-verb sequence exhibits some features typically associated with monoclausal structures. Cross-linguistically, the second verb typically does not have an overt subject, and the first verb belongs to a more or less closed set of verbs, including posture verbs (cf. Hilpert & Koops 2008: 244f., Heycock & Petersen 2012: 260ff.).¹⁴ Both verbs in pseudo-coordination can be finite, i.e. parallel in conjugation, as in (10), but not necessarily, as shown by example (11) from Channel Islands English.

(11) They had one who **sat** there **and talk** about things.

(Rosen 2014: 114)

In this example, the parallelism of conjugation is clearly violated: the verb *sat* is in the past tense form, while *talk* is in a form which can be interpreted as infinitival.

Semantically, the two verbs collectively encode one event and the construction is hence ‘monopredicative’ (Hopper 2008: 255). This also entails that negators and adverbials (including adverbs, prepositional phrases, and noun phrases) ‘have scope over both verbs’ (*ibid.*: 255, Lødrup 2019: 92). Often, the first verb may be semantically bleached (Wiklund 1996, Hilpert & Koops 2008), as can be seen from the Swedish example in (12) with the posture verb *sitta* ‘to sit’.

(12) Vi bara **satt och pratade**.

‘we were just talking’ (Hilpert & Koops 2008: 243)

The authors explain that, as indicated by the English translation, the postural meaning of the verb is not prominent in this sentence, although it is not impossible to emphasize it.

¹⁴ This groups includes ‘unspecific verbs of motion (“come” and “go”), verbs of posture and change of posture (“sit (down)”, “stand (up)”, “lie (down)”) and some other intransitive verbs (e.g., Engl. *try*), but also the transitive verb meaning “take” (Proske 2019: 116f., cf. Kinn et al. 2018: 80).

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In Germanic languages, the dominant form of the structure is the one with two finite verbs, as in (10), which can be observed in Mainland Scandinavian (Wiklund 1996, Lødrup 2019, Kinn et al. 2018), Insular Scandinavian (Jóhannsdóttir 2006 on Icelandic, Heycock & Petersen 2012 on Faroese), Afrikaans (De Vos 2005, Cavarani-Pots 2020), English (Ross 2013), and German dialects (Höder 2011, 2012); meanwhile, the coordination of a finite verb and an infinitive, as in (11a), is found in Channel Islands English (Rosen 2014), and some Swedish, Northern Norwegian, and Dutch dialects (Wiklund 1996, Haslinger & Van Koppen 2003, Heycock & Petersen 2012).

In Dutch, pseudo-coordination with posture verbs, as shown in (10), was present in the Middle Ages, where it is said to have functioned as a progressive construction (cf. (3)). The construction died out in the standard variety in the 18th century (see 1.3.3. for further discussion). In Modern Dutch, pseudo-coordinate constructions are still present in the West Flemish dialects but are only possible with the complement verb in the infinitive, as in *Marie zit stoofperen en schillen* ‘Marie is sitting and peeling cooking pears’ (Barbiers et al. 2008: 34, translation mine; see also Haslinger & Van Koppen 2003).¹⁵ In short, in the standard variety of Modern Dutch, there is no pseudo-coordinate construction with posture verbs.¹⁶

German pseudo-coordinate constructions are mainly found in Low German dialects (Höder 2011, 2012). For the standard language, Proske (2017, 2019) investigated the construction with *(hin-/her-)kommen* ‘to come (to/from)’, *gehen* ‘to go’, *(da)stehen* ‘to stand (there)’, *(da)sitzen* ‘to sit (there)’, *sich hinstellen* ‘to stand up’, *sich hinsetzen* ‘to sit down’, and *nehmen* ‘to take’¹⁷ in spoken German data and concluded that the construction is still emergent, but nonetheless present in the language. Some examples with possible semantic bleaching of the first verb were already given as (4) at the beginning of this chapter; additional examples are shown in (13).

- (13) a. wenn du **hingehst und** Leistung **zeigst**, (...).
 ‘if you go and perform well’ (Proske 2019: 123)

¹⁵ Note that De Bo (1873: 302), on the other hand, observed that both types of pseudo-coordinate construction (i.e. with a finite and an infinitive complement verb) were possible in the 19th-century West Flemish dialects, although the one with two finite verbs was more frequent.

¹⁶ True coordination (e.g. *ik zit op de bank en lees een boek* ‘I sit on the couch and read a book’) is certainly possible but is not interpreted as a progressive construction.

¹⁷ These verbs correspond to those that frequently form pseudo-coordination cross-linguistically (see footnote 14).

- b. ich glaube nicht dass Herr Geißer **sich** jetzt **hinstellen** wird **und**
sagen wird
 ‘I don’t think that Mr. Geißler will now stand up and say’
 (*ibid.*: 125)
- c. abends in der Bar **steht** der **da und beobachtet**
 ‘in the evening at the bar, he stands there and observes’
 (*ibid.*: 128)

Proske argues, for example, that *hingehst* in (13a) ‘only marks purposefulness’ (2019: 123) and not literal motion, which is the original lexical meaning of the verb. In (13b), according to the author, the combination of *sich hinstellen und sagen* (‘to stand up and say’) means ‘to claim’, with *sich hinstellen* adding the meaning of determinedness to *sagen* ‘to say’ (*ibid.*: 125). With regard to (13c), the author explains that the posture verb with the particle (i.e. *dastehen*) serves to highlight the temporal extension of the activity described by the following verb (*beobachtet* ‘observes’) and makes the situation easier to visualize (*ibid.*: 127).¹⁸ As can be seen from these examples, the two-verb sequence can be interpreted in a monopredicative way, in which the second verb functions as a main verb and the first verb adds ‘aspectual, modal and other subjective meaning’ to the interpretation of the sentence (*ibid.*: 116). This backgrounding of the lexical meaning of the first verb can be taken to indicate that the pseudo-coordinate structure is emergent in German.

To conclude, this section has explained the linguistic phenomenon of pseudo-coordination and its realization in Dutch and German. In Middle Dutch, there was a pseudo-coordinate progressive construction with posture verbs. In addition, there are still some regional variants in the modern West Flemish dialects. The corresponding construction in German does not show a high degree of grammaticalization; however, the German construction does seem to be undergoing some semantic cohesion.

1.3 Grammaticalization of the posture-verb progressive construction

The previous section (1.2.) mainly described the progressive constructions with posture verbs in Modern Dutch and Modern German. As discussed in 1.2.1., Modern Dutch has a relatively grammaticalized posture-verb

¹⁸ See also 5.1. for further discussion on the German pseudo-coordinate construction specifically with posture verbs.

progressive construction, as exemplified in (14a). Additionally, in an earlier period, the language even had a pseudo-coordinate progressive construction with a posture verb, as shown in (14b).

- [illegible]

The development of the Dutch posture-verb progressive construction includes two major changes. First, posture verbs must have grammaticalized to express progressive aspect. Second, it seems the construction underwent a structural change from a pseudo-coordinate structure with *en(de)* (cf. (14b)) to a fully monoclausal one with *te* (cf. (14a)). The first point is related to grammaticalization and auxiliation of lexical verbs, which will be elaborated on in 1.3.1. and 1.3.2., respectively. Section 1.3.3. presents what is already known about the characteristics of the older type of construction with *en(de)* and how it was replaced by the newer type with *te*, based on the descriptions in the literature.

1.3.1 Grammaticalization theory

Grammaticalization can be characterized as a gradual increase of the grammatical function of a given linguistic unit. As Hopper & Traugott (2003: 2) put it, ‘“grammaticalization” refers most especially to the steps whereby particular items become more grammatical through time’ (cf. Heine et al. 1991: 2). Examples of grammaticalized linguistic items include the *be going to* construction in English, the motion verb *gaan* ‘to go’ as an auxiliary of the future tense in Dutch, and the Japanese suffix *-miru* ‘try to’, which derives from the verb *miru* ‘to see’.

The series of changes that a given linguistic item undergoes is said to form a *cline* (Hopper & Traugott 2003: 6), which can often be attested cross-linguistically. Diachronically, a cline corresponds to a natural pathway along which forms evolve, or ‘a schema which models the development of forms’ (*ibid.*: 6). In the same spirit, Heine et al. (1991) proposed the notions of *grammaticalization channels* and *grammaticalization chains*, the former referring to a specific path along which the form develops and the latter referring to

the internal structure or conceptual links within these channels. Grammaticalization is therefore typically understood to entail the step-by-step development of a given item acquiring more grammatical function over time. In what follows, this gradual pathway of development will be called a *grammaticalization path*.

According to Heine (2003: 578f.), grammaticalization can be characterized as involving ‘four interrelated mechanisms’: (i) semantic reduction, (ii) extension (or context generalization), (iii) decategorization, and (iv) phonetic reduction (erosion). Each relates to a different aspect of language, namely, to (i) semantics, (ii) pragmatics, (iii) morphosyntax, and (iv) phonetics/ phonology, respectively. The author admits that none of these mechanisms are specific to grammaticalization but that ‘they can be said to constitute different components of one and the same general process’ (*ibid.*: 579).

With relation to the grammaticalization of the posture-verb progressive construction in particular, it is useful to briefly elaborate on the two types of reduction just mentioned, namely semantic and phonetic reduction. Firstly, semantic reduction (semantic generalization, bleaching, erosion; Bybee et al. 1994: 6) refers to the phenomenon that the lexical meaning of a linguistic element becomes lost through grammaticalization. In case of the English *be going to* construction, the construction lost its direct connection with the lexical meaning of *go* (i.e. ‘move (toward a destination)’) and gained a future meaning through grammaticalization (Hopper & Traugott 2003: 2f.). In this way, the original lexical meaning of the verb *go* is considered as backgrounded or lost, which can be formulated as semantic bleaching of the verb.

Semantic bleaching has consequences on the collocate diversity of the construction (cf. Correia Saavedra 2019: 49f.), since, as Traugott (2010: 277) puts it, the reduction or bleaching of the semantics ‘naturally leads to loosening of constraints on co-occurrence’. As a result, a sentence like *I am going to like Bill*, which includes a complement verb that is semantically incompatible or unlikely with the motion meaning of *go*, becomes possible (Hopper & Traugott 2003: 3). Contrariwise, the variety of collocates of a given grammatical constructions can be used to evaluate how grammaticalized the construction is. Hilpert (2008: 17), for example, argues in his study on future tense markers (e.g. *be going to*) that ‘the change of collocational patterns in specific constructions is a useful diagnostic of language change, which allows for the detailed description of the development and change of grammatical constructions’. In short, the

variation in co-occurrence can serve as a measure of how semantically bleached the construction is and hence how grammaticalized it is.

Phonetic reduction, on the other hand, refers to ‘the reduction or loss of segmental material and a reduction in the length of the gram’ (Bybee et al. 1994: 6). One example of this phenomenon is *gonna*, a reduced form of *(be) going to* (Hopper & Traugott 2003: 3). Reduction is typically caused by a linguistic element losing independent tone or stress due to grammaticalization, and results in the loss or merge of consonants and vowels of the grammaticalizing item(s).

Linguistic items that serve as the source of grammaticalization are typically those that refer to fundamental human experiences, such as ‘the physical state, behaviour, or immediate environment of man’, and frequently appear in human thought and communication (Heine et al. 1991: 33). These embodied experiences are employed as concrete reference points to understand more abstract concepts, which are associated with the concrete concepts. The physical experiences described by posture verbs are certainly fundamental ones, and such verbs are cross-linguistically frequent in use due to their status as basic vocabulary items (Newman 2002). These characteristics of posture verbs make them well-qualified as sources of grammaticalization.

1.3.2 Auxiliation of posture verbs

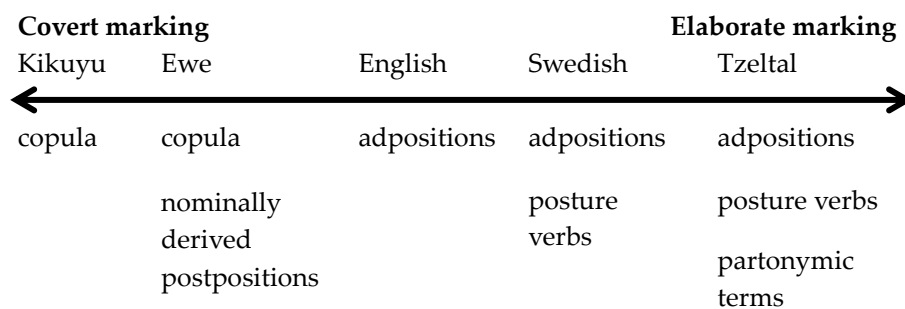
The mechanism of decategorization, mentioned by Heine (2003: 578f.), is also observed in the grammaticalization of the posture-verb progressive construction. In particular, the grammaticalization of the posture verbs can be understood as their decategorization from lexical verbs to auxiliaries (Hopper & Traugott 2003: 106-109); in other words, their *auxiliation*. Auxiliation refers to ‘the process of complex lexical verb structures developing over time into auxiliary grammatical structures’ (Kuteva 2001: 2). One well-known example of this phenomenon is when a verb develops into a tense/aspect/modality (TAM) marker, a process summarized in the Verb-to-TAM auxiliation chain (Heine 1993). Posture verbs developing into auxiliaries of progressive aspect certainly fall under the definition of Verb-to-TAM auxiliation.

The auxiliation of posture verbs is not uncommon cross-linguistically, and is found in various languages around the world, such as North-Germanic languages, Bulgarian, Kabyle (Berber), Imoda (Papuan), and Kxoe

(Kuteva 1991, 2001, Newman 2002). Kuteva (1999, 2001) argues that the languages that employ a posture-verb aspectual structure also use posture verbs as unmarked and ‘canonical encodings’ of the spatial position of physical objects. Indeed, she proposes that the general use of posture verbs for spatial configuration paves the way for their auxiliatation. The following paragraphs present a step-by-step overview of Kuteva’s theory.

The use of posture verbs as canonical spatial verbs usually implies that the language in question has an elaborate system of spatial semantics; that is, a system that reflects the nature of the located entity and the location in a detailed way. For example, Dutch posture verbs can be used as locative verbs and can reflect, for instance, whether an object assumes a vertically salient position (e.g. *de boeken staan in de kast* ‘the books are standing in the bookshelf’) or a horizontally salient position (e.g. *de boeken liggen op het bureau* ‘the books are lying on the desk’; see Lemmens 2002 and Van Staden et al. 2006 for more detailed descriptions of the spatial use of posture verbs). On the other hand, there are languages that do not use verbs to distinguish different spatial configurations and only use a copula, such as Kikuyu. This kind of language is said to have covert marking of spatial semantics. According to Kuteva (1999, 2001), elaborate and covert marking form poles of a continuum, as illustrated in Figure 1.

Figure 1. Covert-to-elaborate marking of spatial semantics and canonical linguistic means used (based on Kuteva 2001: 58)



As shown in Figure 1, the use of posture verbs for spatial semantics is restricted to the languages associated with elaborate marking (Swedish and Tzeltal in the figure). Based on this observation, there is a correlation between the use of posture verbs as canonical spatial verbs and the elaborate marking of spatial semantics in the language.

In the languages that have elaborate marking of spatial semantics, the use of posture verbs for spatial expressions eventually 'elevates the

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corresponding verb structures to the status of basic, most common verb expressions and makes them thus appropriate source structures in auxiliatation' (Kuteva 2001: 45). In other words, the frequent use of posture verbs as spatial verbs opens up the possibility for the verbs to develop into auxiliaries. The development of posture verbs from canonical spatial verbs into 'continuative/durative/progressive auxiliaries' is demonstrated by Kuteva (1999, 2001) with an example from Bulgarian, which is summarized in Table 2. According to Kuteva, the auxiliatation of the Bulgarian posture verbs begins with the stage where the verbs only denote human postures (Stage 1 in Table 2) and ends with the construction with progressive aspect (Stage 4 in Table 2).

Table 2. Grammaticalization path of the Bulgarian posture-verb progressive construction (based on Kuteva 2001: 72)

Stage	Characteristics
Stage 1	(i) Bodily posture plus simultaneous verb situation (biclausal) [[S _{anim} PV Adv] CC [V ²]] ¹⁹
Stage 2	(ii) Ambiguity between: (ii-a) Spatial position of objects plus simultaneous situation described by the second verb (biclausal) [[S _{inanim} PV Adv] CC [V ²]] (ii-b) Continuative/durative/progressive (monoclausal) [S _{inanim} PV _{aux} Adv CC V ²]
Stage 3	(iii) Continuative/durative/progressive (monoclausal) [S _{inanim} PV _{aux} CC V ² (Adv)]
Stage 4	(iv) Continuative/durative/progressive (monoclausal) [S _{anim/inanim} PV _{aux} CC V ² (Adv)]

At Stage 1, posture verbs (PV) are only used in their postural meaning with animate agents (as indicated by S_{anim} in the table), are typically modified for location by an adverbial (Adv), and are linked by a coordinating conjunction (CC) to another verb (V²), which results in a biclausal structure. A sentence such as *Ana sedi na divana i piše pismo, a bašta i sviri na piano* 'Ana is sitting on the couch and is writing a letter whereas her father is playing the piano' (Kuteva 1999: 207, 2001: 68) is, according to the author, interpreted with the posture verb (*sedi* 'sits') indicating the posture of the agent and the second verb (*piše* 'writes') indicating a co-occurring

¹⁹ The abbreviations used in this dissertation are summarized in the section 'Abbreviations'.

event. At Stage 2, the posture verbs have extended their meanings to encode spatial configuration and co-occur with inanimate subjects (*S_{inanim}*). At this stage, the verbs can be coordinated with another verb in a biclausal structure as demonstrated in (ii-a) in Table 2. However, another interpretation is also available; specifically, posture verbs start to acquire continuative/durative/progressive aspect, developing into progressive auxiliaries with a monoclausal structure, as indicated by *PV_{aux}* in the table (see (ii-b) in Table 2). Kuteva proposes that the use of posture verbs as canonical locative verbs facilitates this development. As a result of posture verbs extending their semantics to the spatial meaning and being used in this meaning frequently, the specific association of these verbs with human posture is blurred, and the focus is laid more on the verbs' inherent semantics of temporal unboundedness. Foregrounding of this temporal meaning correspondingly emphasizes the aspectual profile of posture verbs and facilitates the verbs' development into progressive auxiliaries. At Stage 3, the verb sequence with an auxiliaryized posture verb, a coordinating conjunction, and a following verb—now functioning as a complement verb—is unambiguously interpreted as a progressive construction, and gains more cohesion. Increased cohesion can also be observed as a formal change, in that the verb sequence is less frequently interrupted. In line with this, the adverbials, which at earlier stages were placed between the posture verb and the coordinating conjunction, are now placed after the whole sequence, as can be seen in the extraposed Adv in (iii) in Table 2 (Kuteva 1999: 208). Due to the fixed monoclausal interpretation at this stage, the extraposed adverbials modify the whole verb sequence and not just individual verbs. The co-occurrence of the adverbials also seems to become optional at this stage (as indicated in the table by parentheses). This is probably due to the fact that the spatial semantics of posture verbs have become backgrounded, such that they no longer require a locative modifier. The last step in the process is the lifting of the selectional restriction on the subject. At this stage (i.e. Stage 4 in Table 2), the subject can be either animate or inanimate with a monoclausal interpretation. The verb sequence also often occurs with temporal adverbials, such as 'all the time' or 'all day long', emphasizing the durative aspect of the construction, although their occurrence is 'redundant rather than necessary' (Kuteva 1999: 209, 2001: 71).

According to the author, the grammaticalization of the Bulgarian posture verbs is fundamentally based on the assumption that the semantic expansion of the verbs and their frequent use as a locative verb facilitated the backgrounding of their postural semantics and the foregrounding of their temporal aspect (Kuteva 1999: 208, 2001: 69), eventually resulting in the

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development of posture verbs into progressive auxiliaries. Consequently, the auxiliation of posture verbs is, according to Kuteva, inevitably connected to the frequent occurrence of posture verbs as locative verbs, which can be linked to the elaborate marking of spatial semantics in the language.²⁰

In conclusion, this section has outlined auxiliation as grammaticalization of a lexical verb into an auxiliary. The example of auxiliation of posture verbs in Bulgarian was discussed in detail, based on Kuteva (1999, 2001) 's proposals. Kuteva suggests a correlation between the auxiliation of posture verbs and explicit spatial marking in the language and proposes a grammaticalization path for the Bulgarian posture verbs as an example of how such verbs develop into aspectual markers.

Kuteva's analysis may be applicable to the Dutch posture verbs. The Dutch language is known for its elaborate spatial marking system with posture verbs functioning as canonical locative verbs (Lemmens 2002, Van Staden et al. 2006); furthermore, the verbs can indeed be used as progressive auxiliaries. At the same time, the path proposed by Kuteva is not intended to be universal (2001: 73), and each language may have an individual scenario. For example, after the verbs were grammaticalized to progressive auxiliaries, the Dutch posture-verb construction additionally underwent a structural change to an unambiguously monoclausal structure, taking an infinitive clause as a complement. Hence, not all the details of the grammaticalization path for the Bulgarian posture verbs apply to the development of the Dutch posture verbs; however, the development of the Dutch posture-verb progressive construction could also be structured as a step-by-step development, similar to that of the Bulgarian posture-verb progressive construction as shown in Table 2. A tentative grammaticalization path for the Dutch posture verbs will be proposed in Chapter 3. The current state of knowledge regarding the development of the Dutch posture verbs will be presented in the next section, which summarizes findings in the literature on the historical development of the Dutch posture-verb progressive construction.

²⁰ It should be noted that the languages that have an elaborate marking system of spatial semantics do not necessarily have progressive auxiliaries derived from posture verbs. Rather, elaborate marking serves as a 'prerequisite' for further development of posture verbs into progressive auxiliaries (Kuteva 1999: 205).

1.3.3 Historical development of the Dutch posture-verb progressive construction

As outlined in the beginning of 1.3., the development of the Dutch posture-verb construction involves two significant changes. The first is the auxiliation of the lexical posture verbs, a change like the one demonstrated for Bulgarian in the previous section (1.3.2.). The second is the replacement of the coordinating conjunction *en(de)* by the infinitive marker *te* and the concomitant obligatorization of the infinitive form of the complement verb, as demonstrated in (14), repeated here as (15).

- (15) a. Zij **stond** zwijgend uit het raam **te kijken**.
 'she was silently standing and looking out of the window'
 b. Ende Hela **sat en at** over sijn tafel in Thersen
 'and Elah was sitting and eating at his table in Tirzah' (= (14))

The intervening element connecting the verbs, namely *te* in (15a) and *en* in (15b), will henceforth be referred to as the *connector*. The change from (15b) with the connector *en* to (15a) with the connector *te* is not merely a case of replacement but rather a change in structure, from pseudo-coordination with two verbs with parallel conjugation to a single complex phrase with the second verb obligatorily in the infinitive form.

The pseudo-coordinate sentence in (15b) represents an older type of construction, which employs the coordinating conjunction *en(de)* as a connector. Typically, both of the verbs are finite, as demonstrated in (15b), but it may have been possible for the second verb to be an infinitive in Middle Dutch, as Weijnen (1971) points out with the following example (16).

- (16) Dan **sittet** convent **ende knaghen** / een ey of enen vulen harinc
 'then the nuns/monks sit (lit. 'then the convent sits') and eat an egg
 or a rotten herring' (Weijnen 1971: 110; translation mine)

The author's interpretation is that the posture verb (*sitten*) is in the third person singular form *sittet* with an enclitic article (= *zit* + *het*²¹ 'sits the'), while the verb after the connector *knaghen* 'to gnaw, to eat' is in the infinitive.

While there is indeed disagreement in conjugation between the verbs in this example, it is also possible to interpret *knaghen* as a plural form of the verb, disagreeing with *sittet* only in number, as Stoett (1889: §207) suggests.

²¹ The expressions after '=' shows the form in Modern Dutch.

Stoett notes that number disagreement was not particularly rare in Middle Dutch when the coordinated verbs shared the subject of a collective noun. In such cases, the first verb could be conjugated in the singular, agreeing with the grammatical number of the subject, and the second verb could be conjugated in the plural, agreeing with the plurality of the subject referent (see also Birkenes & Sommer 2015). Indeed, the example in (16) is cited by Stoett in this regard, since the subject *convent* can be interpreted as a collective noun (i.e. ‘the community of nuns/monks’). Consequently, it is questionable whether the construction was also available with an infinitive following the connector *en(de)* in Middle Dutch; however, the possibility cannot be excluded considering the presence of this form in modern West Flemish dialects (cf. section 1.2.3.). I will return to this point in 4.2.5. in more detail, in which I show that, in the database for this research, a comparable structure is only sporadically attested.

Although the Middle Dutch posture-verb construction with *en(de)* may formally coincide with regular coordination (cf. (15b)), the construction exhibits some syntactic features that indicate an underlying monoclausal structure. The first piece of evidence is the IPP effect. As explained in 1.2.2. for the Modern Dutch posture-verb progressive construction, when a verb occurs in the infinitive in a clause-final verbal complex containing more than one verb, this indicates the auxiliary(-like) status of the verb in question (see (9)). According to Van der Horst (2008), *zitten* and *liggen* already show the IPP effect in the pseudo-coordinate construction in Early Middle Dutch (1200–1350), as shown in (17).²²

- (17) a. of soe hadde **zitten beiden**
 ‘whether she had been sitting and waiting’
 b. Daer ic hebbe **liggen beiden**
 ‘where I was lying and waiting’
(ibid.: 450, 440; translations mine)

In both of the examples, the auxiliary of the perfect tense *hebben* (underlined in the examples) governs the posture verb, which is in its infinitive form. *Staan* seems to develop slightly more slowly in this respect than the other posture verbs, since the first attestation of the construction with the IPP effect with *staan* is reportedly found in Late Middle Dutch, i.e. 1350–1500

²² In the examples in (17), it is also to be noticed that the connector is not realized. These examples thus seem to suggest that the Modern Dutch rules on when the connector can be dropped may be of influence also at this stage.

(*ibid.*: 444, 671). The attestation of the IPP effect from the Early Middle Ages onwards suggests that the auxiliation of posture verbs was already well under way in the beginning phase of Middle Dutch.²³

Another indication of the monoclausal structure of the construction is word order. The construction allows the elements belonging to the second verb to appear between the posture verb and the connector (Stoett 1889: §14, Weijnen 1956: §79, Duinhoven 1997: 440, Van der Horst 2008: 879, 1166). Examples are provided in (18).

- (18) a. Een waterlantsche Trijn **sat** eens **ajuyn** e**n** s**e**ch**de.
‘a girl from Waterland once sat and peeled onions’
(Cats 1627: 166; translation mine)**
- b. Hi **stoet van vruchte en beeft** [529²⁴]
‘he was standing and trembling (lit. stood and trembled) with fear’

In (18a), for example, *ajuyun'* onions', which is the object of the verb *schelde* 'peeled', is placed before the connector *en*; similarly, in (18b), the adverbial *van vruchte* (= *van vrees* lit. 'from fear') which expresses the reason for trembling (i.e. *beeft* = *beefde* 'trembled') is found after the posture verb *stoet* 'stood' and before the connector *en*. In regular coordination, each conjunct before and after the coordinating conjunction retains its independence, and elements associated with one conjunct cannot be placed within the scope of the other (e.g. **I sat a book and read*).²⁵ This constraint of independence is violated in the examples in (18), indicating the unitary interpretation of the whole verbal complex (cf. Van Pottelberge 2002: 152). In other words, the two-verb sequence with the connector forms a unit and needs to be interpreted not as two distinct conjuncts but as a monoclausal construction with a posture verb as an auxiliary accompanied by a complement verb.

²³ In this context, it should be remembered that the IPP effect itself also develops and becomes more frequent over the centuries. Further discussion is found in 3.1.

²⁴ For examples drawn from the database for this research, example numbers are given which correspond to the number in the database; the databases are ‘database_nl.csv’ for Dutch and ‘database_de.csv’ for German (Okabe 2022). These database files also include indications of the original source of each example.

²⁵ The impossibility of placing an element from one conjunct into a different conjunct is stated as the Coordinate Structure Constraint ('In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct' (Ross 1967: 89)). A word order like **I sat a book and read* can be regarded as an obvious violation of this constraint.

Examples like (18) with a deviant word order thus reveal that the verbs form a clause bracket (cf. *tangconstructie* ‘pliers construction’) with a middle field between the two verbal elements (De Schutter 1994: 465ff., ANS: 21.1.1.1.; further discussion of the clause bracket is found in 3.1.3.).

Additionally, in Middle Dutch, the connector *ende* seems to be phonologically reduced to *en* in some cases of the construction, as seen in example (18b) from the 15th century (cf. Duinhoven 1997: 572, footnote 639). According to Van der Horst (2008: 644), the use of *en* in the posture-verb construction is attested in Late Middle Dutch (1350–1500), when the *ende* form was still dominant as a coordinating conjunction (*ibid.*: Chap. 13). The early attestations of *en* instead of *ende* in the construction could be linked to phonological reduction related to the grammaticalization of the construction. As discussed in 1.3.1., phonological reduction is one of the major changes accompanying grammaticalization.²⁶

At the same time, the reduction of *ende* to *en* in Dutch is also part of the general development of the coordinating conjunction. In Middle Dutch, *ende* was the most frequent form of the coordinating conjunction (Van der Horst 2008: 13); in the 16th century, the *en* form started to increase in frequency, and in the 17th century, both forms were used side by side, even in the same text written by the same author. Van der Horst (2008: 1292) remarks that there is no apparent system determining the choice between *ende* and *en* in that century. In the 18th century, the modern *en* form was dominant, while the use of *ende* became increasingly scarce. In short, the formal development of the coordinating conjunction from *ende* to *en* mostly took place in the 16th and 17th centuries; this development apparently occurred after the replacement of *ende* with *en* in the Middle Dutch posture-verb construction. It is certainly unparsimonious to analyze the development of this form as a connector (i.e. in the posture-verb construction) as distinct and independent from its development as a coordinating conjunction (i.e. outside the construction). On the other hand, phonological reduction of *ende* to *en* in the construction may be a good indication of grammaticalization if it could be

²⁶ Phonological reduction of the connector in pseudo-coordination is observed in other languages as well, including English (i.e. *and*: [ən(d)] > [n]), as in [w]ho will John go [n] catch? (De Vos 2005: 49) and Afrikaans, as in [w]at sit Jan [en]/[n] lees? ‘What is Jan reading?’ (*ibid.*: 150f.). De Vos (2005: 95) points out that the fact that a connector fulfills a functional role and hence ‘falls under the low-stress contour of the unstressable pseudo-coordinative predicate’ makes the reduction of the connector characteristic of pseudo-coordination.

argued that it happened at a different time from the replacement of the coordinating conjunction.

In terms of desemanticization, posture verbs also show some bleaching (Leys 1985). Van der Horst (2008) and Strenghtolt (1970) provide examples where the posture denoted by the posture verb is incompatible with the activity described by the following verb. These examples are given in (19) and (20) below, and are drawn from the Late Middle Dutch period (1350-1500) and the 17th century, respectively.

- (19) Ende die olde vaders **lagen ende arbeiden** om den steen af te doen ende die scriftuer te verstaen
 ‘and the old leaders were (lit. lying and) working to remove the stone and to understand the Scripture’
 (Van der Horst 2008: 644; translation mine)

- (20) a. De vierde **leyt en loopt** met velen en met luyten
 ‘the fourth (person) is (lit. lying and) walking with fiddles and with lutes’
 b. ligh ghij noch te bedde / Daer ick soo vroegh op **ligh en wroet**?
 ‘are you still lying in bed while I am (lit. lying and) working this early in the day?’
 (Strenghtolt 1970: 127, 128; translations mine)

In (19), the activity of removing the stone and reading the Scriptures is typically not understood as done in a lying posture. Similarly in (20a), the action *lopen* ‘to walk’ is not compatible with the lying posture indicated by the posture verb, and nor is the action *wroeten* ‘to work hard’ in (20b).²⁷ The semantic incompatibility indicates that the meaning of *liggen* as a posture verb is backgrounded in these cases. This entails that the posture verb is desemanticized, meaning that the verb is used merely as an aspectual marker. Considering the strong semantic compatibility of the posture verb and complement verb in the modern posture-verb progressive construction (cf. section 1.2.2.), these sentences are remarkable, although we will see that there were not in fact many comparable instances found in the database for this research (cf. section 4.2.3.).

In data from the 17th century, evidence for the monoclausal structure of the construction is also attested in cases where two or more [*en(de)* V]

²⁷ With these examples, Strenghtolt (1970: 127) further points out that *liggen* is the most semantically bleached verb in the construction, compared to *staan* and *zitten*.

- In (21a), *en wroeten* (lit. 'and work hard') and *en slepen* (lit. 'and drag') are coordinated by *end*, and in (21b), *en bommen* (lit. 'and bawl') and *en fluyten* (lit. 'and whistle') are coordinated by *end*. The juxtaposition of the two formal variants *end* and *en* suggests that one of them does not function as a coordinating conjunction, and the formal parallelism of the *en* phrases (i.e. [*en V*] *end* [*en V*]) indicates that *ende* has a different function from *en* in these sentences. Hence, in these examples, *en* apparently functions as a verb introducer (i.e. it serves simply to introduce the verb). In other words, the juxtaposition of [*en(de) V*] clauses indicates the dessemanticization of *en(de)* and the complementary status of the phrase involving the second verb.

The replacement of the older construction with *en(de)* by the newer construction with *te* is thought to have taken place mainly around the 17th century. According to Van der Horst (2008: 9.5.1.2.), the construction with *en(de)* is found from the Early Middle Ages (around the 13th century) until the 17th century, but rarely in the 18th century. The construction with *te*, on the other hand, started to increase in frequency mostly from the 17th century onwards and, in Modern Dutch, became the only possible form of posture-verb progressive construction.²⁸ Accordingly, the two types of construction

²⁸ According to Van Pottelberge (2002: 157), the first clear attestation of the *te* construction dates back to 1618 and is found in the work of P. C. Hooft: *Ick sat een ommesen te futselen* ‘I was sitting and babbling for a moment’. Van der Horst (2008:

coexisted in the 17th century. In that century, the construction with *te* grew in frequency and competed with the older type of construction, eventually replacing it.

There are various proposals for the origin of the posture-verb progressive construction with *te*, and there seems to be no consensus on this point. The four main proposals are as follows. The first is from Van der Horst (2008), which is probably based on Van den Toorn (1975). Van der Horst (2008: 880) argues that the *te* construction emerged from the particle *te* with a purpose meaning ('finale betekenis'), like *om te* 'in order to' in Modern Dutch.²⁹ According to this hypothesis, a sentence like *hij zat te lezen* (lit. 'he sat to read') was first interpreted as 'he is sitting in order to read' but gradually lost its purpose meaning, eventually being reinterpreted as 'he is sitting and reading'.³⁰ Once reinterpreted, this form with *te* was semantically comparable with the older pseudo-coordinate construction with *en(de)*, which was eventually entirely replaced by the newer construction with *te*. According to Van den Toorn (1975: 261ff.), two factors could have facilitated this change. The first is the rise of a one-to-one form-meaning correspondence of the [*om te* V_{inf}] phrase with the purpose meaning, consequently diminishing the use of the [*te* V_{inf}] form to express the purpose meaning (cf. Van der Horst 2008: 869). Second, Van den Toorn (1975: 262f.) further emphasizes that the existence of the *en(de)* construction facilitated the emergence of the construction with *te* by introducing the concept of a grammaticalized posture-verb progressive construction. Van der Horst (2008: 880) also points out that the use of *te* as a verb introducer in the sentence pattern of [V *te* V_{inf}] (e.g. *schijnen te zijn* 'seem to be') probably facilitated the development.

Another perspective on the origin of the construction is based on the assumption that the adverbial function ('adverbiale functie') of the infinitives serves as an origin of reinterpretation (Duinhoven 1997: 216). Duinhoven seems to acknowledge that the *te* construction may have its origin in the final *te* (*ibid.*: 441), but he also proposes another way that the

444), on the other hand, suggests that the *te* construction already existed with a hint of a durative meaning in Middle Dutch, but on a small scale.

²⁹ Note that the infinitive originating from purposive forms is a common trend observed cross-linguistically (Haspelmath 1989).

³⁰ Van der Horst (2008: 880) also suggests that the reason why German and English equivalents of the posture-verb progressive construction (with *zu/to* 'to' corresponding to Dutch *te*) do not exist is that the infinitive markers in these language retain their purpose meaning more strongly than their Dutch equivalent, thus impeding reinterpretation of the verbal complex to have a progressive meaning.

construction with *te* could have emerged. Middle Dutch allowed a construction with a finite verb and an infinitive, i.e. a [V_{fin} ... V_{inf}] structure (e.g. *daer wandelt die joncfrouwe met haren camerieren spelen* ‘there walks the lady, playing with her maids’ (*ibid.*: 216; translation mine)), in which the second verb in the infinitive (here, *spelen* ‘to play’) describes an activity that co-occurs with the activity indicated by the first motion verb (here, *wandelt* ‘walks’). According to the author, the infinitive verb in this construction has a function comparable to that of an adverbial, in the sense that it modifies the first verb and specifies the co-occurring activity. In other words, the combination of a verb and a modifying infinitive yields a monopredicative interpretation where the second verb modifies the first. The author argues that this adverbial function of verbs in the infinitive can also be observed in a sentence like *hi bleef liggen rusten* ‘he stayed lying and resting’ (*ibid.*: 216), if we interpret *rusten* (‘to rest’) as modifying *liggen*. In the following step, Duinhoven suggests that the adverbial profile of the infinitives was emphasized by inserting the preposition *te*, resulting in a structure such as [V_{aux} ... PV_{inf} *te* V_{inf}] (1997: 216). In the last stage of development, the posture verb was relocated to the clause-second position as a main verb, leading to sentences like *hij ligt te rusten* ‘he is lying and resting’, *zit te drinken* ‘is sitting and drinking’, and *staat te bidden* ‘is standing and praying’.

Van Pottelberge (2002) suggests two problems with this account. The first is that it may not be possible to compare the structure [V_{fin} ... V_{inf}] of a motion verb with juxtaposed verbs in the infinitive in clause-final position (i.e. [V_{aux} ... PV_{inf} V_{inf}]) with posture verbs. For the comparison to be meaningful, posture verbs also need to be attested in a structure like [PV_{fin} ... V_{inf}], i.e. **hij zit lezen* (lit. ‘he sits read’) or **zij lag slapen* (lit. ‘she lay sleep’), which Van Pottelberge reports is not found³¹ in his database.³² The second

³¹ There are some exceptions, like *Ende als de heylighe Catholicksche mannen in de Tavernen sitten drincken ende clincken* ‘and when the holy Catholic men sit and drink and clink (glasses) in the dining hall’, in which the posture verb is in the present plural form and postposed because of the verb-final word order induced by the subordinate clause. As discussed in 1.2.2., this type of example meets one of the criteria for omission of *te* in Modern Dutch, which is probably also applicable in this context. Apart from this type of sentence, no instances with the structure [PV_{fin} V_{inf}] were found in Van Pottelberge’s database.

³² The change from [V_{fin} V_{inf}] to [V_{fin} *te* V_{inf}] seems to have happened with *lopen*. According to Van der Horst (2008: 888), between the 13th and 16th centuries *lopen* could only be combined with an infinitive verb without *te*, but in the 17th century it acquired the possibility to combine with an infinitive with *te*. This change associated the verb *lopen* with the posture verbs used in the progressive construction with *te* (cf.

point is the infrequency of the structure $[V_{aux} \dots PV_{inf} te V_{inf}]$, such as **had zitten te beiden* (lit. ‘had sit to wait’) and *?bleefliggen te rusten* (lit. ‘stayed lie to rest’; *ibid.*: 161).³³ This means that the proposal that *te* was inserted between the infinitives cannot be verified with data.

Van Pottelberge (2002) instead proposes that the *en(de)* construction in the perfect-tense form served as a transition point from the *en(de)* construction to the *te* construction. In his theory, the *en(de)* construction in the perfect tense with the IPP effect and omitted connector (e.g. *hij heeft zitten eten* lit. ‘he has sit eat’) was reinterpreted as the perfect form of the *te* construction (i.e. $[PV_{fin} te V_{inf}]$). According to the author, the reinterpretation may have occurred by means of analogy with the verbs that would take a *te* phrase and show the IPP effect in the perfect tense. Based on the analogy, the posture-verb construction with *en(de)* in the perfect tense (i.e. $[V_{aux} \dots PV_{inf} V_{inf}]$) was interpreted as a perfect form of the *te* construction and restructured in the form $[PV_{fin} te V_{inf}]$ in the verb-second word order, so that the original connector *en(de)* was replaced by *te*. The author sees the widespread distribution of the sentences with the structure $[V_{aux} \dots PV_{inf} V_{inf}]$ as a favorable environment for this analogical development. On the other hand, he also admits one defect of this theory (*ibid.*: 163), namely, the non-existence of verbs that could function as a model for analogy. According to the author, in the 16th and the 17th century (the emerging period of the *te* construction) there were no verbs that took a $[te V_{inf}]$ phrase and showed the IPP effect in the perfect tense. In other words, transformation from $[V_{fin} te V_{inf}]$ to $[V_{aux} \dots V_{inf} V_{inf}]$ and vice versa seems not to have been a common pattern of sentence formation in the language at the time. Nonetheless, Van Pottelberge points out that the insertion of *te* belongs to general trends in the language in terms of how a complement verb cluster is formed. According to the author, from the Middle Dutch period there was a general increase in the

Van Pottelberge 2002: 153f., 168ff.). Furthermore, the difference in development between *lopen* and the posture verbs could indicate that the *te* construction (formed with posture verbs, with *lopen*, and with *hangen*; cf. footnote 4) arose independently of the *en(de)* construction (which was formed with posture verbs but not with *lopen*). The relation between the older and the newer construction will be discussed in section 4.5.2.

³³ In fact, Van Pottelberge (2002: 161) argues that forms like **had gezeten te beiden* (lit. had sat to wait) and *?bleefliggen te rusten* (lit. ‘stayed lie to rest’) have never existed as progressive constructions in the language. However, the latter (i.e. $[V_{aux} \dots PV_{inf} te V_{inf}]$), is not necessarily impossible, although *te* is better omitted in Modern Dutch (cf. ANS: 18.5.4.1.ii), and was indeed mostly omitted in my database too. That is why I speak here of infrequency rather than impossibility.

tendency for auxiliary-like verbs to take a *te* phrase, which may have facilitated the auxiliary posture verbs to take a [*te* V_{inf}] phrase (cf. IJbema 2003: 80ff.).

The three proposals outlined above do not appear to assume a simple replacement of the connector; however, this is not theoretically excluded. For example, if the construction with an [*en(de)* V_{inf}] phrase existed in Middle Dutch, as Weijnen (1971) suggests, the replacement of *en(de)* by *te* (i.e. [PV *en(de)* V_{inf}] > [PV *te* V_{inf}]) may have been possible. It could further be argued that the *-t* suffix of posture verbs in the third person singular form (i.e. *staat*, *zit*, *ligt*) may have been the driving force for this replacement. Under this view, the *-t* ending may have combined with *en*, forming the sequence [PV-*ten* V_{inf}], which eventually developed to [PV *te* V_{inf}] by *ten* being reduced to *te* and reinterpreted as an infinitive marker (i.e. [PV *en* V_{inf}] > [PV-*ten* V_{inf}] > [PV *te* V_{inf}]). Van Pottelberge (2002: 161) is, however, skeptical of this scenario, as he was not able to find sentences that would reflect the intermediate steps of such changes in the 16th and 17th century.

In sum, the literature offers various explanations for how the pseudo-coordinate construction with *en(de)* was replaced by the monoclausal construction with *te*. Van den Toorn and Van der Horst's proposal views the *te* construction as a development from a construction where *te* had a purpose meaning. Their suggestion does not offer an explanation for why the construction with *te* gained popularity over the older *en(de)* form from the 17th century onwards. Meanwhile, Duinhoven's proposal suggests that the infinitive was first used to modify posture verbs in the same manner as adverbials, with *te* later added between the posture verb and the following verb. However, this theory seems to lack empirical evidence, according to Van Pottelberge. Van Pottelberge instead seeks the origin of the *te* construction in the reanalysis of the *en(de)* construction when both the posture verb and the following verb are in the infinitive and are postposed to clause-final position. His theory emphasizes the role of analogy but, at the same time, lacks the verbs that could function as models for analogy. The last way of thinking, which views *te* as emerging from *en(de)* via a form change, has reportedly insufficient supporting data. In short, while a number of possible accounts have been put forward, in particular by Van der Horst, Duinhoven and Van Pottelberge, scholars have yet to reach a consensus regarding the origin of the posture-verb progressive construction with *te*.

One last point to mention regarding the historical development of posture verbs is the disappearance of the *en(de)* type of posture-verb construction with aspectual semantics. As the newer type of construction

with *te* became dominant, the older one with *en(de)* not only gradually became less frequent but also eventually went lost as a progressive construction. Consequently, a sentence like *?hij lag en sliep* (lit. 'he lay and slept') is not interpreted as a progressive construction in Modern Dutch. According to Van Pottelberge (2002: 165), the word order where elements are preposed, as in **zij zat de krant en las* (lit. 'she sat the newspaper and read'), was the first feature to be lost. The author cites an example from around 1790 as the last example of this word order in the *Woordenboek der Nederlandsche Taal* (henceforth WNT), which is given in (22).

- (22) Ik **zit** vast heen en weer **en** **kyk**
 'I am firmly sitting and looking back and forth'
 (Van Pottelberge 2002: 165; translation mine)

In (22), the adverbial *heen en weer* 'back and forth', which specifies the manner of *kyk* (= *kijk*, 'look'), is placed after the posture verb and before the connector *en*. As discussed above, this word order is impossible unless the construction has a monoclausal structure. According to Van Pottelberge's investigation based on the WNT, this sentence pattern seems to have disappeared at the end of the 18th century.³⁴

Van Pottelberge points out that some pseudo-coordination-like sentences are still found in the 20th century, as in (23).

- (23) a. Een rij Van[sic.] kinderen **zit en zingt** zij aan zij
 'a row of children is sitting and singing (lit. sits and sings) side by side'
 b. Als ik **zit en arbeid**, (...)
 'when I am sitting and working (lit. sit and work)'
 (Van Pottelberge 2002: 165; translations mine)

The sentences apparently have a coordinate structure, while the progressive interpretation is not totally ruled out. As Van Pottelberge (2002: 165f.) puts it, the possibility to form a sentence in this manner is not entirely lost in Modern Dutch,³⁵ but it is no longer used systematically.³⁶

³⁴ Note that a structure like *Marie zit aardappelen en schilt* (lit. 'Marie sits potatoes and peels') was still possible in Zeeland (Noord/Zuid Beveland) as a marginal construction in the 20th century according to Gerritsen (1991: map 40, 41).

³⁵ Although it is marginally acceptable, Zwart (2011: 121) remarks that the present-day language 'lacks the quasi-serial conjunction type of English *go and buy*, *try and save*', which also seems to apply to the verbal coordination with posture verbs.

In conclusion, this section (1.3.3.) has summarized the existing accounts of the historical development of the posture-verb progressive construction in Dutch. First, the syntactic and semantic features of the construction with *en(de)* were explained, and it was confirmed that the construction has a pseudo-coordinate character, in the sense that it coincides formally with regular coordination but shows some indications of a monopredicative interpretation. Second, the replacement of this *en(de)* type of construction by a monoclausal one with *te* was discussed in terms of when it is likely to have emerged, and some proposals from the literature were presented concerning how the change may have taken place. Lastly, the further development of the *en(de)* construction was described from the perspective of the disappearance of its variant with aspectual semantics.

The insights provided in this section, along with those concerning grammaticalization in 1.3.1. and auxiliation of posture verbs in 1.3.2., are all crucial for understanding how the Dutch posture-verb construction developed diachronically, and for establishing a grammaticalization path for the construction. As explained in 1.1, the aim of this research is not only to develop a grammaticalization path based on the literature, but also to test its validity with the help of corpus data. These two objectives are explained in further detail in the next section.

³⁶ Van Pottelberge (2002: 164) describes the disappearance of the progressive *en(de)* construction as degrammaticalization of the construction, but it could be argued that this phenomenon does not fulfill the criteria for degrammaticalization. According to Norde (2009: 120f.), '[d]egrammaticalization is a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology)'. There are four basic characteristics of degrammaticalization: counterdirectionality, novelty, infrequency, and discontinuity. The disappearance of the progressive *en(de)* construction does not meet the prerequisite of novelty. Novelty entails that degrammaticalization 'must result in a novel gram' (*ibid.*: 121). In the case of the Dutch posture-verb construction with *en(de)*, the two uses of posture verbs—as lexical verbs and as aspectual markers—have always coexisted and there is no evidence that the lexical verb use newly arose from the modal verb use. In other words, if the change merely involves a process of more grammaticalized uses becoming marginalized (or even obsolete) while less grammaticalized uses increase in frequency, it 'will not qualify as a case of degrammaticalization' (*ibid.*: 122). Thus, the development of the Dutch posture-verb construction is better characterized as the construction with a coordinate interpretation becoming dominant and the subordinate variant becoming marginalized, and vice versa, over time. As a consequence, the historical development of the *en(de)* construction does not qualify as degrammaticalization based on Norde's definition.

1.4 Research objectives for the investigation of the Dutch posture-verb progressive construction

As outlined in 1.1., the research objectives regarding the Dutch posture-verb progressive construction include a description of its historical development and a theory regarding the process by which it became grammaticalized. In other words, this research is concerned with constructing a tentative grammaticalization path and testing and adjusting it based on observations from corpus data, so that the final grammaticalization path describes the historical development of the construction.

First, a provisional grammaticalization path will be proposed on the basis of general characterizations of pseudo-coordination (cf. section 1.2.3.), grammaticalization (cf. section 1.3.1.), and auxiliation of posture verbs (cf. section 1.3.2.), also taking into account the descriptions in the literature on this construction (cf. section 1.2.2. & 1.3.3.). The proposal for this putative grammaticalization path will include sequential steps, similar to the grammaticalization path proposed by Kuteva for Bulgarian posture verbs (cf. Table 2 in 1.3.2.).

Establishing a grammaticalization path aligns well with the view of the development of the construction as a stepwise process. Indeed, this perspective is evident in Hopper & Traugott's definition of grammaticalization: "[G]rammaticalization" refers most especially to the *steps* whereby particular items become more grammatical through time' (Hopper & Traugott 2003: 2; emphasis mine). At the same time, however, the information of on the Dutch posture-verb progressive construction has not yet been structured in a sequential manner. As seen in 1.3.3., some relevant phenomena and instances of the construction have been reported in the history of the language, but a structured pathway of development has not been proposed. This research therefore seeks to arrange the information on the posture-verb construction into sequential order to be able to delineate a step-by-step path of development, forming the basis for a proposed grammaticalization path.

The validity of the proposed grammaticalization path will be examined using a quantitative approach, based on the data extracted from corpora. This approach distinguishes the current research from previous studies, which are qualitative and based on a few examples found in texts, as shown in 1.3.3. Even Van Pottelberge, who employs the WNT and the *CD-ROM Middelnederlands* as data sources, admits that his study is not based on refined statistics ('verfijnde statistieken') but rather on overall impressions ('globale indrukken') of the frequency of various realizations of the

construction (2002: 151). Recent technical developments in the field of Dutch corpus linguistics have made frequency data more easily accessible than 20 years ago and have opened up the possibility to examine historical data from a quantitative perspective—a possibility that this research seeks to benefit from.

Moreover, since the phenomena named in 1.3.3. mostly lack quantitative verification, it is not known how common these phenomena actually were. This makes it difficult to ascertain which were the major characteristics of the construction and which characteristics were minor or sporadic. Minor characteristics with sporadic attestations can possibly arise through accidental causes or idiosyncrasies of writers or specific regions. In terms of the formation of the grammaticalization path, it is important to reflect main developments but not necessarily sporadic phenomena. In this spirit, each phenomenon named in the literature will be checked in terms of its distribution. In short, by using corpus data to quantitatively validate the relevant phenomena, the grammaticalization path can be structured so that it reflects only the major changes that the construction has undergone.

In sum, this dissertation investigates the historical development of the Dutch posture-verb progressive construction on a quantitative basis. A tentative grammaticalization path will be constructed based on the literature, and subsequently adjusted based on observations from corpus data, so that it reflects the actual changes that took place in the language.

1.5 Overview of the dissertation

This chapter has presented the goals of this dissertation and described the properties of the posture-verb progressive constructions in Modern Dutch and Modern German, as well as outlining how the current type of monoclausal construction emerged in Dutch. The development of the Dutch posture-verb progressive construction can be understood as a case of grammaticalization and auxiliation, which presupposes a step-by-step path of change. The German equivalent of the Dutch posture-verb progressive, shown in 1.2.3., is a pseudo-coordinate construction and appears to still be at an incipient stage of (possible) grammaticalization.

This dissertation is structured as follows. Chapters 2 to 4 discuss the Dutch data and Chapter 5 the German data from a global perspective. Chapter 2 presents the data sources for the investigation of the Dutch posture-verb progressive construction, which comprise three corpora: the

Corpus Gysseling, the *Corpus Middelnederlands*, and the *Corpus literair Nieuwnederlands*. The characteristics of each corpus, including its temporal coverage and annotations, and the method of data extraction used, are outlined in Chapter 2. Chapter 3 presents the tentative grammaticalization path for the Dutch construction, mainly building on the information in 1.3. The grammaticalization path entails changes in various aspects of the construction, which are summarized in the form of hypotheses. Fourteen such hypotheses will be proposed and explained in 3.2. Chapter 4 examines each of these hypotheses based on the data extracted from the corpora. Chapter 5 reports the characteristics of the Modern German pseudo-coordinate construction with posture verbs, based on data extracted from the *DWDS-Kernkorpus 21 (2000-2010)*. Finally, Chapter 6 summarizes and discusses the results found in Chapters 4 and 5.

All the data used in this research are compiled in csv (comma separated values) files, one for Dutch ('database_nl.csv') and one for German ('database_de.csv'; Okabe 2022). The databases include all the relevant data extracted from the corpora. The manner in which the data is annotated is explained in Appendix A for Dutch and Appendix D for German. Appendixes B and C describe the general characteristics of two additional Dutch data sets, which were constructed alongside the original corpora in order to verify two particular hypotheses (cf. sections 4.2.2. & 4.2.4.). Each Appendix will be referred to in the dissertation where relevant.

Chapter 2 Methodology

2.1 Introduction

As mentioned in 1.4., one of the main objectives of this research is to trace the development of the Dutch posture-verb progressive construction diachronically to see how it reached its current situation. Since this is a descriptive objective in a historical context, the research calls for the collection of historical data in which to examine the change of the construction over time. Therefore, this research relies on historical texts in the Dutch language as data sources, which are conveniently available in the form of corpora (such as the *Corpus Middelnederlands*). The nature and characteristics of these data sources are explained in detail in this chapter.

The structure of this chapter is as follows. First, the theoretical foundation for using corpora for the study of grammaticalization is discussed (2.2.1.). The subsequent sections describe how the corpora used in this study were selected (2.2.2.) and the criteria according to which the data were extracted (2.2.3.). Details of the corpora and the data extraction methods are provided in 2.3. Each of the corpora is presented in turn, since each corpus has different specifications and data access options. Section 2.4. presents an overview of how the corpora together cover the relevant period, and identifies some unavoidable limitations of the methods employed in this research. Subsequently, 2.5. presents the statistical methods used in the analysis and 2.6. the summary of the chapter.

2.2 Corpus data

2.2.1 The synergistic relationship between corpus linguistics and grammaticalization theory

On the one hand, this research is a corpus-based study, which naturally falls into the domain of corpus linguistics. On the other hand, the phenomenon in focus is grammaticalization. Therefore, this research spans two subfields of linguistics: corpus linguistics and grammaticalization theory.

Corpus linguistics and grammaticalization theory share considerable common ground, and collaboration between the two benefits both parties, according to Mair (2004, 2012). These benefits are aptly summarized by Lopez-Couso (2016) as follows:

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Corpus linguistics provides sound empirical methodology for the recognition and documentation of grammaticalization processes, by making use of computerized corpora and relying on established statistical practices [...]. [G]rammaticalization theory helps to bring corpus linguistics beyond the purely statistical domain, “liberating” it from the stigma of being seen as nothing more than ‘a cemetery of numbers, – an incoherent compilation of uninterpreted and hence pointless statistics’ (Mair 2004: 139). (Lopez-Couso 2016: 7)

Corpus linguistics and grammaticalization theory can therefore take advantage of each other by providing data, and goals for which the data serves, respectively.

One of the major commonalities between these two subfields of linguistics is the importance of frequency (Mair 2004: 121). Studies of grammaticalization generally assume that a linguistic element becomes more frequent as it becomes grammaticalized (e.g. Hopper & Traugott 2003: 126-130, Bybee 2010: Chap. 6, Hoffman 2004: Chap. 5); meanwhile, corpus linguistics provides reliable methods to measure this quantitatively. The way in which frequency data obtained from a corpus can be used to evaluate the grammaticalization process of a construction is demonstrated in Hilpert & Koops (2008). Since that study is also directly relevant to the grammaticalization of the Dutch posture verbs as progressive auxiliaries, it is presented in some detail below.

The 2008 study by Hilpert and Koops investigates the grammaticalization of a pseudo-coordinate construction with the posture verb *sitta* ‘to sit’ in Swedish. This study assumes that as a particular form becomes more grammaticalized, the frequency of a given linguistic feature associated with the grammaticalized form will increase. This means that the grammaticalization process should be visible as an increase in the frequency of that linguistic feature over time. Table 1 summarizes the authors’ predictions concerning the kind of features that would occur more frequently as the Swedish pseudo-coordinate construction became more grammaticalized.

Table 1. Hypotheses regarding more and less grammaticalized sentence patterns of Swedish pseudo-coordination
(based on Hilpert & Koops 2008)

	Less grammaticalized	More grammaticalized
(i) sentence without locative elaboration	less frequent	more frequent
(ii) adverbials placed outside the verb sequence	less frequent	more frequent
(iii) object extraction	less frequent	more frequent

Since the study discusses a pseudo-coordinate construction with a posture verb, the hypotheses are related to degree to which the verb is used to express position (as in (i) in Table 1) and the independence of the two conjuncts (as in (ii) and (iii)). The first hypothesis is about the desemanticization of the posture verb over time. Specifically, the authors assume that the posture verb in its postural or locative use normally patterns with a locative modifier. With increasing grammaticalization, the postural/locative meaning becomes backgrounded while the temporal aspect of the verb is gradually foregrounded. As the verb is used as an aspectual marker, its locative meaning is less relevant, so the verb is less likely to occur with locative modification. In this way, the frequency of instances with locative modification could reflect the desemanticization of the posture verb.

The second hypothesis ((ii) in Table 1) concerns the cohesion of the verb sequence. As we saw in the grammaticalization path of the Bulgarian posture-verb progressive construction (cf. section 1.3.2.), the sequence consisting of a posture verb, a connector, and another verb gains syntactic and semantic cohesion as grammaticalization proceeds, which is reflected in the formal adjacency of the three elements. The rule of thumb can be stated as follows: 'the more intervening elements occur between the two verbs, the weaker the conceptual union appears to be' (Hilpert & Koops 2008: 245). An example of a non-cohesive verb sequence with intervening elements and an example of a cohesive verb sequence without intervening elements are given in (1a) and (b), respectively.

- (1) a. Stock **satt en stund tyst och tänkte** över vad Marstrand hade sagt.
'Stock sat silent for a while and thought about what Marstrand had said'

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b. Vi **satt och pratade** ett par timmar.

‘we sat and talked for a few hours’ (Hilpert & Koops 2008: 248)

In (1a), the adverbials *en stund* ‘for a while’ and *tyst* ‘silently’ are placed within the verb sequence and modify an individual conjunct, namely, the first one with *satt* ‘sat’. If the adverbial is located outside the verb sequence, as is *ett par timmar* ‘a few hours’ in (1b), it modifies the whole event described by the two verbs. The latter variant, which supposes the integral interpretation of the two conjuncts, is expected to increase in frequency with a higher degree of grammaticalization.¹

Third, Hilpert & Koops (2008) formulate a hypothesis on object extraction. Object extraction refers to the phenomenon that the element associated with the second verb appears in clause-initial position, as in (2).

(2) Den där artikeln har jag **suttit och läst** hela dagen.

‘that article I have been reading all day’ (*ibid.*: 245)

In this example, the noun phrase *den där artikeln* ‘that article’ is the direct object of the second verb *läsa* ‘to read’, but it is placed in clause-initial position. Extraction is not possible within regular coordination, as shown in (3).

(3) *Den där artikeln har jag **skrattat och läst** hela dagen.

‘that article he has laughed and read all day’ (*ibid.*: 245)

This example includes a verb *skratta* ‘to laugh’ and *läsa* ‘to read’, which do not form a pseudo-coordinate structure, and is thus ungrammatical with object extraction. The occurrence of object extraction thus indicates the unitary interpretation of the two-verb sequence and also its grammaticalized status. Therefore, with increasing grammaticalization of the posture-verb construction, instances of object extraction are expected to be more frequently observed.

These three hypotheses are verified in the study, meaning that each of the grammaticalized sentence patterns (i-iii) appears gradually more

¹ The same trend is also found in English. A pseudo-coordinate construction with *sit* does not allow an adverbial that intervenes the verb sequence, as shown in *What did the hermit sit and (*regularly/*never) read?* (De Vos 2005: 27, emphasis mine). Such a phenomenon is also expected to be observed for the Dutch posture-verb construction at its pseudo-coordinate stage (cf. section 3.3.2.).

frequently from around the 14th century up to the 20th century. This gradual increase in frequency is thought to reflect the syntactic and semantic development of the construction and can be regarded as correlating with increasing grammaticalization of the construction over the centuries.

In sum, the study by Hilpert & Koops (2008) on the Swedish pseudo-coordinate construction with the posture verb *sitta* demonstrates that frequency data can serve as a good indicator of how grammaticalized a construction is. At the same time, grammaticalization theory can provide the rationale for measuring the frequency of particular words or expressions. Likewise, the current research draws its rationale from grammaticalization theory and its data from historical corpora, thus further advancing the complementary relationship between these two subfields.

2.2.2 Corpus selection

Employing corpora as data sources implies finding appropriate corpora for the research. Fortunately, there are multiple historical corpora available for Dutch. In selecting the corpora, several points were taken into consideration, in particular, the period and the text type covered by the corpus, the size of the corpus, and the presence or absence of lemmatization and annotation.²

This research calls for data from the periods where the posture-verb progressive construction emerged, flourished, changed its form, and reached the state comparable with Modern Dutch. As mentioned in 1.3.3., the construction dates back to Early Middle Dutch (1200–1350); meanwhile, the older *en(de)* construction was still found in the 17th century, before becoming infrequent in the 18th century and being replaced by the modern *te* construction, which in turn started to become frequent from the 17th century. No significant developments are attested in the period after the *te* type became widespread. Therefore, it would be desirable to cover the period

² Lemmatization means that all inflectional forms related to one linguistic item are grouped under one lemma. For example, *stands*, *stood*, and *standing* are all tagged with the lemma *stand* in a lemmatized corpus. A corpus with lemmatization enables a search with a lemma, i.e. designating the lemma *stand* and extracting all the conjugated and unconjugated word forms from the corpus. Annotation refers to the information added to a linguistic unit, which is commonly provided in the form of tags. One of the most common types of information is word class, which is typically annotated with part-of-speech (PoS) tags.

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from 1200 till around 1800 to trace the major diachronic developments of the construction.³

The ideal corpus would be a large, balanced corpus with lemmatization as well as annotation that covers the whole period from the 13th to 18th century. Unfortunately, however, none of the existing corpora meet all these criteria, which means that multiple corpora must be used to cover the relevant time period of time. Available corpora that cover part of the period between the 13th and 18th centuries include:

- (4) a. *Deelcorpus (ambtelijke teksten) of Compilatiecorpus historisch Nederlands* (1250–1799) compiled by Coussé (2010);
- b. *Corpus Gysseling* (13th century) offered by the *Instituut voor de Nederlandse Taal* (Dutch Language Institute, henceforth INT);
- c. *Corpus 14de eeuw door Van Reenen & Mulder* (1300–1401) via *nederlab*;
- d. *Corpus Middelnederlands* (1250–1550) via *nederlab*;⁴
- e. *Corpus Laatmiddel- en Vroegnieuwlands* (15th and 16th centuries) via *nederlab*;
- f. *Deelcorpus (narratieve teksten) of Compilatiecorpus historisch Nederlands* (1575–2000) compiled by Coussé (2010);
- h. *Corpus literair Nieuwnederlands* (1600–1999) compiled by Geleyn & Coleman (2015); and
- i. *KB Kranten* (1618–1900) offered by *Delpher*.

A pilot survey was conducted to see whether each corpus has sufficient occurrences of the construction in question. Based on this small-scale study, larger corpora are preferred, and ideally corpora with literary texts, since the frequency of the construction in official and legal documents seemed to be

³ It could also be the case that no instances of the construction with posture verbs are attested in Old Dutch due to the limited amount of data from that period. Since it is difficult to determine whether the construction existed or was becoming grammaticalized in Old Dutch, I provisionally set the starting point of the timeframe to the beginning of Middle Dutch, i.e. the period for which there is plenty of data available and in which the posture-verb progressive construction is attested (Van der Horst 2008: 9.5.1.2.).

⁴ This corpus is now also available via the web interface of the INT.
(<https://corpusmiddelnederlands.ivdnt.org/corpus-frontend/MNL/search/>).

limited.⁵ Finally, the three corpora that best meet the criteria were selected for this research:

- (5) a. *Corpus Gysseling* (only the part with literary texts) for the 13th century
- b. *Corpus Middelnederlands* for the 14th, 15th, and 16th centuries
- c. *Corpus literair Nieuwnederlands* for the 17th and 18th centuries

Detailed descriptions of each corpus are given in 2.3.

2.2.3 Criteria for data extraction

Before providing detailed information on each corpus, this section describes the kind of sentences extracted from the corpora for this research. The first point to note is that the data are mainly obtained in a form-based manner. This means that no semantic distinctions were made in terms of whether a certain sentence has a progressive meaning or not. It is therefore possible that the database for this research includes sentences that could possibly be interpreted as mono- or bipredicative.

In terms of form, three types of word sequences are relevant: [PV *en(de)* V²], [PV *te* V²], and [PV V²]. As discussed in Chapter 1, the major forms of the construction are [PV *en(de)* V²] and [PV *te* V²]. Additionally, as seen in 1.2.2. and 1.3.3., the omission of the connector is possible, which results in the form [PV V²]. These three types of form are defined in detail below.

⁵ Note that in historical linguistics, the texts that tend to be written and preserved (i.e. religious, legal, commercial, and literary texts) are not the kind of texts that reflect daily language (Janda & Joseph 2003: 17). This is due to the fact that writing tends to favor conservatism and reflects changes in spoken language with delay (Janda & Joseph 2003: 17, Andersen 2006: 66). It should also be pointed out that literary texts, mostly verses, show typical characteristics in terms of lexical choice and word order, deviating from spoken language (Nemoianu 1971). At the same time, as Janda & Joseph (2003: 17) put it, 'there is little we can do to change the circumstance that the texts which most often tend to be written and preserved are those which least reflect everyday speech. But we can at least admit our awareness of this situation, and concede that it obliges us to use extreme caution in generalizing from formal documents'. In the same spirit, the present analysis handles data from literary texts with discretion.

The first type consists of a posture verb (*staan* or its Middle Dutch form *staen*; *zitten* or its Middle Dutch form *sitten*; or *liggen*), a coordinating conjunction (either *ende* or *en*), and another verb (referred to as the second verb or V²). A distance limit between the three elements was set in order to exclude long sentences with too many intervening elements, which would blur the formal and semantic cohesion of the verb sequence and, therefore, presumably fail to contribute to auxiliation or even impede it. This distance limit was set at zero to five intervening words, as shown schematically in (6).

- (6) **PV** (word₁ word₂ word₃ word₄ word₅) **en(de)** (word₁ word₂ word₃ word₄ word₅) **V²**

Second, for the pattern [PV *te* V²], sentences with (i) a posture verb and (ii) an infinitive clause with *te* (e.g. *te wachten* ‘to wait’) were collected. The *om te* construction was disregarded.⁶ Again, there was a limit set on how many words could intervene in the sequence. In this condition, the upper limit was set at seven words between PV and *te* and one word between *te* and V².⁷ The reason for the one-word limit between the connector and the following verb was that the [*te* V_{inf}] phrase usually allows maximally one intervening word (e.g. *aardappelen te schillen* lit. ‘potatoes to peel’, or *te aardappelen schillen* lit. ‘to potatoes peel’). The structure searched for is presented schematically in (7a). In the clause-final verbal complex, the [*te* V²]

⁶ Infinitives with purpose meaning (cf. section 1.3.3.) did not always co-occur with *om* in Middle Dutch. The co-occurrence with *om* gradually increased in frequency in the 16th century and is almost always attested in the 18th century (Van der Horst 2008: 9.4.3.). This means that the co-occurrence of a posture verb and a *te* phrase without *om* does not necessarily imply that the verb is a progressive auxiliary. Rather, each case should be judged individually for whether the meaning is progressive or final, based on its semantics.

⁷ The seven-word limit is set for two reasons. Firstly, since the construction with *te* obviously has a monoclausal structure and is less affected by the number of intervening elements that would blur the cohesion of the verbs, it is theoretically possible to have a large number of intervening words. However, the query with eight or more intervening words became too heavy for the *nederlab* system (used to extract data from the *Corpus Middelnederlands*), such that it could not return any search results. The second reason is that the most of the instances with *te* involve fewer than eight intervening elements according to the data extracted from the *Corpus literair Nieuwnederlands*.

phrase can be placed before the posture verb, as in (7b); this form of the construction is also investigated.⁸

- (7) a. **PV** (word₁ word₂ word₃ word₄ word₅ word₆ word₇) **te** (word₁) **V²**
 b. **te** (word₁) **V² PV**

Third, sentences with a two-verb sequence of a posture verb and a following verb in the infinitive without a connector (i.e. [PV V²]) were also extracted. This form is seen in sentences like *hij moest zitten wachten* (lit. ‘he had to sit wait’), where the posture verb is in the infinitive, and *als zij liggen slapen* (lit. ‘when they lie sleep’), where the posture verb is in the present tense plural form (cf. section 1.2.2.). In this form, it is not required for the verbs to appear directly adjacent to each other, as intrusions in a clause-final verbal complex were not rare in Middle Dutch and Early Modern Dutch (Van der Horst 2008: 16.3.3). Considering this information, three intervening elements were allowed between the verbs, as illustrated schematically in (8).⁹

- (8) **PV** (word₁ word₂ word₃) **V²_{inf}**

The formal criteria represented in (6–8) are very loose and lead to the extraction of many sentences unrelated to the posture-verb progressive construction. Therefore, additional rules were set in order to restrict the selection, as summarized in (9).

- (9) a. Both verbs have the same agent regardless of whether it is realized as an overt subject.
 b. The second verb is not an auxiliary.

⁸ Note that the word order in (7b) is not possible in Modern Dutch (**dat ik te wachten zit* lit. ‘that I to wait sit’) but is attested in my database (e.g. *na de wyze der vrouwen, die te broeijen zat op Labans afgoden* ‘after the way of the woman, who sat to honor Laban’s idols’ [1597]). Considering the comparability of the connector *en(de)* with *te* in some cases (cf. section 1.3.3.), it may theoretically be possible to place the [*en(de)* V²] phrase before the posture verb, as in [*en(de)* V² PV]. This sentence pattern was, however, not found in the data and hence is not included in the discussion.

⁹ Ideally, the word limit between the verbs was set to 5, in line with (6), but the query with 4 or more intervening words became too heavy for the *nederlab*’s system that it could not return any search results. Hence, the maximum word limit is set to 3 for this case.

- c. The second verb is not in the past unless the posture verb is in the past.
- d. The verbs may be modified by the same auxiliary.
- e. There is no indication of temporal sequence.
- f. The posture verb is not a part of a multiword expression with a noncompositional meaning.

The first of these rules stipulates that a sentence must have the same agent for both of the verbs (i.e. *hij zat aan de tafel en ik bracht hem een kop koffie* 'he sat at the table, and I brought him a cup of coffee' is excluded, but *de man zat aan de tafel en hij las de krant* 'the man sat at the table and he read the newspaper' is permitted). Second, the first verb following the connector may not be an auxiliary (e.g. *staat en is gegaan* lit. 'stands and is gone' and *zit en kan lezen* lit. 'sits and can read' are both excluded). In addition, the second verb may not be in the past tense unless the posture verb is also in the past tense (e.g. *staat en wist* 'stands and knew' is excluded, but *stond en wist* 'stood and knew' is permitted). Furthermore, the verbs can be governed by an auxiliary including a modal verb, but they must be under the same verb (e.g. *zal staan en wachten* 'shall stand and wait' is permitted, but *zal staan en moet wachten* 'shall stand and must wait' is excluded). Additionally, all the sentences with an indication of temporal sequence (e.g. *zat en at toen* 'sat and ate then') were disregarded. Lastly, instances with multiword expressions including a posture verb with a noncompositional meaning (e.g. *in staden staen*, meaning 'to help') were excluded. This includes idiomatic expressions with an expletive syntactic subject (e.g. *het staat me (niet) vrij ... te ...* 'I am (not) at liberty to ...', *het staat zo geschreven* 'it is written').

Additionally, for *staan*, the sentences in which the posture verb was used as a non-progressive auxiliary or quasi-auxiliary were excluded from the database. These sentences included *staan* used in the meaning of *zullen* 'shall', *moeten* 'must', and *kunnen* 'can' in Middle Dutch,¹⁰ *staan* meaning 'to stop' in Middle Dutch in combination with *laten* 'to let' (e.g. *Laet staen u callen* 'stop your chitchatting' (the *Middelnederlandsch Woordenboek*, (henceforth MNW) headword *staen* I B 3 b α; translation mine), and *staan* in a 'gerundive' use, such as *de spijt staat op zijn gezicht te lezen* 'the regret can be read on his face', where the phrase *staan te lezen* has a meaning like 'can be read/is to be read'.¹¹ In these cases, the posture verb clearly does not retain

¹⁰ See also the MNW, headword *staen* I C 3, 4a & b, e.g. *Doe stont hem daer niet meer te merrene*, 'then he could not wait anymore'.

¹¹ Cf. WNT, headword *staan* II A 12, which explains this usage as *in de betekenis van*

its lexical meaning and is not compatible with a progressive interpretation. Hence, these kinds of instances were excluded from the database. The way in which the instances meeting these criteria are extracted differs between corpora and will be described in the next section.

2.3 Corpus description

In this section, the composition and characteristics of each corpus used are described. This section also elaborates on how the sentences that meet the criteria discussed in 2.2.3. were extracted.

2.3.1 Corpus Gysseling

The *Corpus Gysseling* is a complete collection of official and literary texts written in the 13th century. Since this study focuses on literary texts, the part containing official documents was not used (cf. section 2.2.2.). The literary texts can be further divided into two genres: prose and verse. The corpus is available online via a web application offered by the INT and is annotated with word classes and lemmas that have been manually verified. Since a query in Corpus Query Language (CQL) did not yield the expected results, I used the Simple search interface. I extracted data by entering the lemma of each posture verb, along with a part of speech (PoS) tag for verb (i.e. VRB.*). This search returned all the instances where the lemma or its associated forms occurred as verbs in the corpus, unless it was combined with a clitic. For the forms with a clitic (e.g. *enstaen* (= negator *en* + *staen*)), an additional word-form search was conducted. Subsequently, all the attestations were manually examined based on the criteria presented above in (6-9) and those that met the criteria were entered into the database.

2.3.2 Corpus Middelnederlands

The *Corpus Middelnederlands* is the most extensive corpus available for Middle Dutch and is based on the *CD-ROM Middelnederlands*. It consists of

een gerundium 'in the meaning of a gerund'.

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literary texts from around 1250 to 1550, with some overlap with those in the *Corpus Gysseling*. The texts which are also included in the *Corpus Gysseling* were excluded in order to avoid double counts. The corpus also has some texts from after 1600, which were not taken into consideration in order to restrict the data source to one corpus per period. Texts with uncertain publication dates were also disregarded. The texts are divided into three genres: prose, verse, and a combination of the two. The corpus is available via the *nederlab* web interface with lemmatization and PoS tag annotation, enabling a CQL query.

The CQL queries used will be presented per formal pattern (6-8) of the construction. Firstly, for the [PV *en(de)* V²] form as in (6), the CQL query shown in (10) was used (here, *staan* is used as an example).

(10) [lemma="staan"] []{0,5} [lemma="ende"] []{0,5} [pos="WW"]

This query returns a list of sentences with an item associated with the lemma *staan*, followed by an item associated with the lemma *ende* with zero to five intervening elements, and then an item tagged as “WW” (which means that the item is a verb), again with zero to five intervening elements.

In the posture-verb progressive construction, the coordinating conjunction sometimes appears in the reduced form *en* in Middle Dutch (cf. section 1.3.3.), which is incorrectly tagged as a negator in most cases in the corpus. To include these instances, the following query was used, which searches for the word form *en* instead of the lemma *ende*.

(11) [lemma="staan"] []{0,5} [t_lc="en"] []{0,5} [pos="WW"]

The instances with a connector *te* (i.e. the form [PV *te* V²], see (7)) were extracted using the query shown in (12).

(12) a. [lemma="staan"] []{0,7} [t_lc="te"] []{0,1} [feat.wvorm="inf"]
b. [t_lc="te"] []{0,1} [feat.wvorm="inf"] [lemma="staan"]

As explained in 2.2.3., the query in (12a) allows zero to seven intervening elements between the posture verb and the connector *te* and zero to one intervening elements between the connector and the following infinitive verb. In the clause-final verbal complex, the [*te* V²_{inf}] clause can be preposed, as in (12b).

Lastly, the cases without a connector (i.e. [PV V²], see (8)) were extracted using the CQL queries shown in (13), which search for a lemma of a posture verb followed by a verb in the infinitive with zero to three intervening elements.

(13) [lemma="staan"] []{0,3} [feat.wvorm="inf"]

Again, all instances were manually examined in terms of the criteria in (9) before being entered into the database.

2.3.3 Corpus literair Nieuwnederlands

The *Corpus literair Nieuwnederlands* is a corpus containing literary texts from the period 1600–1950 (Geleyn & Colleman 2015). The corpus is divided into subparts of 50 years, each including 1.5 to 2 million words from three genres, namely, drama, prose, and non-fiction. The subparts of the corpus covering the periods 1600–1649, 1650–1699, 1700–1749, and 1750–1799 were used for this research. These subparts of the corpus consist of texts written by authors from the northern part of the Dutch-speaking region. The corpus is not enriched with lemmatization or annotation. Therefore, it was necessary to search for each word form for each verb, taking spelling variations into consideration. Additionally, the forms with a clitic (e.g. *staeje* (= *sta* + *je* lit. ‘stand + you’)) were also searched for. All the sentences were manually inspected in terms of the criteria (6-9) before being included in the database.

2.4 Overview and limitations

As discussed in 2.2.2., the three corpora mentioned in 2.3. were chosen to cover the period from the 13th to the 18th century. This is organized as shown in Table 2, which also indicates the earliest and latest publication years of texts included in each corpus.

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Table 2. The periods covered by the corpora

	Middle Dutch			Modern Dutch		
	13 th	14 th	15 th	16 th	17 th	18 th
<i>Corpus Gysseling</i>	1200	1300				
<i>Corpus Middelnederlands</i>		1300		1580		
<i>Corpus literair Nieuwnederlands</i>					1610	1799

The total word counts per century are given Tables 3 and 4.

Table 3. Corpus size (in number of words) for Middle Dutch

	<i>Corpus Gysseling</i>	<i>Corpus Middelnederlands</i>		
	13 th	14 th	15 th	16 th
prose	135,854	1,384,488	2,988,799	611,649
prose/verse	not applicable	0	0	20,484
verse	446,869	3,060,905	2,288,882	188,039

Table 4. Corpus size (in number of words) for Modern Dutch

	<i>Corpus literair Nieuwnederlands</i>	
	17 th	18 th
prose	636,043	1,679,791
drama	1,342,318	697,573
non-fiction	1,280,656	882,049

As is clear from Tables 3 and 4, the word counts for the 13th and 16th century are considerably lower compared to the other periods. Although this represents an imbalance of data from different time periods, it was considered important to include all relevant data from the selected corpora for the sake of data volume (cf. section 2.2.2.).

To enable meaningful comparison of the results from corpora of different sizes, the frequencies were normalized (cf. section 4.1.). The normalized frequency is called relative frequency, which is obtained by dividing the absolute frequency (actual count of the occurrences) by the total number of tokens in a corpus and multiplying it by the basis for normalization (for example, one million; Brezina 2018: 43). In addition, the corpora were divided into data sets per century to enable comparison between the periods. Hence, the relative frequency per century is one of the major heuristics adopted in this research.

The fact that corpora differ in size is only one of the problems that emerge from using several corpora as a data source. Corpora also vary in terms of annotation, regional distribution, and text types. The differences in these points can all influence the frequency of the linguistic phenomenon under investigation. From the descriptions of the corpora in sections 2.3.1.–2.3.3., it is evident that the three corpora employed in this research are not all annotated the same way. An effort has been made to minimize the potential influence of this difference by applying a single, uniform set of criteria (summarized in 6-9) to determine the instances from the three different corpora that should be included in the database.¹²

The corpora used in this research also differ in regional coverage. While the *Corpus Gysseling* and the *Corpus Middelnederlands* cover the whole Dutch-speaking area, the *Corpus literair Nieuwnederlands* only covers the northern dialects. Although the language was increasingly standardized in the 17th century and the regional differences were correspondingly decreasing, it should be borne in mind that the database for this research does not reflect the southern varieties in the 17th and 18th centuries. In addition to this difference in regional coverage, Coussé (2010) points out that the language after standardization is not necessarily comparable with the language in the Middle Ages, as the latter is significantly colored by the regional variety of the writer and/or the copyist. Although no regional differences are identified in the literature as influencing the development of the posture-verb progressive construction (except for the modern West Flemish dialects, cf. section 1.2.3.), attention should nonetheless be paid to possible influences of regional variation in the analysis.

In terms of the characteristics of texts, there are two inconsistencies between the *Corpus Gysseling* and the *Corpus Middelnederlands* on the one hand and the *Corpus literair Nieuwnederlands* on the other. The first is the identification of the place and the year of publication. While place and year of publication are determined unambiguously for the Modern Dutch texts, the information for Middle Dutch texts is not always exact and can be controversial.¹³ Such inconsistencies are unavoidable, due to extralinguistic

¹² Aside from the different manner of annotation, the quality of annotation also deserves attention. While the annotation quality of the *Corpus Gysseling* is very good, probably because of manual examination, that of the *Corpus Middelnederlands* is not ideal. While the corpus was an invaluable source of data for this research, it should nonetheless be mentioned that some valid instances may have failed to appear in the search results due to inaccurate annotation.

¹³ There is also a minor difference between the two Middle Dutch corpora in how the publication year of a given text is determined. The information on the publication

factors such as the popularization of letterpress printing from the mid-15th century onwards and accompanying changes in the manner of publication. The other inconsistency is the text genre. While the Middle Dutch corpora principally provide a bipartite classification of verse and prose, the Modern Dutch corpus consists of three text genres, namely, drama, prose, and non-fiction. The growth in the number of text genres is not merely a matter of classification but reflects a change in the literary world during the Renaissance. As part of the Renaissance, texts of more genres started to be written in Dutch instead of Latin. In a corresponding manner, this period also saw the emergence of new text genres, such as the picaresque novel, the travelogue, the epistolary novel, the historical novel, the novella, and the short story (Coussé 2010: 126). This development inevitably influenced the style and manner of writing, which may be reflected in the presence or absence of certain linguistic features.¹⁴ Hence, attention will be paid to the possible gap between Middle Dutch and Modern Dutch in terms of text genres.

As is apparent from the discussion above, the method used to collect data for this research is not without limitations. Nonetheless, the methodology described here is designed to yield results that are as representative of actual language change as possible, given currently available corpora and technological tools. Furthermore, all methodological shortcomings mentioned here will be taken into consideration when analyzing and evaluating the data.

2.5 Statistical methods

The data extracted from the corpora are mainly analyzed using two statistical methods. The first is Fisher's exact test. Fisher's exact test examines whether there is a statistically significant difference between frequencies of two categories. The statistical significance is indicated as a p-

year in the *Corpus Gysseling* is determined based on the combination of the historical context, the script, and the language (Pijnenburg & Schoonheim 1996: 153f.). Texts in the *Corpus Middelnederlands* are dated for the time the text was handed down ('handschriftenoverlevering') and not for when it came into being ('ontstaansperiode'; Van Pottelberge 2002: 151).

¹⁴ Paardekoper (1993) indeed points out some differences between formal and informal texts in terms of the occurrence of a certain type of structure with the posture-verb progressive construction.

value. When the p-value is smaller than the threshold (0.05), it is interpreted as reflecting a significant difference between the categories. This test is used to compare frequencies of instances with a certain linguistic feature across time periods.

Fisher's exact test can be used to compare two or more groups; however, in this case, it can only indicate that a significant difference exists, and not where this difference derives from. In other words, it cannot tell us between which groups a significant difference exists when there are more than two groups involved. To determine the origin of the significant difference, an additional test called the pairwise comparison using Fisher's exact test (adjusted using Holm's method) is conducted where necessary. This method compares the values of each group with that of all the other groups (i.e. if there are three groups, the test provides three outcomes).

The second method is Kendall rank correlation. This test is used to evaluate whether two series of values correlate with each other. For this analysis, two statistics are reported: Kendall's tau and a p-value. The former takes a value from -1.0 to 1.0, depending on whether there is negative correlation ($-1.0 \leq \tau < 0.0$), positive correlation ($1.0 \geq \tau > 0.0$), or no correlation ($\tau = 0.0$). The magnitude indicates how strong the correlation is (e.g. 0.7 indicates a strong positive correlation; -0.07 a weak negative correlation). The p-value indicates whether the tau is statistically significant or not. As above, the p-value threshold for this research is 0.05, meaning that a value of 0.05 or larger is considered as not statistically significant. This test is used to compare frequencies of instances with a certain linguistic feature across time periods. All statistical tests were conducted using the programming language R version 3.6.3 (R Core Team 2018).

2.6 Summary

This chapter has described the data sources and the methods of data analysis used in this research. Since the research is concerned with the historical development of the Dutch posture-verb progressive construction, the data are collected from the three historical corpora: the *Corpus Gysseling*, the *Corpus Middelnederlands*, and the *Corpus literair Nieuwnederlands*. Of the data extracted from these three different corpora, only the instances that met a single, uniform set of criteria were entered into the database. These are further analyzed using two statistical tests: Fisher's exact test and Kendall rank correlation. In the next chapter, the putative grammaticalization path of

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the posture-verb progressive construction and the accompanying hypotheses will be presented.

Chapter 3 Expected developmental pathway and hypotheses

3.1. Introduction

The previous chapter provided a detailed examination of the data sources and presented the methodology used to extract and analyze the data for this research. Before proceeding to the data analysis, it is first necessary to review the expected findings and formulate hypotheses. Therefore, this chapter presents how the Dutch posture-verb construction and its various characteristics are expected to have changed in the course of grammaticalization.

As stated in section 1.4., the research objectives for the Dutch part of this dissertation are to describe the diachronic development of the posture-verb progressive construction based on corpus data, and to propose a grammaticalization path that reflects the changes that the construction underwent. In this chapter, an expected path of development will be constructed, combining the observations reported in the literature on the Dutch posture-verb progressive construction (cf. sections 1.2.2. & 1.3.3.) and some typological characteristics of pseudo-coordination (cf. section 1.2.3.), grammaticalization (cf. section 1.3.1.), and auxiliatization of posture verbs (cf. sections 1.3.2. & 2.2.1.). The proposed grammaticalization path serves as a framework for describing various aspects of the construction, which are expected to develop in line with the grammaticalization of the construction. It also functions as a tentative model for the final proposal. In other words, the tentative grammaticalization path will be adjusted based on observations from corpus data reported in Chapter 4, thereby arriving at a final model that accurately reflects the actual language change.

The structure of this chapter is as follows. First, the major findings of previous research are summarized (3.2.). Subsequently, section 3.3 presents the expected findings regarding the steps the posture-verb construction underwent in the course of grammaticalization and how each aspect of the construction changed accordingly. Next, 3.4. elaborates on how the expected changes proposed in 3.3. may be observed in the data, and formulates these changes as quantitative hypotheses in terms of the verbal complex, the noun, and the modifier. In this way, the observations mentioned in the literature, unified as a step-by-step path in 3.3., can be verified quantitatively using corpus data. Lastly, the hypotheses are summarized in section 3.5.

3.2. Summary of previous research

Before proposing a developmental pathway for the Dutch posture-verb progressive construction, in this section the major findings reported in the literature are summarized. I will first briefly review how the posture-verb progressive construction is characterized in each period in the literature, before outlining how the development of the constructions could be unified into a step-by-step grammaticalization path. For ease of exposition, not all literature and data sources are explicitly referenced here; for a detailed description of the sources underpinning this summary, please see Chapter 1.

In proposing a grammaticalization path for the posture-verb progressive construction in Dutch, it is useful to draw on an example from the literature as a starting point. One such example is that proposed by Kuteva for Bulgarian (1999 & 2001), presented in section 1.3.2. Kuteva describes the development of a coordinate sentence into a progressive construction in Bulgarian, and suggests that the process is triggered by the general use of the posture verbs as spatial verbs and the loss of their direct connection to the human posture meaning. The grammaticalization path proposed by Kuteva is intended to be language-specific and is not necessarily applicable to the Dutch posture-verb construction. Nonetheless, there are important insights that can be taken over for the current research. In particular, Kuteva's approach of structuring the grammaticalization path as a sequence of stages could be applied to the development of the Dutch construction.

Furthermore, the general outline of Kuteva's model—that the construction developed from coordination to pseudo-coordination—appears to fit the Dutch grammaticalization path. For the Dutch context, this means that a biclausal structure is expected to be reinterpreted as monoclausal at some point, as Kuteva (1999 & 2001) illustrates for the Bulgarian posture verbs (cf. Table 2 in 1.3.2.). According to Kuteva's model, there is initially one phase where the posture verbs unambiguously form a coordinate structure, which is followed by another, distinct phase where the [PV CC V²] structure is ambiguous between monoclausal and biclausal. This phase is subsequently followed by a phase where the formally biclausal structure is unambiguously interpreted as monoclausal. These three phases could also be reflected in the historical development of the Dutch *en(de)* construction, considering its pseudo-coordinate characterization (cf. sections 1.2.3. & 1.3.3.). Since a pseudo-coordinate construction with posture verbs is found in Middle Dutch, but not earlier (Van der Horst 2008: 9.5.1.2.), the initial

development of the construction may have taken place at the beginning of the Middle Dutch period.

After its emergence, the Dutch pseudo-coordinate construction with *en(de)* develops into an unambiguously monoclausal structure, eventually with a complement verb phrase with *te* (cf. section 1.3.3.). It is known that the earlier type of construction with *en(de)* already occurred in Middle Dutch with some features linked to auxiliation of posture verbs, such as the IPP effect (cf. (17) in Chapter 1) and the placement of objects and adverbials belonging to the second verb in the middle field (cf. (18) in Chapter 1). A sentence pattern [PV_{fin} *en(de)* V²_{inf}] with a second verb in the infinitive is also attested for Middle Dutch (cf. (16) in Chapter 1). In Late Middle Dutch (1350–1500), the connector is found in the reduced form *en*, which could be regarded as an instance of phonological reduction as part of the grammaticalization process (cf. (18b)). In the same period, there are also instances where the second verb is incompatible with the postural meaning of the posture verb, which indicates semantic bleaching of posture verbs (cf. (19) in Chapter 1). These observations with regard to the *en(de)* construction in Middle Dutch are summarized in (1).

- (1) [In Middle Dutch]
 - a. The IPP effect is attested
 - b. Objects and adverbials belonging to the second verb appear in the middle field
 - c. The second verb appears in the infinitive
 - d. *En* (and not *ende*) as a connector appears (from Late Middle Dutch)
 - e. Semantic bleaching of posture verbs is apparent (from Late Middle Dutch)

In the 17th century, when the *te* construction starts to increase in frequency and compete with the *en(de)* construction, the construction with *en(de)* is also found with the structure [PV *en(de)* V *en(de)* *en(de)* V]. This indicates that *en(de)* directly before the verb functions not as a coordinating conjunction, but rather as a connector that introduces a complement verb (cf. (21) in Chapter 1). As the construction with *en(de)* is replaced by the one with *te*, the *en(de)* construction stops showing indications of a monoclausal structure (cf. (22) in Chapter 1, which appears to be the last example in the WNT with monoclausal characteristics). The observations regarding the construction with *en(de)* in the 17th and 18th century are summarized in (2).

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- (2) [In 17th- and 18th-century Dutch]
- a. The *en(de)* construction competes with the *te* construction
 - b. [PV *en(de)* V *en(de)* *en(de)* V] appears in the 17th century¹
 - b. *En(de)* is used exclusively as a coordinating conjunction from around the 18th century

For the newer type of construction with *te*, there are no sources that claim that it has undergone further diachronic development between the 17th century and today. Hence, it is assumed that the construction with *te* has remained mostly stable since its emergence. As described in section 1.2.2., the modern construction is characterized by the use of the connector *te*, the IPP effect (cf. (9) in Chapter 1), partial retention of postural meaning, and selection restrictions on complement verbs. The characteristics of the modern *te* construction are summarized in (3).

- (3) [In Modern Dutch]
- a. *Te* appears as the only connector
 - b. The IPP effect is attested
 - c. Posture verbs largely retain their postural meaning
 - d. Preferably atelic dynamic verbs but no stative or motion verbs appear as complement verbs

Based on the description above, the historical development of the posture-verb construction can be separated into roughly five stages. The first stage corresponds to the construction with a biclausal structure, the second to the construction that is ambiguous between monoclausal and biclausal, and the third to the monoclausal construction with *en(de)*. These stages are expected to cover the Middle Dutch period (i.e. 13th to 15th century; cf. (1)) and probably also the beginning of the Modern Dutch period (i.e. 16th century). This is followed by a phase in the 17th century where the two types of construction (one with *en(de)* and the other with *te*) apparently competed (cf. (2a)). The final stage relates to developments in the 18th century, when the construction with *te* became the only possible form of the posture-verb progressive construction, while the posture-verb progressive construction with *en(de)* disappeared (cf. (2b) & (3)).

¹ Note that this phenomenon was not found in the database for this research and is therefore not taken up as a parameter in the present investigation.

3.3. Expected developmental pathway

In this section, the observations summarized in the previous section (3.2.) will be unified and organized to form a developmental pathway that the Dutch posture-verb progressive construction is expected to have undergone in the course of grammaticalization; in other words, the expected grammaticalization path (cf. section 1.3.1.). First, a comprehensive outline of the expected pathway is established. Subsequently, each stage in the pathway is elaborated in more detail in the following subsections (3.3.1.–3.3.5.).

Based on the discussion in 3.2., I propose a five-stage grammaticalization path for the Dutch posture-verb construction. An overview of this path is presented in Table 1.

Table 1. Tentative grammaticalization path of the Dutch posture-verb progressive construction

Stage	Form	Meaning
Stage 1	Biclausal S PV _{fin} Adv _{loc} <i>ende</i> (S) V ² _{fin}	Bipredicative or monopredicative
Stage 2	Bi-/monoclausal S PV _{fin} <i>en(de)</i> V ² _{fin}	Monopredicative
Stage 3	Monoclausal S PV _{fin} <i>en(de)</i> V ² _{fin/inf}	Monopredicative
Stage 4	Monoclausal S PV _{fin} <i>en(de)</i> V ² _{fin/inf} S PV _{fin} <i>te</i> V ² _{inf}	Monopredicative
Stage 5	Monoclausal S PV _{fin} <i>te</i> V ² _{inf}	Monopredicative

The construction begins as a biclausal structure with a coordinating conjunction *en(de)* (Stage 1) and ends as a monoclausal structure with the infinitive marker *te* (Stage 5). Stage 1 describes the first step in the process, where the construction has a coordinate structure but is ambiguous between a monopredicative and a bipredicative interpretation. The fact that posture verbs as lexical verbs typically require locative modification is indicated by Adv_{loc} in the table. This stage is followed by Stage 2, where the construction with a two-verb sequence [PV *en(de)* V²] becomes established with a monopredicative interpretation; this interpretation involves a foregrounded progressive meaning and a backgrounded spatial meaning, reflected in the

omission of locative adverbials in the table. Due to the monopredicative semantics and the occasional ambiguity between a biclausal and a monoclausal structure, the construction at this stage falls under the category of pseudo-coordination (cf. section 1.2.3.).² The construction becomes a strongly integrated unit at Stage 3, which can be associated with the auxiliation of posture verbs. The integration of the verbal phrase [PV *en(de)* V²] is manifested in the placement of elements associated with the second verb before the connector, namely in the middle field (1b), and *en(de)* as an infinitive marker (1c).³ As grammaticalization proceeds further, at Stage 4 the *te* construction becomes increasingly frequent (2a), and at Stage 5 the realization with *en(de)* dies out (at least at the level of the standard language, cf. section 1.2.2. & 1.3.3.; (2c)). Eventually, the construction with the infinitive marker *te* prevails as the only possible form of posture-verb progressive construction, as is the case today (3a, c, d).

Although not all the findings reported in the literature are represented in the table, such as (1d) and (e), these points are still thought to be involved in the development of the construction, and do feature in the descriptions in sections 3.3.1–3.3.5. It may also be noted that the IPP effect (cf. (1a) and (3b)), although mentioned in the literature, has not been included in the grammaticalization path. This is due to the fact that the IPP effect itself also has developed over the centuries. According to Van der Horst (2008: 880–883), the occurrence of the phenomenon generally increased from Middle Dutch to Modern Dutch. The common pattern of change is that a verb appears both with and without the IPP effect in Middle Dutch, and gradually loses the option to appear without. Consequently, the occurrence of a verb with the IPP effect indicates its relatively auxiliarized status; however, the increase in frequency does not necessarily entail further auxiliation, because it may occur for independent reasons. Therefore, the

² In the following, I reserve the term *pseudo-coordination* for a sequence which is monopredicative but structurally ambiguous between biclausal and monoclausal. This highlights the intermediate status of the pseudo-coordinate structure in the grammaticalization path. This usage of the term differs somewhat from that in other studies.

³ Note that placing objects in the middle field obviously deviates from the word order of regular coordinate sentences, and is not possible unless the construction is monoclausal (cf. section 1.3.3.). The second verb being in the infinitive means the connector loses its status as a coordinating conjunction and function as an infinitive verb introducer. This is because ordinary coordination requires the coordinated verbs to agree in finiteness. A general characterization of coordination in Dutch can be found in 3.3.1.

occurrence of the IPP effect is marked in the database (cf. Appendix A), but its frequency over the centuries is not investigated in a systematic way.

Based on the literature, a global timeframe for the grammaticalization path can be proposed as follows: the first three stages are expected to correspond to the 13th to 16th century, Stage 4 to the 17th century, and Stage 5 to the 18th century onwards. A detailed description of each stage is given in the following.

3.3.1. Stage 1: S PV_{fin} Adv_{loc} *ende* (S) V²_{fin}

There are no instances of the posture-verb progressive construction attested in Old Dutch (500–1200), but the construction was already available in Early Middle Dutch (1200–1350). Therefore, this research provisionally assumes that the first stage of the grammaticalization path corresponds to the beginning of Middle Dutch, i.e. the period where the posture-verb construction is attested and for which copious data are available (cf. section 2.2.2.).

At this stage, posture verbs are hypothesized to function solely as lexical verbs, and therefore the construction would unambiguously have a normal coordinate (i.e. biclausal) structure. At the same time, however, it could already be semantically monopredicative in some cases. In other words, the construction is expected to occasionally denote a single composite event, rather than two distinct events.

As the construction at this stage is thought to be coordinate, it is important to understand the characteristics of coordination in Middle Dutch. To my knowledge, no explicit account of coordination in Middle Dutch exists in the literature; therefore, the general rules of coordination in Middle Dutch are extrapolated from those in Modern Dutch. This decision is based on the apparent comparability of coordinate sentences in Middle and Modern Dutch.⁴ The basic characteristics of verbal coordination in Modern Dutch are explained in the following.

In Modern Dutch, *en* is used as a coordinating conjunction to coordinate two linguistic elements which are semantically and/or pragmatically related (ANS: 25.1.1.2, Broekhuis & Corver 2019: 39ff.). The relatedness of the first

⁴ Note that coordination with a coordinating conjunction has probably been possible since Old Dutch (Van der Horst 2008: 223, 291).

⁵ This certainly does not mean that (4b) is unacceptable since a specific context can be imagined where the two conjuncts can be associated with each other (e.g. ‘Jan being asleep is unfortunate as he could have helped the speaker out otherwise by driving him to the station’; Broekhuis & Corver 2019: 39).

- (6) a. **Jan** ging naar Amsterdam en **hij** kocht een PC.
'Jan went to Amsterdam and he bought a computer'
b. **Jan** ging naar Amsterdam en kocht een PC.
'Jan went to Amsterdam and bought a computer'
(Broekhuis & Corver 2019: 118)

Broekhuis & Corver (2019: 118) suggest that (6a) with no subject elision can be interpreted ‘as referring to two *independent* events’, e.g. ‘Jan may have gone to Amsterdam for sight-seeing while, in addition, he may have bought a computer in his home town’, while (6b) with subject elision ‘preferably refers to a single *composite* event’, i.e. ‘Jan went to Amsterdam and bought a computer there (or, perhaps, in order to buy a computer there)’.⁶

As Broekhuis & Corver (2019: 139) note, a composite interpretation, as evoked by the sentence in (6b), ‘is only possible when the eventualities referred to by the coordinands are conceived [of] as being *inherently* related’. Based on this observation, a composite interpretation is possible with (6b) since going somewhere and buying something there are two events that normally occur in sequential order in daily life, and can be construed as sub-stages of one event, i.e. going shopping.

This characteristic of inherent relatedness makes a sentence like (6b) a typical instance of natural coordination (Zhang 2010: 124-139), which is defined by Wälchli (2005) as follows:

[...] NATURAL COORDINATION [...] [is] coordination of items which are expected to co-occur, which are closely related in meaning, and which form conceptual units, such as 'father and mother', 'husband and wife', 'hands and feet', 'eat and drink', 'read and write', rather than 'the man and the snake', 'toe and belly', 'knife and hammer', 'eat and read', 'read and swim', which are instances of ACCIDENTAL COORDINATION, coordination of items which are not expected to co-occur, and which do not have a close semantic relationship. (Wälchli 2005: 5)

⁶ This type of coordination with temporal order (cf. (6b)) is referred to as ‘asymmetrical coordination’ in Broekhuis & Corver (2019: 138-147). The term ‘asymmetric’ is used due to the fact that ‘reversal of the clauses does affect interpretation’ (*ibid.*: 138). The temporal order of the first and the second event can be optionally indicated by using *dan* ‘then’, *toen* ‘then’, *daarna* ‘then’, etc. (ANS: 25.1.1.5). Note, however, that sentences with expressions indicating temporal order of the events are considered unrelated to the grammaticalization of the posture-verb construction and are not included in this study, as established in section 2.2.3.

In the case of posture verbs, for example, lying and sleeping (e.g. *Jan lag in bed en sliep rustig* ‘Jan lay in bed and slept peacefully’; cf. (5b)), could be regarded as two inherently related events forming a conceptual unit, given that people normally sleep lying down. In more general terms, inherent relatedness of the events with posture verbs suggests that the posture designated by the posture verb and the activity described by the second verb are compatible and that both events take place simultaneously. For example, lying and jumping are usually incompatible and cannot be naturally interpreted as one composite event. Change of place (such as a movement from point A to point B) is only marginally compatible with the postural meaning (e.g. usually it is not possible to sit and walk at the same time) although not unthinkable (e.g. traveling while sitting on a horse). In addition, posture verbs as stative, atelic verbs seem to align better with atelic events.

It should be also noted that the composite interpretation of inherently related events seems to entail that the posture verb sets the scene for the activity indicated by the second verb. In the case of *Jan lag in bed en sliep rustig* ‘Jan lay in bed and slept peacefully’ (cf. (5b)), Jan’s lying in bed is interpreted as continuing while he sleeps. The sentence is thus usually not interpreted as meaning that Jan first lay in bed and got up again, and then slept, for example.⁷ Note also that the scene-setting function of posture verbs simultaneously imposes a temporally unbounded (i.e. atelic) timeframe for the composite event, in line with posture verbs as stative verbs.⁸

In contrast to cases where coordination is natural and plausible, in other cases coordination is blocked. Specifically, coordination of individual-level and stage-level predicates (Carlson 1977) is blocked when they both refer to the same referent (Broekhuis & Corver 2019: 70), as shown in (7).

⁷ In this case, the scene-setting function of the posture verb may also be invoked by the fact that sleeping typically involves lying. Note that lying does not necessarily involve sleeping, meaning that there is a unidirectional entailment relation between the two activities.

⁸ Imposing aspect could be understood as aspectual coercion, as explained in Michaelis (2004) and Audring & Booij (2016: 629f.) among others. See also Gisborne & Patten (2010) and Patten (2010) for how coercion contributes to grammaticalization. As Petré (2019: 188) puts it, a local compositional sequence ‘where mismatches between form and meaning are due to coercion’ shifts over time to a global non-compositional construction ‘where the new semantics is an inherent part of the cognitive schema’.

- (7) a. *Honden zijn zoogdieren en blaffen op dit moment buiten.
 'dogs are mammals and are barking outside at this moment'
 (Broekhuis & Corver 2019: 70; translation mine)
- b. *Zij lag in bed en was advocaat.
 'she lay in bed and was a lawyer'

In (7a), the first conjunct ((*Honden*) *zijn zoogdieren* '(dogs) are mammals') is an individual-level predicate since it refers to a permanent property of dogs, while the second conjunct ((*Honden*) *blaffen op dit moment buiten* '(dogs) are barking outside at this moment') is a stage-level predicate because it describes a temporal activity. In the same manner, the posture verb *lag* 'lay' in (7b) is a stage-level predicate, while the second, stative verb is an individual-level predicate.⁹ As indicated by the asterisks, both sentences are ungrammatical.

Based on Broekhuis and Corver's remarks, it should be acceptable to coordinate two individual-level or two stage-level predicates. However, posture verbs as stage-level predicates that denote a temporal state do not always seem to be fully compatible with stative verbs indicating a temporal state (e.g. ?*zij zat uitgeput bij het raam en was de enige die zo moe was* 'she sat exhausted by the window and was the only person who was so tired'). In addition, the coordination of posture verbs with stative verbs appears to hinder a composite interpretation and facilitate an independent one. In sum, natural coordination can be observed for posture verbs when they are coordinated with a verb describing an atelic, stationary activity—but not a state—that is inherently related to the posture. Such combinations are likely to evoke a monopredicative interpretation of sentences.¹⁰

⁹ Note that posture verbs are not always interpreted as stage-level predicates. For example, in a sentence [*d*]at *veghevier staet boven der hellen ende is een lichaemlike vuere* [508] 'purgatory is located above hell and is a physical fire', *staet* (= *staat* 'stands') is used as a locative verb and encodes the permanent location of purgatory, and can thus be regarded as an individual-level predicate. In the same manner, stative verbs are not always individual-level predicates (e.g. *ze was verkouden* 'she had a cold').

¹⁰ As described in section 1.3.3., the different types of stative situations—qualities and states—also affect the grammaticality of progressive sentences (cf. footnote 10 in Chapter 1). Qualities typically cannot be progressive (cf. **ze zat getrouwd te zijn* lit. 'she sat married to be') while states are somewhat more compatible ??*ze zat het koud te hebben* lit. 'she sat it cold to have'). This dichotomy of (permanent) qualities and (temporary) states can be seen as comparable with the distinction between individual- and stage-level predicates in (7). Similar constraints on progressivization and on coordination converge to the effect that only the coordination of a stage-level

In summary, Stage 1 is hypothesized to correspond to regular coordination of two verbs. Based on the literature on Modern Dutch, coordination with the coordinating conjunction *en* involves either two independent events with different agents (e.g. (4)) or one composite event with a single agent (6b). The latter interpretation is associated with subject elision in the second conjunct. The composite interpretation presupposes that the events described by the conjuncts are semantically compatible and inherently related to each other, which can be regarded as a case of natural coordination. In addition, a monopredicative interpretation of the conjoined conjuncts entails that the posture verb has a scene-setting function for the whole event. Subject elision in the second conjunct is only possible when both predicates are stage-level, or both are individual-level (but not a combination of the two; cf. (7b)).

Although realization of the subject of the second verb and a bipredicative interpretation is not excluded at this stage, the cohesive nature of natural coordination would make posture verbs good candidates for grammaticalization. It should be also noted that the semantic cohesion between the conjuncts simultaneously places some selection restrictions on the second verb; in other words, coordination with posture verbs is not completely unrestricted and comes with certain preferences. Therefore, any combinatorial restrictions arising in the course of grammaticalization need to be interpreted in view of these initial preferences.

As outlined at the beginning of this section, the foregoing discussion is based on observations of coordination with *en* in Modern Dutch, in the absence of a description for Middle Dutch (the period when the posture-verb progressive construction is hypothesized to have emerged). It is possible of course that the situation for Modern Dutch is not entirely applicable to Middle Dutch; at the same time, however, I find it reasonable to assume that the general characteristics of the named phenomena are comparable across the centuries.

stative verb with a stage-level posture verb lends itself to a progressive interpretation. See section 4.2.3. for the analysis of stative verbs as co-occurring verbs in the posture-verb construction in the corpus data.

3.3.2. Stage 2: S PV_{fin} *en(de)* V_{2fin}

At Stage 2, the construction is expected to fall under the category of pseudo-coordination. The characterization of this stage therefore builds heavily on the typological description of pseudo-coordination (cf. section 1.2.3.) and on studies of the historical development of pseudo-coordination in Bulgarian (cf. section 1.3.2.) and Swedish (cf. section 2.2.1.).

At this stage, the pseudo-coordinate construction should undergo increasing cohesion of the verb sequence in terms of form and meaning. With regard to syntax, the cohesion of the construction is expected to manifest as the immediate adjacency of the verbs and the connector (i.e. [PV C V²]). The expectation with regard to the semantic aspect is that cohesive semantics become standard, possibly indicated by a frequent co-occurrence of verbs that are semantically compatible with the posture verbs. In addition, backgrounding of the postural/locative meaning of posture verbs and foregrounding of their temporal meaning is expected, which may be observed as less frequent co-occurrence of locative modifiers and more frequent co-occurrence of durative temporal modifiers.

The construction at the start of Stage 2 involves that the coordinating conjunction *en(de)* links two conjuncts of the same semantic/pragmatic type, and these conjuncts can be interpreted as indicating one composite event, especially when the second coreferential subject is not overtly realized, as described in the previous section (3.3.1.). At this stage, the form of the construction has become fixed to [S PV *en(de)* V²] without the second subject; this would lead to the one-event interpretation as typical for the construction. This aligns not only with increasing formal cohesion, since the verb sequence is not interrupted by the subject of the second verb, but also with general characteristics of pseudo-coordination (cf. section 1.2.3.).

The formal cohesion of the posture-verb construction—that is, the adjacency of the verbs and the connector—is also expected to be mirrored in the placement of adverbials outside rather than within the two-verb sequence (cf. section 1.3.2. & 2.2.1.). Such adverbials typically include locative adverbials (Kuteva 1999: 209, Lødrup 2019: 91f.). Structurally, this results in sentences like ?*zat en at aan tafel* ‘sat and ate at the table’, in which the locative modifier *aan tafel* ‘at the table’, which is originally required by the posture verb *zat* ‘sat’, is placed after the second verb *at* ‘ate’. In regular coordination, adverbials placed after the second verb only modify the second verb following a coordinating conjunction (i.e. [PV] CC [V² Adv]); however, the increasing cohesion of the verb sequence would allow

adverbials to take scope over both the verbs (i.e. [[PV C V²] Adv]).¹¹ Furthermore, this structure obscures the fact that it is the posture verb that originally requires locative modification, weakening the link between posture verbs and locative modifiers. This weakening connection could contribute to the backgrounding of the postural/locative meaning of posture verbs and hence their increasing auxiliation, which is also expected to be observed at this stage.

Additionally, the connector is not expected to remain a symmetrical link between the posture verb and the second verb; rather, it is expected to become increasingly attached to the second verb as it becomes more often interpreted as a verb introducer. As a verb introducer, the connector forms a functional unit with the second verb (i.e. [PV [C V²]]). This increasing cohesion between the connector and the second verb could be observed in subordinate clauses; specifically, adverbials and objects may be placed between the posture verb and connector in clause-final verbal complexes (e.g. [... PV Adv/Obj [C V²]]).¹²

In accordance with the formal cohesion, the construction is expected to become more semantically cohesive at this stage. In contrast to Stage 1, semantic cohesion between the conjuncts is expected to become increasingly obligatory, in accordance with the increasingly fixed nature of the construction as an integrated unit. The strong semantic cohesion could affect not only the semantic variation of the second verb but also its lexical variety, such that posture verbs regularly co-occur with verbs that are highly semantically compatible.

Other semantic developments expected at this stage are backgrounding of the postural/locative meaning of posture verbs and foregrounding of their temporal semantics. The former is described above in relation to the weakening of the link between posture verbs and extraposed locative modifiers. This is expected to lead in turn to the optionality of locative modifiers, which are typically present when posture verbs are used as lexical verbs (cf. section 2.2.1.; Lemmens 2005: 211).

The latter seems to be triggered by the fact that the postures indicated by posture verbs have a scene-setting function for the whole event. As presented in section 3.3.1., posture verbs as scene-setters could impose atelic aspect on the whole event. An atelic interpretation is expected to highlight the imperfective and, eventually, progressive aspect of the described

¹¹ This expectation also applies to adverbials placed in clause-initial position (i.e. [Adv PV] C [V²] > [Adv [PV C V²]]).

¹² Detailed discussion and examples can be found in 3.4.2. & 3.4.3.

composite event. This temporal characterization could be emphasized by durative temporal adverbials, such as ‘all day long’, as Kuteva (1999, 2001) proposes for the Bulgarian posture-verb progressive construction (cf. section 1.3.2.). Although the occurrence of the durative temporal modifier can be considered ‘redundant rather than necessary’ (Kuteva 1999: 209, 2001: 71), it would be meaningful to include this as an expected change.

Two additional consequences can be expected to arise from the increasing cohesion of the construction. The first of these is related to negation; in particular, it is expected that it would no longer be possible to negate the verbs in the construction individually. This means that one negator would serve to negate the whole verbal complex (cf. section 1.2.3.).

The other consequence is the possibility of object extraction, as described with the Swedish posture-verb construction in section 2.1.1. Since the construction at this stage is considered to be pseudo-coordinate, it should be possible to extract an element associated with the second verb and place it in clause-initial position, as in the Modern Dutch construction *de wedstrijd waarnaar hij staat te kijken* ‘the match which he is (standing and) watching’. In this example, the prepositional object *naar de wedstrijd* (lit. ‘at the match’) of the second verb *kijken* ‘to look, watch’ is extracted and embedded in the main clause (examples with *en(de)* can be found in 4.3.2.). Extraction does not occur in ordinary coordination (cf. (3) in Chapter 2), but neither is it an indication of a strongly integrated unit, since it can occur when the first verb is a ‘quasi-auxiliary’ (such as [*w*]hat did he *go* and do next? (Goldsmith 1985: 134, emphasis mine); see also Lakoff 1986, De Vos 2005, and Ross 2016). The quasi-auxiliary characteristics of the first verb suggest that the verb does not form a fully monoclausal structure and that it is only in terms of semantic interpretation that it forms one conceptual unit. This imbalanced relationship between syntax and semantics indeed matches with the definition of pseudo-coordination (cf. section 1.2.3.).

In sum, at Stage 2 the construction corresponds to a pseudo-coordinate construction; this means that it becomes increasingly cohesive in terms of its form and meaning. At the same time, the construction develops semantically as a progressive construction, including backgrounding of the postural/locative meaning of the posture verb and foregrounding of its temporal meaning.

3.3.3. Stage 3: S PV_{fin} *en(de)* V²_{fin/inf}

According to the grammaticalization path proposed in Table 1, at Stage 3 the posture-verb construction is hypothesized to have a monoclausal structure. Formally, this entails some syntactic changes, which are triggered by the reanalysis of the connector *en(de)* and the [*en(de)* V²] phrase. Semantically, the construction is interpreted as describing one ongoing event, wherein the postural/locative meaning of the posture verb is backgrounded and its atelic meaning is foregrounded, as in Stage 2. What differs from Stage 2 is that posture verbs are expected to undergo some semantic bleaching at this stage.

The monoclausal structure expected at this stage is hypothesized to resemble that of the modern Dutch construction. According to the rules of the Dutch language, in declarative main clauses a verbal complex forms a clause bracket with two poles (De Schutter 1994: 465ff., ANS: 21). Figure 1 gives an example with the *te* construction to illustrate how the clause bracket is structured.

Figure 1. An example of the clause bracket

Zijn broer	zat	de hele dag op z'n moeder	te wachten	op het station
(lit.) his brother	sat	the whole day for his mother	to wait	at the station
<i>forefield</i>	<i>1st pole</i>	<i>middle field</i>	<i>2nd pole</i>	<i>final field</i>

In this example, the finite verb *zat* 'sat' occupies the position of the first pole in clause-second position, and the complement verbal phrase *te wachten* 'to wait' occupies the position of the second pole. These two verbal elements are seen as forming a bracket over the middle field, which is situated between the first and the second pole.

In the same manner as the modern *te* construction illustrated in Figure 1, the *en(de)* construction at Stage 3 is expected to have a monoclausal structure with a clause bracket. The interpretation of the verbal elements as one single verbal phrase is triggered by the reinterpretation of the [*en(de)* V²] phrase as a complement phrase of the posture verb. This means that, in the [*en(de)* V²] phrase, *en(de)* is considered as a complement-verb introducer. As in Figure 1, the elements of the construction could be placed at distant positions from each other, namely at the first pole and the second pole, indicating the monoclausal structure of the construction.¹³

¹³ Note that the verbs would be placed adjacent to each other in the clause-final verbal complex. See (8) in Chapter 1 for how the clause-final verbal complex is typically formed with the posture-verb progressive construction in Modern Dutch.

The placement of elements of a single construction at a distance from each other contradicts what we would usually expect for grammaticalization. As can be seen with phonological reduction (e.g. *be going to* > *be gonna*, cf. section 1.3.1.), one of the typical consequences of grammaticalization is the fusion of adjacent elements (cf. Torres Cacouloss & Walker 2011: 226). In the case of the development of the Dutch posture-verb progressive construction, however, adjacency of the elements is a feature commonly associated with the pseudo-coordinate phase, as described in section 3.3.2., while the more grammaticalized monoclausal structure may be marked by the placement of verbal elements apart from each other. At the same time, as described in the previous section (3.3.2.), the connector and the second verb are more closely linked than in ordinary coordination.

Formation of the clause bracket paves the way for other elements, such as adverbials and objects, to be placed in the middle field; that is, between the poles (cf. Figure 1). An example that illustrates the existence of the middle field is provided in (8).

- (8) Een waterlantsche Trijn **sat** eens ajuyn **en schelde**.
 'a girl from Waterland once sat and peeled onions'
 (= (18a) in Chapter 1)

In (8), the adverb *eens* ‘once’ and the direct object *ajuyn* ‘onions’ of the second verb *schelde* ‘peeled’ can be interpreted as being located in the middle field, namely, between the first pole (*sat* ‘sat’) and the second pole (*en schelde* ‘and peeled’). Elements that belong to the second verb may only appear before the connector if the construction has a monoclausal structure (as can be seen in the ungrammaticality of the biclausal counterpart, **zij zat het boek en las* lit. ‘she sat the book and read’, in Modern Dutch; cf. section 1.3.3.). This therefore offers a clear indication of the unit status of the verbal phrase.

In short, the structural change of the posture-verb construction correlates with the reinterpretation of the [*en(de)* V²] phrase as a complement phrase of the posture verb and the fixing of the function of *en(de)* as a verb introducer. The latter point could be further reflected in the verbal complex, with the second verb appearing in the infinitive (i.e. [*en(de)* V²_{inf}]), which would give the intermediate form **lag en slapen* (lit. 'lay and sleep'; cf. (16) in Chapter 1). In this case, the function of *en(de)* is more comparable with *te* in

The difference in word order will be taken into consideration in this investigation (cf. section 3.3.) but the cases with the posture verb in clause-second position are given in the text for the purposes of illustration.

the sense that it functions not only as a verb introducer but as an infinitive marker, i.e. *en* introduces an infinitival verb.

As mentioned above, at Stage 3 the postural/locative meaning of posture verbs is expected to be backgrounded and the temporal aspect foregrounded, as in Stage 2. This means that, in semantic terms, the construction can be seen as a progressive construction. In comparison with the previous stage, the requirement for semantic cohesion may be less strict at Stage 3. This would be expected in the context of further grammaticalization, which could be associated with increased semantic bleaching of posture verbs. The loosening of semantic cohesion is also expected to influence the semantic and lexical variety of co-occurring elements (cf. section 1.3.1.). In other words, it is expected that the second verb no longer has to be chosen from a closed group of verbs that are strongly compatible with the semantics of posture verbs, but can combine with a wider variety of verbs. Furthermore, posture verbs are expected to lose their postural meaning at this stage, resulting in forms such as *[e]nde die olde vaders **lagen ende arbeiden** om den steen af te doen ende die scriftuer te verstaen* lit. 'and the old leaders were (lit. lying and) making effort to remove the stone and to understand the Scripture' (= (19) in Chapter 1), where the activity of removing the stone and reading the Scripture is not actually thought to be done in a lying posture (cf. section 1.3.3.). As can be seen in this example, greater lexical and semantic variety is possible for the second verb in the *en(de)* construction at this stage, which could be considered a development which aligns with the typical process of grammaticalization.

At this stage, one lexical change is expected; namely, that the connector *ende* changes to *en*. As explained in section 1.3.3., the coordinating conjunction *ende* prevailed in Middle Dutch, while its reduced form *en* is also found in the construction from Late Middle Dutch (1350–1500), as shown in Van der Horst (2008: 644): *[s]iet hoe dit volc nu **steet en gaept*** 'see how these people are standing and gaping now' and *[h]aer kint **sat altoes en creet*** 'her child sat and cried constantly'. The development from *ende* to *en* could be analyzed as arising from the grammaticalization process (i.e. as phonological reduction due to grammaticalization). At the same time, however, the change from *ende* to *en* also took place outside the construction as a diachronic development of the coordinating conjunction *ende* (cf. section 1.3.3.). Therefore it is important to also bear in mind the formal change of the coordinating conjunction when investigating this point.

In summary, the construction at this stage is hypothesized to have a monoclausal structure, and its semantics is expected to be characterized by progressive aspect and backgrounded locative meaning.

3.3.4. Stage 4: S PV_{fin} *en(de)* V²_{fin/inf}, S PV_{fin} *te* V²_{inf}

This stage can be characterized primarily by the transition from the old type of construction with *en(de)* as connector to the new type with *te* as connector; this change is thought to have taken place around the 17th century (cf. section 1.3.3.). The old type of construction is expected to still exist at this stage and to show some indications of semantic bleaching, as at the previous stage. This is demonstrated by the example [*dle vierde leyt en loopt met velen en met luyten* ‘the fourth (person) is walking with fiddles and with lutes’ (= (20a) in Chapter 1) from the 17th century, where *lopen* ‘to walk’ would otherwise be incompatible with the meaning of *leyt* ‘lies’.

While the old type of construction may have continued to grammaticalize, the new type, which formally corresponds to the modern posture-verb progressive construction with infinitive marker *te*, is thought to have increased in frequency at this stage. Since the *te* construction is not known to have grammaticalized further after its emergence, the state of this construction at Stage 4 would coincide with the state of the construction in the modern language (cf. section 3.2). This means that the construction is formally monoclausal and semantically monopredicative at this stage, but the postural/locative meaning of posture verbs is not fully bleached (cf. section 1.2.2.).

3.3.5. Stage 5: S PV_{fin} *te* V²_{inf}

At the final stage of grammaticalization, the construction with *en(de)* is thought to have been fully replaced by that with an infinitive marker *te* in the standard language (cf. section 1.3.3.).¹⁴ The posture-verb progressive construction is thus expected to have reached the modern state at this stage.

As a result of this replacement, the *en(de)* construction with the aspectual semantics is expected to be lost, with the [PV *en(de)* V²] phrase no longer being interpreted as a progressive construction. This implies that features associated with a monoclausal structure (e.g. obligatory omission of the subject for the second verb, object extraction, and objects and adverbials in the middle field) are no longer expected to be found with *en(de)* (cf. section 1.3.3.). Since all the instances with *en(de)* would be coordinate

¹⁴ As mentioned in section 1.2.2., the posture-verb construction with *en* is still attested in some dialects.

sentences at this stage, it is also hypothesized that this form would normally occur with a locative modifier rather than with a durative temporal modifier. In addition, the negator would not obligatorily take scope over the whole verbal complex at this stage. In short, the instances with *en(de)* at this stage are expected to become comparable with those at Stage 1.

3.3.6. Summary of the expectations

From a global perspective, the five-stage developmental pathway presented in Table 1 and illustrated in detail above (3.3.1.-3.3.5.) includes two crucial changes, one semantic and one syntactic. The key semantic change of the construction is the emergence of progressive aspect, while the key syntactic change is the transition to a monoclausal structure. Specific changes expected for each of the five stages are summarized in (9-12). Here, the changes are expressed as characteristics that distinguish each stage from the previous one, in order to clarify the nature of the developments we expect to observe from one stage to the next.

(9) Stage 1 to 2

- a. Less frequent overt realization of the subject of the second verb
- b. Locative modification occurs infrequently
- c. Temporal modification occurs frequently
- d. Semantic compatibility of the posture verb and the second verb is strictly required, limiting lexical variety of the second verb
- e. Negator negates the verb sequence, not just individual verbs
- f. Object extraction is possible

(10) Stage 2 to 3

- a. Placement of adverbials of the second verb in the middle field is possible
- b. Placement of objects of the second verb in the middle field is possible
- c. The second verb may be realized in the infinitive with the connector *en(de)*
- d. Wider semantic and lexical variety of the second verb
- e. Phonological reduction of *ende* to *en*

- (11) Stage 3 to 4
 - a. The connector *te* emerges
- (12) Stage 4 to 5
 - a. *Te* is the only possible form of the connector in the standard language
 - b. *En(de)* stops functioning as a connector, as evidenced by an overtly realized subject for the second verb, no object extraction, no objects/adverbials of the second verb before the connector, frequent locative modification, and infrequent durative temporal modification, and a the negator obligatorily taking a scope over both verbs

In the following sections, each of the changes described above will be formulated as a quantitative hypothesis, in order to provide the basis for evaluating the proposed developmental pathway (cf. Table 1) against the data extracted from the corpora.

3.4. Hypotheses

The changes summarized in (9-12) are based on existing accounts in the literature, but they require quantitative validation (cf. sections 3.1. & 1.4.). Above, the relevant changes are presented in sequential order so that they form a plausible grammaticalization path (cf. Table 1 in 3.3.). The order is mostly derived from the dates provided in the literature, but sometimes also draws on assumptions regarding how a certain structure is expected to behave. Consequently, it is also important to investigate the order and the timing of the changes more closely.

The expected changes (9-12) can be categorized into three groups, related to the verbal complex, the noun, and the modifier, respectively. This section will elaborate on the changes in each of these groups and formulate testable hypotheses for the investigation of the historical development of the Dutch posture-verb progressive construction. Most of the hypotheses are formulated such that the data (i.e. instances of the construction in the database) can be classified in a binary manner; that is, the data can be categorized in terms of whether a certain feature that indicates grammaticalization is present or absent. In this manner, the relative proportions of the two categories over time can be related to an increase or

decrease in the degree of grammaticalization of the construction. For example, if the proportion of instances with a more grammaticalized feature increases diachronically, it can be argued that the construction is becoming more grammaticalized over time (cf. section 2.2.1.). Based on this assumption, the hypotheses that follow are formulated as ratio changes. Therefore, the hypotheses are supported when the expected ratio changes are indeed found in the database. On the other hand, the hypotheses are rejected if the expected ratio change is not found in the data (i.e. the data do not change in the expected manner or show no diachronic development at all). Furthermore, some hypotheses are concerned with the timing of the changes in the data, i.e. when a certain change takes place or how the changes are sequentially ordered. In this case, the hypotheses are supported when a change is attested in the expected time period, and they are rejected if the change does not happen with the expected timing.

A point that also deserves attention is that the data for this research is historical, which entails that we are unable to access native speaker intuitions about semantic interpretations of sentences. For a linguistic phenomenon in a modern language, such as pseudo-coordination in Modern German (cf. section 1.2.3.), a seemingly coordinate structure could plausibly be interpreted by a native speaker as monopredicative even when there are no syntactic indications of a monoclausal structure. However, no such information is available for historical data, such as those under study here. Therefore, the focus of this research is necessarily on the surface realization of the phenomena in question, and not on possible interpretations of individual instances (cf. section 2.2.3.). Accordingly, none of the hypotheses concern whether a certain instance can be interpreted as progressive or not; rather, each hypothesis concerns whether a given instance does or does not display a certain feature that is expected to be linked to grammaticalization.

3.4.1. Verbal complex (Hypotheses 1-5)

This section discusses all the changes related to the verb, the connector, and the combination of the two. Based on the changes listed in (9-12), five hypotheses can be formulated.

The first two hypotheses are concerned with the semantic development of the second verb (9d & 10d). As argued in the previous sections, the construction is expected to increase in semantic cohesion at Stage 2 (pseudo-coordination). This means that the second verb would tend to be strongly

compatible with the semantics of posture verbs. This is evaluated in two ways: firstly, by investigating the variety in the types of second verb, and secondly, by examining the proportion of instances with each of the semantic features that facilitate a composite interpretation. Each of these ways is elaborated below, with the first way culminating in Hypothesis 1 and the second way in Hypothesis 2.

The strong orientation toward semantic cohesion can be reflected in a restriction on the lexical variety of the second verb (cf. section 3.3.2.). The variety of the second verb can be evaluated using the hapax legomena (henceforth hapax) token ratio (HTR; Baayen & Lieber 1991). HTR is an index of lexical diversity and can be obtained by dividing the number of hapaxes—words that occur only once in a targeted text—by the number of tokens. The fundamental idea of HTR is that the number of hapaxes, i.e. ‘one-off’ cases, can indicate the degree to which a construction is open to new uses and is productive (cf. Lesuisse & Lemmens 2018: 58ff.). Therefore, a higher HTR indicates a wider lexical variety and thus more productivity, whereas a lower HTR indicates a limited variety and thus less productivity. For the purposes of this research, a token is defined as a combined unit with a posture verb and a second verb; a hapax is therefore a certain combination of posture verb and second verb that only occurs once in the dataset. Since the HTR measure is known to be sensitive to dataset size (Naccarato 2016: 135), in this research the corpora are subdivided to yield three subsets of a uniform size, as will be described in 4.2.2.

In the diachronic development of the Dutch posture-verb construction, strong semantic cohesion is expected to be observed only at Stage 2 (pseudo-coordination), where the HTR is expected to be low; this is in contrast to the other stages, where looser semantic restrictions and thus higher HTRs are expected. This expected temporary reduction of the HTR is formulated as Hypothesis 1.

Hypothesis 1

The hapax-token ratio of the second verb shows a temporary dip at Stage 2.

Note that the HTR is not informative about the non-hapax tokens, which may cover a smaller or larger number of verb types; however, a larger number of types can also be an indicator of higher productivity. Therefore, attention should be always paid to the general distribution of types, tokens, and hapaxes. For this purpose, the type-token ratios, which could also serve

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as an indicator of lexical diversity (Brezina 2018: 57ff.), are measured and reported in the analysis.

Another way of examining semantic cohesion is to check the individual verbs in V² position in terms of their dynamicity, telicity, compatibility with the posture, and movement. If there is a strong orientation toward semantic compatibility at Stage 2, the second verb should tend to (i) be a dynamic verb (i.e. non-stative),¹⁵ (ii) be an atelic verb, and (iii) describe an event that can take place in the posture indicated by the posture verb and (iv) typically include no movement from point A to B (cf. sections 3.3.1. & 3.3.2.). Therefore, the number of instances with these semantic features (i-iv) should be high at this stage.

In the same manner as Hypothesis 1, this strong compatibility is expected to be temporary and be preceded and followed by less restrictive periods. Therefore, the overall path of the development can be characterized by a low-high-low pattern, as indicated in Hypothesis 2.

Hypothesis 2

The proportion of second verbs that are semantically compatible with posture verbs shows a temporary increase at Stage 2.

As the construction grammaticalizes, *en(de)* ceases to be a coordinating conjunction and develops into a verb introducer (cf. section 3.3.3.). This development goes hand in hand with the change of the form of the connector from *ende* to *en* (10e). As noted above, this change could be seen as phonological reduction as part of grammaticalization; on the other hand, it can also be attributed to the general change in form of the coordinating conjunction. Therefore, the development of *en(de)* both as a connector and as a coordinating conjunction is examined. If the development of the connector temporally precedes that of the coordinating conjunction, the reduction of a connector could be ascribed to construction-internal change, i.e. grammaticalization. Therefore, the investigation will assess the ratio change of *ende* vs. *en* both as a connector and as a coordinating conjunction and compare the relative timing of the two developments. This is expressed in Hypothesis 3.

¹⁵ Dynamic verbs include verbs that describe an activity or process, which typically includes change and development over time (e.g. 'to melt', 'to bike', 'to sleep'; ANS 30.3.2.1). Recall that posture verbs seem to be less compatible with stative verbs and more with dynamic verbs (3.3.1).

Hypothesis 3

The ratio of *en* (versus *ende*) as a connector increases with increasing grammaticalization. This increase precedes the general development of the coordinating conjunction from *ende* to *en*.

En(de) as a verb introducer is thought to have developed further to take an infinitive second verb as complement at Stage 3 (10c). The sequence of $[PV_{\text{fin}} \text{ en}(de) V^2_{\text{inf}}]$, where the two verbs do not agree in finiteness, is ungrammatical unless *en(de)* is an infinitive marker. Since the function of *en(de)* as an infinitive introducer is hypothesized to be linked to the increasing grammaticalization of the *en(de)* construction, the incidence of this phenomenon could be expected to increase in frequency over time. This expectation is formulated as Hypothesis 4.

Hypothesis 4

The proportion of instances of the type $[PV_{\text{fin}} \text{ en}(de) V^2_{\text{inf}}]$ increases with increasing grammaticalization.

From Stage 4 onward, the connector *en* is replaced by the infinitive marker *te*, and *te* eventually becomes the only possible connector in the posture-verb progressive construction (11a & 12a). Accordingly, the number of instances with *en(de)* as a connector decreases, and the number with *te* increases. According to the literature, this change is expected to happen in the 17th century (cf. section 1.3.3.). This expectation is formulated as Hypothesis 5.

Hypothesis 5

In the 17th century, the proportion of *en(de)* as a connector decreases while *te* increases.

3.4.2. Noun (Hypotheses 6-9)

Turning now to the noun within the posture-verb progressive construction, there are three changes to consider: one for the subject (9a), and two for the object (9f & 10b). These three changes are formulated as four hypotheses in the following. Note that all the changes are related to the posture-verb construction with *en(de)* as a connector; therefore, only data for this construction will be considered.

The first hypothesis is concerned with the elision of the subject for the second verb. As explained in section 3.3.1. & 3.3.2., the construction with a monopredicative reading typically does not realize the subject of the second verb overtly. Hence, a decrease in instances of an overtly realized subject for the second verb is expected over the period under study. This expectation is formulated as Hypothesis 6. Note that instances with non-coreferential subjects are not included in the database for this research (cf. section 2.2.3.).

Hypothesis 6

In instances of the *en(de)* construction, the proportion of overt subjects for the second verb decreases in the course of grammaticalization.

With regard to the object, two phenomena are relevant for the development of the *en(de)* construction: object extraction (9f) and the placement of objects in the middle field (10b). The former concerns extraction of the (in)direct or prepositional object associated with the second verb to clause-initial position, which is thought to be possible in a pseudo-coordinate structure (cf. sections 1.2.1. & 3.3.2.). For the Swedish pseudo-coordinate construction, Hilpert & Koops (2008: 254f.) show that the frequency of object extraction increases diachronically due to increasing grammaticalization (cf. section 2.2.1.). The same may be expected for Dutch, as expressed by Hypothesis 7.

Hypothesis 7

In the *en(de)* construction, the incidence of object extraction increases in the course of grammaticalization.

The latter concerns the placement of objects that are not extracted; i.e. in the middle field. Here, two word orders are distinguished, namely, the order where the posture verb is not in clause-final position, and the order where the posture verb appears in clause-final position. When the posture verb is not in clause-final position, this implies that it occupies the position of the first pole of the clause bracket (cf. Figure 1 in 3.3.3.). In this word order, the expectation is that objects of the second verb may be preposed, i.e. placed before the connector *en(de)*, as grammaticalization proceeds (i.e. [PV Obj *en(de)* V²]). Such preposed objects can be any kind of internal argument associated with the second verb, including not only (prepositional) objects but also reflexive pronouns (referred to collectively as ‘object(s)’ in the following, unless otherwise indicated). The options are illustrated in

following constructed examples in (13) and (14) with the direct and prepositional objects underlined.

- (13) [(in)direct objects, reflexive pronouns]
- a. [biclausal]

Hij **zat** op het strand **en las** een boek.

‘he sat on the beach and read a book’
 - b. [monoclausal]¹⁶

*Hij **zat** een boek **en las/lezen**.

‘lit. he sat a book and read/read’
- (14) [prepositional objects]
- a. [biclausal]

Zij **stond** buiten **en luisterde** naar zijn woorden.

‘she stood outside and listened to his words’
 - b. [monoclausal]

*Zij **stond** naar zijn woorden **en luisterde/luisteren**.

‘lit. she stood to his words and listened/listen’
 - c. [monoclausal]

*Zij **stond en luisterde/luisteren** naar zijn woorden.

‘lit. she stood and listened/listen to his words’

In ordinary coordination, objects of the second verb are placed after the second verb, as *een boek* ‘a book’ in (13a) and *naar zijn woorden* ‘to his words’ in (14a); by contrast, in a monoclausal structure they would be placed between the posture verb and the connector, i.e. in the middle field, as indicated in (13b) and (14b), which are ungrammatical in Modern Dutch. This word order instantiates the monoclausal structure of the construction involving a clause bracket, as demonstrated in Figure 1 (in 3.3.3.). Note that with prepositional objects, it is expected that placement after the second verb will also be possible at the later, monoclausal state of the construction, on the pattern of (14c).

¹⁶ There may have been an intermediate stage between a biclausal structure (13a) and a monoclausal one (13b), where the structure [PV Obj *en(de)* V²] was interpreted as an exceptional case of coordination. The binary marking of biclausal and monoclausal in the examples does not reflect this intermediate phase since this research focuses on surface realization and not on interpretability (cf. section 3.4.). The same goes for the examples in (14).

Since objects of the second verb placed between the posture verb and the connector are associated with the monoclausal instantiation of the posture-verb construction, the proportion of this word order is expected to grow in the course of grammaticalization. Therefore, the expectation regarding the placement of objects when the posture verb is not clause-final can be formulated as Hypothesis 8.

Hypothesis 8

In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of objects after the posture verb and before the connector increases in the course of grammaticalization.

Note that the earliest instances of this phenomenon are expected to be dated later than instances of object extraction, since object extraction is already hypothesized for the earlier, pseudo-coordinate stage (cf. sections 3.3.2. & 3.3.3.).

The expected developmental pathway is slightly different for the word order where the posture verb is in clause-final position. This environment is characterized by the verbs and the connector forming a verbal complex at the second pole, while the first pole is occupied by an auxiliary (e.g. *moet ... staan wachten* lit. 'must ... stand wait') or by a clause-initial conjunction, as shown in Figure 2.

Figure 2. An example of the clause bracket in the posture-verb clause-final word order

	dat	zijn broer de hele dag op z'n moeder	zat te wachten	
	(lit.) that	his brother the whole day for his mother	sat to wait	
<i>forefield</i>	<i>1st pole</i>	<i>middle field</i>	<i>2nd pole</i>	<i>final field</i>

This situation is illustrated in more detail by the constructed examples in (15) and (16) below. When the posture verb belongs to the clause-final verbal complex, in a biclausal structure the object of the second verb is placed after the connector (15a & 16a), while in a monoclausal structure it is placed before the posture verb (15c & 16d). In addition, an intermediate phase is proposed where the object is placed after the posture verb and before the connector (15b & 16c).¹⁷

¹⁷ Note that an intermediate stage is assumed only in this hypothesis for the posture-verb clause-final word order and not in the previous hypothesis for the posture-verb non-clause-final word order. This is due to the fact that there is no observable surface

(15) [(in)direct objects, reflexive pronouns]

a. [biclausal]

dat hij op het strand **zat en een boek las**
 'that he sat on the beach and read a book'

b. [intermediate]

*dat hij **zat een boek en las**
 'lit. that he sat a book and read'

c. [monoclausal]

*dat hij **een boek zat en las/lezen**
 'lit. that he a book and read/read'

(16) [prepositional objects]

a. [biclausal]

dat zij buiten **stond en naar zijn woorden luisterde**
 'that she stood outside and listened to his words'

b. [biclausal]

dat zij buiten **stond en luisterde naar zijn woorden**
 'that she stood outside and listened to his words'

c. [intermediate]

*dat zij **stond naar zijn woorden en luisterde**
 'lit. that she stood to his words and listened'

d. [monoclausal]

*dat zij **naar zijn woorden stond en luisterde/luisteren**
 'lit. that she to his words stood and listened/listen'

e. [monoclausal]

*dat zij **stond en luisterde/luisteren naar zijn woorden**
 'lit. that she stood and listened/listen to his words'

In (15a), the direct object *een boek* 'a book' is placed between *en* and the second verb *las* 'read' in coordination, while in (15c) *een boek* precedes a single verbal complex (*zat en las/lezen* lit. 'sat and read/read'). Between the monoclausal and the biclausal phase ((15a) and (15c), respectively), a stage may have existed where the construction was ambiguous between the two (cf. Stage 2). At this stage, the object of the second verb would have been less strongly connected to the second verb than in a biclausal structure. On the other hand, the [PV *en(de)* V²] phrase would not have been a tightly

realization corresponding to an intermediate stage in the posture-verb non-clause-final word order (cf. footnote 16).

integrated unit either, while *en(de)* was becoming established as a verb introducer preceding the second verb (cf. section 3.3.2.). Hence, it can be hypothesized that the object of the second verb could appear in a position after the posture verb and before the unit formed by the connector and second verb (15b). Prepositional objects have more options for placement, as indicated in (16); the key observation here is that the prepositional phrase *naar zijn woorden* 'to his words' can be placed between the connector and the second verb in a biclausal structure (16a), between the posture verb and the connector at the intermediate stage (16c), and before the whole verbal complex in a monoclausal structure (16d).

To summarize, the position of the object of the second verb when the posture verb appears in clause-final position is expected to develop through three stages. This expectation is formulated as Hypothesis 9.

Hypothesis 9

In instances of the *en(de)* construction with the posture verb in clause-final position, objects are increasingly likely to appear before the connector in the course of grammaticalization:

- a) Placement of objects between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);
- b) Placement of objects before the posture verb (i.e. in the middle field) increases at a constant rate.

In contrast to the *en(de)* construction, the *te* construction is unambiguously monoclausal and does not develop along the path illustrated in examples (13-16). As demonstrated in (17), sentences with *te* never allow separate subjects for the two verbs; meanwhile, the objects may be placed between the posture verb and *te*, i.e. in the middle field.

- (17) a. Hij **zat** een boek **te lezen**.
 'he is (sitting and) reading a book'
 b. Zij **stond** naar zijn woorden **te luisteren**.
 'she is (standing and) listening to his words'

The data for the *te* construction could thus provide indications for how a posture-verb construction with a monoclausal structure behaves. If, for example, the incidence of objects appearing between the posture verb and *en(de)* (i.e. **zat soep en at* lit. 'sat soup and ate') is comparable with that of *te* (i.e. *zat soep te eten* lit. 'sat soup to eat') when the posture verb is not in

clause-final position, this could be a good indication that the *en(de)* construction has a similar structure to the *te* construction. Under this view, the data for the *te* construction would offer a benchmark for a posture-verb construction with a monoclausal structure; therefore, this data will also be investigated as part of the present study.

3.4.3. Modifier (Hypotheses 10-14)

The last five hypotheses are related to negation (9e) and adverbial modification (9b, 9c, & 10a). For the adverbial, three kinds of change are expected. One is associated with the position of adverbials (10a), and the other two with the change in frequency of locative modifiers and temporal adverbials (9b & c). Each change and corresponding hypothesis is presented in the following.

First, the position of adverbials¹⁸ in the *en(de)* construction is investigated based on the idea that the placement of the adverbials could indicate the underlying structure of the construction in a way that is somewhat similar to the placement of objects (cf. section 3.4.2.). As with objects, the exact expectations about the placement of adverbials are somewhat different for the two different word orders, namely whether the posture verb is in the clause-final position or not.

For the posture-verb non-clause-final word order, in a biclausal structure the adverbial modifying the second verb is placed after the connector, while in a monoclausal structure it is typically placed before the connector, i.e. in the middle field, as illustrated with the constructed examples in (18).

(18) [non-clause-final posture verb word order]

a. [biclausal]

Zij **lag** op haar buik **en** **sliep** rustig.

‘she lay on her belly and slept soundly’

¹⁸ Note that the term *adverbials* refers to almost all kinds of adverbials (adverbs, prepositional phrases, and noun phrases modifying a sentence or a verb), except for relative adverbs (e.g. *in de tuin waar zij ligt te slapen* ‘in the garden where she lies sleeping’), since they have no freedom of placement.

b. [monoclausal]

*Zij **lag** rustig **en** **sliep/slapen**.

'lit. she lay soundly and slept/sleep'

In comparison to (18a), which has a biclausal structure, in (18b) the adverbial *rustig* 'soundly' is preposed before the connector. As the construction is expected to develop from a biclausal to a monoclausal structure, the development from (18a) to (18b) is hypothesized to be observable in the data.

It should be noted that this expectation is based on the assumption that the rate of adverbial modification does not change over time. Since we expect that locative modifiers and durative temporal modifiers do change in frequency over the centuries (as explained below and formulated as Hypotheses 12 and 13), only non-locative and non-durative adverbials are relevant. In summary, the expectations regarding the placement of adverbials in the posture-verb non-clause-final word order can be formulated as below.

Hypothesis 10

In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of non-locative/durative adverbials after the posture verb and before the connector increases in the course of grammaticalization.

The picture is different when the posture verb is in clause-final position. In a biclausal structure, the adverbial of the second verb is typically placed after the connector and before the second verb, as indicated in (19a), while in a monoclausal structure it can be placed before the verbal complex, on the pattern of (19c). An intermediate stage between these two phases is proposed, in line with the placement of objects in Hypothesis 9; this is hypothesized to look like (19b), with the adverbial *rustig* 'soundly' appearing between the posture verb and the second verb, before the connector.

(19) [clause-final posture verb word order]

a. [biclausal]

dat zij op haar buik **lag** **en** rustig **sliep**

'that she lay on her belly and slept soundly'

b. [intermediate]

*dat zij **lag** rustig **en** **sliep**

'lit. that she lay soundly and slept'

c. [monoclausal]

*dat zij rustig lag en sliep/slapen

'lit. that she soundly lay and slept/sleep'

In short, the adverbial of the second verb is expected to appear after the connector when the structure is biclausal, then between the posture verb and the second verb at the intermediate stage, and before the verbal complex when the structure eventually becomes monoclausal. As a result, the expectations with respect to non-locative/durative adverbials in the *en(de)* construction in the clause-final posture verb word order are as follows.

Hypothesis 11

In instances of the *en(de)* construction with the posture verb in clause-final position, the placement of non-locative/durative adverbials before the connector increases in the course of grammaticalization:

- a) Placement of the adverbials between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);
- b) Placement of the adverbials before the posture verb (i.e. in the middle field) increases continuously.

There are two hypotheses concerning the development of specific types of adverbial. First, with increasing grammaticalization, posture verbs would be bleached in their postural/locative meaning and hence would not require a locative modifier as they do when used as lexical verbs (cf. section 3.3.2.). This change may be reflected in a decrease of instances with locative modification, as expressed by Hypothesis 12.

Hypothesis 12

Instances with one or more locative modifiers decrease in proportion in the course of grammaticalization.

The second of these two hypotheses relates to durative temporal adverbials. As mentioned in section 3.3.2., the emergence of progressive aspectual meaning of the construction may trigger more frequent use of temporal adverbials that emphasize the duration of an activity, such as *de hele dag* 'all day' and *uren* 'for hours'. This expectation is formulated as Hypothesis 13.

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Hypothesis 13

Instances with one or more temporal modifiers expressing the duration of time increase in proportion in the course of grammaticalization.

Lastly, the cohesion of the verb sequence in the *en(de)* construction from Stage 2 (pseudo-coordination) is expected to affect the manner of negation. As the verb sequence becomes a unit, it is no longer possible to negate the verbs individually. Therefore, one negator takes scope over the whole verbal complex, as in the Modern Dutch posture-verb progressive construction (e.g. *ik stond niet te wachten* ‘I was not standing and waiting’). In other words, a negator that modifies only the second verb (e.g. *ik stond daar en wist niet wat te doen* ‘I stood there and did not know what to do’) would decrease in proportion as the construction grammaticalizes, as formulated in Hypothesis 14.

Hypothesis 14

In the *en(de)* construction, negators that modify only the second verb decrease in proportion in the course of grammaticalization.

3.5. Summary

This chapter has presented the expected grammaticalization path of the Dutch posture-verb progressive construction and described the specific changes expected to accompany this process. For the grammaticalization of the construction, I have proposed a five-stage grammaticalization path, beginning at regular coordination with *en(de)* and ending at a monoclausal construction with infinitive marker *te* (cf. Table 1 in 3.3.). In the course of grammaticalization, the construction is hypothesized to undergo certain changes with respect to the verbal complex, the noun, and the modifier. These expected changes are formulated as testable, quantitative hypotheses (cf. section 3.4.). An overview of these hypotheses is presented in (20).

- (20)
- a. Hypothesis 1: The hapax-token ratio of the second verb shows a temporary dip at Stage 2.
 - b. Hypothesis 2: The proportion of second verbs that are semantically compatible with posture verbs shows a temporary increase at Stage 2.
 - c. Hypothesis 3: The ratio of *en* (versus *ende*) as a connector

- increases with increasing grammaticalization. This increase precedes the general development of the coordinating conjunction from *ende* to *en*.
- d. Hypothesis 4: The proportion of instances of the type [PV_{fin} *en(de)* V²_{inf}] increases with increasing grammaticalization.
 - e. Hypothesis 5: In the 17th century, the proportion of *en(de)* as a connector decreases while *te* increases.
 - f. Hypothesis 6: In instances of the *en(de)* construction, the proportion of overt subjects for the second verb decreases in the course of grammaticalization.
 - g. Hypothesis 7: In the *en(de)* construction, the incidence of object extraction increases in the course of grammaticalization.
 - h. Hypothesis 8: In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of objects after the posture verb and before the connector increases in the course of grammaticalization.
 - i. Hypothesis 9: In instances of the *en(de)* construction with the posture verb in clause-final position, objects are increasingly likely to appear before the connector in the course of grammaticalization:
 - a) Placement of objects between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);
 - b) Placement of objects before the posture verb (i.e. in the middle field) increases at a constant rate.
 - j. Hypothesis 10: In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of non-locative/ durative adverbials after the posture verb and before the connector increases in the course of grammaticalization.
 - k. Hypothesis 11: In instances of the *en(de)* construction with

the posture verb in clause-final position, the placement of non-locative/durative adverbials before the connector increases in the course of grammaticalization:

a) Placement of the adverbials between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);

b) Placement of the adverbials before the posture verb (i.e. in the middle field) increases continuously.

l. Hypothesis 12: Instances with one or more locative modifiers decrease in proportion in the course of grammaticalization.

m. Hypothesis 13: Instances with one or more temporal modifiers expressing the duration of time increase in proportion in the course of grammaticalization.

n. Hypothesis 14: In the *en(de)* construction, negators that modify only the second verb decrease in proportion in the course of grammaticalization.

As discussed at the beginning of 3.4., the hypotheses are expressed in terms of a change in proportion of instances displaying one feature versus another; that is, the ratio of one feature to another. Using this approach, the hypotheses can be tested by ascertaining the frequency of instances with or without a certain feature, calculating the corresponding ratios, and measuring the change in these ratios. The analysis of each hypothesis will be used to determine whether a certain change proposed in the literature actually took place in the history of the language, whether the change shows systematicity, and whether it is attested in the time period expected. The results of the analysis will be used to refine the tentative grammaticalization path proposed in this chapter (cf. Table 1 in 3.3.) so that it reflects the actual language change. This implies a consideration not only of the results of hypotheses that are borne out, but also of hypotheses that are rejected. In particular, the hypotheses that are rejected will be used as a basis to reflect upon and modify the proposed grammaticalization path so that it aligns with the changes observed.

Chapter 3 Expected developmental pathway and hypotheses 95

The following chapter reports the results from the database for each hypothesis and investigates how the Dutch posture-verb construction developed with respect to the individual changes outlined in this chapter.

Chapter 4 Results and analysis

5.1 Overview

This chapter addresses the question of whether the expected changes proposed in Chapter 3 are confirmed on the basis of the corpus data. Through the analyses presented in this chapter, this research aims to provide a detailed description of how the posture-verb construction developed, thereby shedding light on how the replacement of the *en(de)* and *te* constructions took place and how the *te* construction emerged (cf. section 1.3.3.). This first section provides an overview of the data and presents general observations. In sections 4.2. to 4.4., each hypothesis presented in Chapter 3 is evaluated based on analysis of the data. The last section (4.5.) summarizes the results and draws conclusions concerning the grammaticalization of the Dutch posture-verb progressive construction.

As described in section 2.3, the data for this research comprise sentences collected from three corpora: the *Corpus Gysseling*, the *Corpus Middelnederlands*, and the *Corpus literair Nieuwnederlands*. Sentences meeting the criteria described in 2.2.3. were entered into the database. The database used in this research¹ yields 957 instances for *staan*, 790 for *zitten*, and 495 for *liggen*.² Table 1 and Figure 1 show the frequency distribution for each verb per century.³

¹ The database file ('database_nl.csv') is freely available in the DataverseNL repository (Okabe 2022).

² The general trend that *staan* has the most instances and *liggen* the fewest corresponds to the corpus research reported in Lemmens (2005) concerning the posture-verb progressive construction in Modern Dutch.

³ One point which should be noted is that there are very few instances found in the first half of the 13th century (0 for *staan*, 3 for *zitten*, 1 for *liggen*), meaning that the data for the 13th century actually (almost) exclusively represent the latter half of the century.

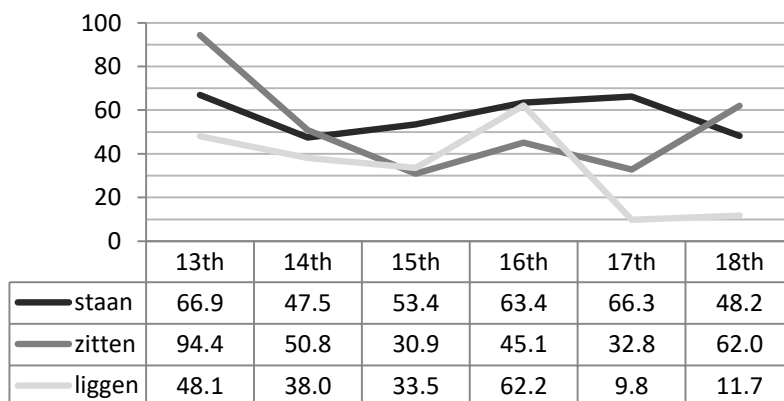
Table 1. Absolute and relative frequencies of the verbs

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	a.f.	39	211	282	52	216	157	957
	r.f.	66.93	47.46	53.43	63.40	66.28	48.17	
<i>zitten</i>	a.f.	55	226	163	37	107	202	790
	r.f.	94.4	50.8	30.9	45.1	32.8	62.0	
<i>liggen</i>	a.f.	28	169	177	51	32	38	495
	r.f.	48.1	38.0	33.5	62.2	9.8	11.7	

a.f. = absolute frequency (raw frequency)

r.f. = relative frequency (frequency per million words)

Figure 1. Relative frequencies per verb across time



In general, the relative frequencies hover around 30 to 70 instances per million words, with some outliers such as 94.4 for *zitten* in the 13th century, and 9.8 and 11.7 for *liggen* in the 17th and 18th centuries. It is evident that the frequencies of all three verbs fluctuate to a certain extent. *Staan* demonstrates the most stable pattern, with a relative frequency ranging from 47 to 67 cases per million words per century. The verb *zitten* shows a U-shaped trend, with a drop in frequency toward the middle of the period in question and an increase at the end. The relative frequencies for this verb range from approximately 30 to 50 per million words, with the exception of the 13th century (94.4 per million words) and the 18th century (62 per million words). As for *liggen*, the relative frequency remains largely stable in Middle Dutch (13th–15th century), followed by an increase in the 16th century and a drop in the 17th and 18th century.

There are various possible reasons for these fluctuations. For instance, a drop from the 13th to the 14th century, most clearly attested for *zitten*, may

reflect the difference in data source. As described in 2.3., the period studied is covered by different corpora, namely the *Corpus Gysseling* and the *Corpus Middelnederlands* for Middle Dutch and the *Corpus literair Nieuwnederlands* for Early Modern Dutch. This might lead to differences between the data from the 13th century and the 14th–16th century, and between the data from the 14th–16th century and the 17th–18th century. For example, the distinctions between these periods could underlie a drop in the frequency of *liggen* from the 16th to the 17th century. Possible influences of these unbalanced distributions will be further discussed in 4.5.3.

In line with findings in the literature, the instances in Middle Dutch already show indications of grammaticalization, such as the IPP effect (cf. sections 1.2.2. & 1.3.3.). Examples are provided in (1).

- (1) a. Want hi te lange hier heeft **liggen quelen** [1868⁴]
 ‘because he lay and suffered here too long’⁵
 b. daer si omme hadde **sitten spinnen** [1308]
 ‘where she sat around and span’

Example (1a) dates from the 14th century and (1b) from the 15th century; that is, both come from the Middle Dutch period. Both instances show the IPP effect, with the posture verbs in the infinitive. These examples indicate that the posture-verb construction was already quite grammaticalized halfway through the Middle Dutch period, as is suggested in the literature.⁶

Before embarking on the analysis, it is useful to make some general remarks on the approach used to analyze the data. The three posture verbs are distinguished within each analysis, as reflected in Table 1 and Figure 1,

⁴ The number in square brackets after the example corresponds to the number of the instance in the database.

⁵ In this chapter, the translations of the instances of the database are done based on the following rules: instances with *en(de)* or no connector are translated with coordinated verbs, regardless of their (possible) progressive readings. This is to avoid any bias in interpretation, and does not mean that a given instance is not or cannot be interpreted with a progressive meaning. Instances with *te* are translated as progressive sentences (i.e. ‘be V-ing’), since this construction is thought to be exclusively progressive in meaning.

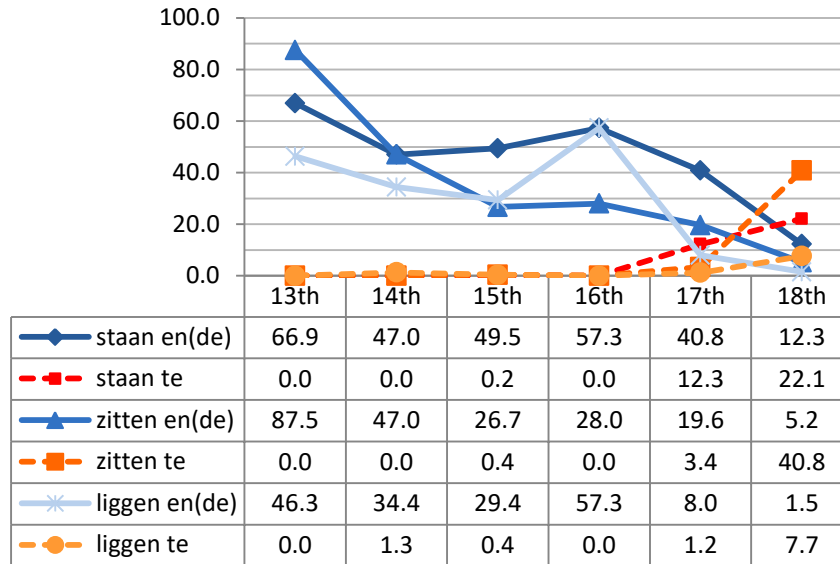
⁶ In my data, the IPP effect accounts for 17 instances with *staan*, 18 with *zitten*, and 3 for *liggen*. Although some relevant cases are found in Middle Dutch, as shown in (1), most of the instances (34 of 38 instances) are from the Early Modern Dutch corpus (i.e. from the 17th and 18th centuries). Furthermore, it should be noted that all instances in my database that are in the perfect tense show the IPP effect.

in order to provide insight into possible differences between the verbs. Furthermore, where appropriate, the data are additionally categorized according to the connectors used in each instance. Here, it is possible to distinguish two broad categories: instances with *ende* or *en*, and instances with *te*, respectively. This categorization reflects the distinction between the older type of construction with *en(de)* and the newer type with *te*, and accordingly whether the construction can form a coordinate structure. Additionally, where necessary for the analysis, the data are further subdivided into instances with *ende* and instances with *en*.

The connector *en(de)* derives from a coordinating conjunction and was available in this function throughout the period under investigation. This means that, unless the monoclausal structure is overtly marked, it is always possible to interpret a sentence with *en(de)* as coordinate instead of progressive (e.g. *hij stond daar en wachtte op haar* ‘he was standing there, and he was waiting for her’ rather than ‘he was waiting there for her (in a standing posture)’). The newer type of construction, on the other hand, contains the infinitive marker *te* and is not open to a coordinate interpretation (e.g. *hij zat te eten* ‘he is eating (in a sitting posture)’ and not ‘he is sitting, and he is eating’). Although this might seem to be a subtle difference, it has considerable influence, for example on whether individual conjuncts can be modified separately and whether both verbs can have an overtly realized subject. In other words, the independence of the conjuncts can be retained in the *en(de)* construction due to its originally coordinate structure, whereas this is not the case for the *te* construction with its exclusively monoclausal structure.

Moreover, the characteristics of the *en(de)* construction are expected to change diachronically. As outlined in 3.3., the development of the construction with *en(de)* can be characterized as changing from a biclausal structure to a monoclausal one, which is not always comparable with the consistently monoclausal structure of the construction with *te*. Furthermore, the progressive construction with *en(de)* with a monoclausal structure is expected to disappear as the *te* construction becomes dominant (cf. section 3.3.5.), at which point instances with *en(de)* revert to having a coordinate interpretation. Considering these developments specific to *en(de)*, for the majority of the analyses in this chapter the two connector types are treated separately.

The diachronic development of the two types of construction is presented below in Figure 2. The unbroken lines in blue are for the relative frequencies of instances with *en(de)* and the broken lines in orange are for those with *te*.

Figure 2. Relative frequencies of instances with the connector *en(de)* vs. *te*

As can be seen from Figure 2, the relative frequencies of *en(de)* with *staan* and *liggen* stay relatively stable till the 16th century, except for a peak for *staan* in the 13th century and one for *liggen* in the 16th century, both followed by a decrease in the 17th and 18th century. The frequency of *en(de)* with *zitten* shows a steady decrease from the 13th to 18th century. This reduction in frequency is statistically significant (Kendall's tau = -0.87, $p = 0.02$).⁷ This means that the older type of construction with *zitten* was already becoming less frequent in Middle Dutch before it further decreased in frequency in Early Modern Dutch. For all the verbs, the relative frequencies of instances with *te* as a connector increase in the 17th and 18th centuries. For *zitten* in particular, the sharp rise in relative frequency (i.e. from 3.4 to 40.8 cases per million words) coincides with the upward trend observed in the general relative frequency of the verb in the 17th and 18th centuries, as reported in Figure 1. These frequency developments will be taken into consideration in the analysis of the data categorized by connector (i.e. by whether the instance contains *en(de)* or *te*; see also Figure 9 in 4.2.5. for how the constructions with *en(de)* and *te* develop respectively).

Additionally, it can be seen in Figure 2 that the *en(de)* construction prevailed for four centuries without competing with the *te* construction,

⁷ Statistical measures used in the analyses are explained in 2.5.

while the *te* construction co-existed with the *en(de)* construction from the beginning of its rise. The co-existence of the two constructions could possibly be regarded as having facilitated the *te* construction's acquisition of a progressive meaning (cf. section 1.3.3.).⁸

In the following, the data are analyzed per hypothesis. The hypotheses for this research can be found in section 3.4., and are based on the grammaticalization path with five stages presented in 3.3. Most of the hypotheses are concerned with ratios of mutually exclusive categories (cf. section 3.4.). For example, Hypothesis 12 focuses on the ratio of instances with locative modification to instances without locative modification. This requires that all the instances in the database are categorized into two groups: one containing instances with locative modification and the other containing those without. In the same manner, most of the hypotheses are tested by splitting the data into instances displaying a feature related to grammaticalization and instances that do not display this feature.

Note that not all the hypotheses apply to the whole database; some are only related to certain instances with a specific feature. For example, for the investigation of object extraction (cf. Hypothesis 7), only instances that have both an object and *en(de)* as connector are relevant. Therefore, in this case, a subset of the data is made that only includes relevant cases. Furthermore, some hypotheses require extra data beyond the main database. The examination of the replacement of *en(de)* by *en* (cf. Hypothesis 3), for instance, requires us to take into consideration the development of *en(de)* as a coordinating conjunction. In this case, an extra database is formed to provide the necessary basis for the investigation. Whenever the hypothesis is only related to a subset of the data or requires extra data, the method of the analysis is described in the respective section.

When interpreting the results, it should be borne in mind that the corpora include rhyming texts from both Middle Dutch and Early Modern Dutch (cf. section 2.3.; see examples in (18) and (19) in 4.2.4., among others). Rhymes may, for example, affect the word order of a sentence by reordering elements into a non-canonical order (cf. footnote 5 in Chapter 2). Therefore,

⁸ Other progressive constructions may have competed with the posture-verb construction in the history, including the construction with a copula and a present participle (i.e. [*zijn* V_{ppcp}], especially in Middle Dutch), the *aan het* construction (especially from Early Modern Dutch; cf. IJbema 2003, Geleyn & Coleman 2015), which also possibly affected each other (see section 1.2.2. for the modern language situation).

it is important to pay attention to the text genre the instance in question comes from.

Lastly, the statistical methods used in the analyses are Fisher's exact test and Kendall rank correlation, as presented in 2.5. Most of the hypotheses concern a proportion that is expected to increase or decrease; this is examined using Kendall rank correlation. Other hypotheses predict a combination of an increase and a decrease; this is analyzed using Fisher's exact test. Both types of statistical test were conducted using the programming language R, version 3.6.3 (R Core Team 2018).

5.2 4.2. Verbal complex

5.2.1 4.2.1. Hypothesis 1

The posture-verb construction is expected to show greater semantic cohesion during the period when the construction was pseudo-coordinate (cf. section 3.3.2.) compared to the other periods. Semantic cohesion would be reflected, on the one hand, in a larger number of different verb types in V^2 position and, on the other hand, in greater semantic compatibility between the posture verb and the second verb. The former expectation is formulated in Hypothesis 1 in this section and the latter in Hypothesis 2 in the next section (4.2.2.).

As for the variety of verb types, it is expected that the posture-verb construction had some verbs that frequently occurred in V^2 position and that formed conventionalized patterns while it was pseudo-coordinate; it is also expected that this stage was preceded and followed in time by a more variable co-occurrence pattern. To assess this, the hapax-token ratio (= the number of hapaxes divided by the total number of tokens, henceforth HTR) is investigated. As described in 3.4.1., a high HTR indicates wide lexical variety and a low HTR indicates limited lexical variety. Therefore, a low HTR is expected to be observed temporarily at the pseudo-coordinate stage of the construction. This expectation is formulated in Hypothesis 1.

Hypothesis 1

The hapax-token ratio of the second verb shows a temporary dip at Stage 2.

There are two important points to note here. First, the HTR is affected by dataset size, which means that the amount of data per period needs to be equal for cross-period comparison to be possible (cf. section 3.4.1.). As shown in 2.4., in the database for this research, the amount of data per period differs considerably and hence the dataset needs to be subdivided to yield subsets of a uniform size. Second, the data include various Bible translations, sometimes resulting in multiple occurrences of the same sentence, as shown in (2).

- (2) a. ende hi **sat** metten dienren **ende waremde** hem biden viere. [1017]
 b. ende hi **sat** metten dienaren **ende warmde** hem ten viere. [1088]
 ‘and he sat with the servants and warmed himself by the fire’

The two instances in (2) are from two different texts, but they share the same sentence structure and lexicon. The repetitive nature of Bible translations can be attributed not only to the fact that the content is unchanging, but also to the existence of conventions in how the Bible is translated and transmitted. That is, new Bible translations often copy from earlier ones, with the result that the newer versions of the Bible are heavily influenced by older versions. As a result, different Bible translations may have sentences in common, as shown by (2a) and (2b). In view of this, such instances do not reveal much about the lexical diversity of the second verb in the posture-verb construction. Consequently, when the subsets of data are created, it is important to do so in a manner that does not include too many copied texts.

In order to test Hypothesis 1, the data were prepared in the following manner. First, three broad periods were delineated: the 13th and 14th centuries, the 15th and 16th centuries, and the 17th and 18th centuries. The analysis per century was abandoned for this hypothesis since the amount of data for the 13th and 16th centuries was significantly smaller than for the other centuries, which could affect the incidence rate of hapaxes (cf. Baayen 2008: 222-226). By aggregating the data per two centuries, each time period had sufficient data for a fruitful analysis. In addition, this approach made it feasible to further extract a subset of data from each period, enabling exclusion of repetitive Bible translations and adjustment to achieve a uniform dataset size. Once the recurring Bible translations had been excluded,⁹ the smallest

⁹ The book of the Bible that most frequently recurs in the database is the Gospel of Luke in the New Testament. This book is included in four Bible translations in the database, one from the 13th century and three from the 14th century. I selected one

dataset was that of the 13th and 14th centuries, with approximately 4.4 million tokens. Accordingly, similarly-sized datasets were formed for the 15th and 16th centuries and the 17th and 18th centuries by randomly selecting texts from the respective periods (cf. Appendix B).

Table 2 provides the numbers of types, tokens, hapaxes, and HTRs for each verb per time period. Figure 3 visualizes the HTRs per verb across the three time periods.

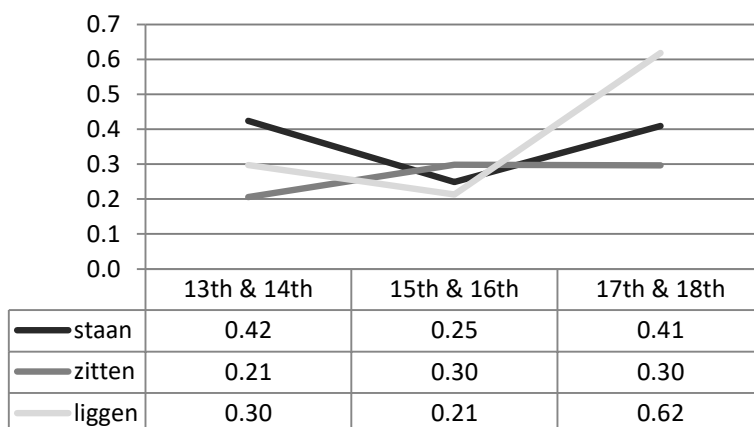
The HTRs of *staan* and *liggen* show the expected drop from the first to the second time period. For *staan*, the HTR is lower in the middle period, preceded and followed by a higher HTR in the first and the last periods. This indicates a more restricted lexical variety in the 15th and 16th centuries compared to the other two time periods. Pairwise comparisons using Fisher's exact test showed that the drop from the first to the middle time period and the increase from the middle to the last time period are both statistically significant ($p = 0.03$ for the former, and $p = 0.01$ for the latter).

Table 2. Total types, tokens, hapaxes, and HTRs per verb

		13th & 14th centuries	15th & 16th centuries	17th & 18th centuries
<i>staan</i>	type	73	125	149
	token	125	309	269
	hapax	53	77	110
	HTR	0.42	0.25	0.41
<i>zitten</i>	type	65	73	101
	token	199	181	206
	hapax	41	54	61
	HTR	0.21	0.30	0.30
<i>liggen</i>	type	74	77	37
	token	165	221	55
	hapax	49	47	34
	HTR	0.30	0.21	0.62

version of the translation at random (*het Luikse Diatessaron* from the 13th century) and excluded all the other versions from the dataset for this analysis.

Figure 3. HTRs per verb across the three time periods



For *liggen*, as with *staan*, the HTRs decrease from the first time period to the middle and increase from the middle to the last; however, the increase (from 0.21 to 0.62) is more pronounced for *liggen* than for *staan*. Pairwise comparisons using Fisher's exact test revealed that the HTR of *liggen* in the last time period is significantly higher than that of the first and middle time periods ($p = 0.02$ with the first period, $p < 0.001$ with the middle period). This means that the 17th and 18th centuries show the widest lexical variety of second verbs occurring with *liggen*. For *zitten*, meanwhile, the HTRs do not change much over time (0.21–0.3), and remain particularly stable between the middle and the last period; this indicates that the lexical diversity of the second verb with *zitten* did not undergo dramatic changes.

In sum, the relatively low HTR for *staan* in the 15th and 16th centuries could indicate a limited lexical variety for the second verb and could be linked to the pseudo-coordinate status of the construction. Meanwhile, the HTRs for *zitten* show a rather stable pattern across time, which runs counter to the expectation expressed in Hypothesis 1. Lastly, the HTRs of *liggen* appear to show a distinction between Middle Dutch and Early Modern Dutch.

It is also informative to inspect the type-token ratios (henceforth TTRs; cf. section 3.4.1.). Here, somewhat different developments are observed than for the HTRs. For *staan* and *liggen*, the TTRs generally develop in the same manner as the HTRs; however, the HTRs of *zitten* show a steady increase (0.33 for the first time period, 0.4 for the middle, and 0.49 for the last). This growth probably reflects changes in the number and variety of verbs that frequently co-occur with *zitten*.

The specific verbs that co-occur most frequently with each posture verb (> 5% of instances) are presented in Table 3. The absolute frequency of each verb is indicated in parentheses, and the total number of tokens per posture verb per period is given after the slash (/).

Table 3. The most frequent co-occurring verbs per posture verb

	13th & 14th centuries	15th & 16th centuries	17th & 18th centuries
<i>staan</i>	<i>seggen</i> (12), <i>sien</i> (8), <i>wachten</i> (7) /125	<i>seggen</i> (34), <i>spreken</i> (22), <i>sien</i> (16) /309	<i>kijken</i> (36), <i>wachten</i> (15) /269
<i>zitten</i>	<i>eten</i> (63), <i>spreken</i> (19) /199	<i>eten</i> (61), <i>drinken</i> (12) /181	<i>lezen</i> (15), <i>schrijven</i> (11) /206
<i>liggen</i>	<i>slapen</i> (29), <i>bidden</i> (10), <i>sien</i> (10) /165	<i>slapen</i> (76), <i>sien</i> (12) /221	<i>slapen</i> (17) /55

As can be seen in Table 3, there are verbs which co-occur with more than one posture verb, of which *sien* ‘to see, look’ is the most common. However, in general, each posture verb shows a different pattern of co-occurring verbs. Notably, *zitten* in Middle Dutch (13th–15th century) and *liggen* in Middle and Early Modern Dutch (i.e. 13th–18th century) both show strong attachments to a single verb: *eten* ‘to eat’ and *slapen* ‘to sleep’, respectively. Meanwhile, *staan* does not show a strong orientation toward one verb. Instead, it co-occurs with various verb types, and each verb type accounts for a small share of the pie. This observation aligns with the higher HTRs and the corresponding wider lexical variety of *staan* compared the other posture verbs (cf. Table 2).¹⁰

Some examples of the verbs that frequently co-occur with *staan* are shown in (3).

- (3) a. ende hi **stont** midden onder die iongheren **ende seide**: vrede si
mit u. [500]
‘and he stood among the disciples and said: “Peace be with you”’
b. hier **staat** men nou **en kykt** [633]
‘one stands here and looks’

¹⁰ The co-occurrence pattern found here, i.e. that *staan* shows the widest variety, followed by *zitten* and then by *liggen*, is also found for the posture-verb progressive construction in Modern Dutch, as reported by Lemmens (2005: 197; cf. section 1.2.2.).

- c. Dar die iueden al sonder noet / **Stonden ende wachten** ihesus doet [2]
 'there, all the Jews without distress stood and waited for Jesus' death'

In Middle Dutch, *staan* frequently co-occurs with verbs of saying, such as *seggen* 'to say' and *spreken* 'to speak'. These verbs were commonly used to introduce reported speech in the Middle Dutch texts, i.e. as a quotative, as in (3a). *Staan* also co-occurs frequently with verbs of visual perception throughout the period under investigation, such as *sien* and *kijken* 'to look', as shown in (3b). The fact that *wachten* 'to wait' appears alongside *staan* in Table 3 is of particular interest, since this is the verb that most frequently co-occurs with *staan* in the Modern Dutch posture-verb progressive construction (cf. section 1.3.3.). The frequent co-occurrence of *wachten*, illustrated in (3c), thus suggests that the 13th/14th-century construction has some commonalities with the modern construction.

The co-occurrence pattern of *zitten* changes a great deal from Middle Dutch to Early Modern Dutch. Examples from the 15th and 18th centuries are given in (4a) and (4b), respectively.

- (4) a. Ende Benedap **sat ende at** mit sinen volc in der tenten [1329]
 'and Benedap sat and ate with his people in the tent'
 b. (...) de kamer, op welke ik u deezen **zit te schrijven** [1737]
 '(...) the room where I am sitting and writing this to you'

From the 13th to the 16th century, *zitten* shows a very strong preference for *eten* (accounting for 124 of 380 tokens). Considering that *drinken* 'to drink' also emerges as a frequently co-occurring verb, *zitten* apparently combines well with eating-and-drinking situations, as illustrated in (4a). In Early Modern Dutch, *zitten* co-occurs more often with verbs describing activities that take place at a table or desk, such as *lezen* 'to read' and *schrijven* 'to write' (4b). This change is probably related to changes in the real world: reading and writing were not common practice in the Middle Dutch period, but had become increasingly popular toward the latter half of the period studied. In other words, the change seems to reflect extra-linguistic factors.

Liggen apparently has a strong connection to *slapen*, as illustrated in (5), which is unsurprising considering that sleeping is typically done lying down, and that the purpose of lying down is often to sleep.

- (5) Mer si **liggen ende slapen** [1783]
 ‘but they lie and sleep’

In Middle Dutch, *liggen* was also used to refer to a person staying in a certain location, not necessarily in a lying posture, as in (6) with a frequently co-occurring verb *sien*.

- (6) ende galefier **lach** op sijn casteel **ende sachse** comen. [2145]
 ‘and Galefier was at his castle and saw them come’

In this example, it is possible that *lach* ‘lay’ could refer literally to a lying posture; however, based on the context, it is more reasonable to interpret the meaning as being that the agent remained in a certain place for a while.

Although *liggen* is still strongly linked to the verb *slapen* in the 17th and 18th centuries, it also frequently occurs with other verbs, albeit only once or twice per verb. The co-occurrence with verbs other than *slapen* is illustrated by the examples in (7).

- (7) a. Toen ik er uit het vaartuig op **lag te tuuren** [2218]
 ‘when I was lying and looking at it from the vessel’
 b. dat ik veeltyds in myn slaap overluid **lag te droomen** [2208]
 ‘that I often lay dreaming very loudly in my sleep’

Both *tuuren* (= *turen* ‘to look’) and *droomen* (= *dromen* ‘to dream’) are hapaxes, i.e. one-off cases, in Early Modern Dutch. The frequent occurrence of hapaxes (accounting for 34 of 55 tokens) certainly underlies the higher HTR of *liggen* in the 17th and 18th centuries compared to the other periods, as shown in Table 2 and Figure 3.

The increase in hapaxes with *liggen* and the higher HTR in the 17th and 18th centuries could be explained by the decrease in the use of *liggen* with a general locative meaning (cf. (6)), given that 90% of such cases are found between the 13th and 16th centuries (67 of 74 such instances). This decrease may thus reflect the verb’s stronger postural meaning in the 17th and 18th centuries, possibly resulting in a strong orientation toward *slapen* and just occasional co-occurrences with other verbs (cf. (7)). This situation would lead to a higher HTR in the later period, compared to the earlier period where the general locative meaning of *liggen* meant it was more easily combined with verbs other than *slapen*. In other words, the difference in HTR between Middle Dutch and Early Modern Dutch would reflect the (im)possibility of using *liggen* with a general locative meaning. In turn, this

means that the HTRs of *liggen* may not indicate any stages of grammaticalization, but may instead reflect the semantic development of the verb.¹¹

Some of the verbs that frequently co-occur with particular posture verbs, such as *slapen* with *liggen*, can be considered cases of natural coordination (cf. section 3.3.1.). These verbs not only combine well with the semantics of their associated posture verbs, but also seem to facilitate a composite interpretation of the verb sequence. The frequent co-occurrences with these verbs, therefore, could indicate semantic cohesion of the posture-verb construction. At the same time, it should be noted that natural coordination is a characteristic that is already present when the construction is still at the coordinate stage. Hence, there are frequent and possibly conventionalized co-occurrence patterns observed in the data that should be viewed as not only related to grammaticalization but also related to verbal coordination with posture verbs in general.

In sum, the analysis of the HTR suggests that *staan* goes through a phase (15th and 16th centuries) where the HTR is relatively low, suggesting therefore that the lexical diversity of the second verb was limited during this time period. This period may correspond to Stage 2 in the grammaticalization path; that is, when the construction was pseudo-coordinate and semantic cohesion between the verbs was important, as outlined in 3.3.2. The HTR of *zitten*, on the other hand, stays rather stable, indicating that the lexical diversity of the second verb remained basically unchanged; the frequently co-occurring verbs do change over time, but this probably reflects extra-linguistic developments. The HTR of *liggen* shows a similar pattern to that of *staan*, but this may reflect the semantic development of the verb and not necessarily the grammaticalization of the posture-verb construction. Lastly, there is some overlap in the verbs that frequently co-occur with the three posture verbs; however, there are also verbs that frequently co-occur with only one of the posture verbs (such as *eten* with *zitten* and *slapen* with *liggen*), which could be regarded as cases of natural coordination.

¹¹ Note that the reduction in the general locative use of *liggen* could also be linked to the relatively low overall frequencies of *liggen* in Early Modern Dutch compared to those of Middle Dutch (cf. Table 1 in 4.1.).

5.2.2 4.2.2. Hypothesis 2

In the course of grammaticalization, not only the lexical diversity (as discussed in the previous section) but also the semantic variety of the second verb is hypothesized to change. During the pseudo-coordinate stage (i.e. Stage 2 in Table 1 in 3.3.), the construction is expected to have been relatively strict in terms of semantic cohesion of the verbs and to have co-occurred more frequently with verbs that are semantically compatible with posture verbs. This would be evidenced by a temporary period of strong semantic compatibility between the posture verb and second verb (cf. section 3.3.2.). This expectation is formulated as Hypothesis 2.

Hypothesis 2

The proportion of second verbs that are semantically compatible with posture verbs shows a temporary increase at Stage 2.

As discussed in 3.4.1, semantic cohesion is assessed in terms of four features: (i) dynamicity, (ii) telicity, (iii) compatibility with the posture denoted by the posture verb, and (iv) movement.¹² Specifically, the verbs that match best with the semantics of posture verbs are dynamic as well as atelic, describe an event compatible with the posture indicated by the posture verb, and involve no movement from one point to another. See (8a) and (b) for examples with a semantically compatible and incompatible verb, respectively.

- (8) a. Na den etene **saten si ende spraken** / Weder ende vort van
menegen saken [1064]
'after the meal, they sat and spoke back and forth about many things'
- b. Dat ic hier **ligh en wroet** om sulcken cleynen huer [2177]
'that I lie here and work hard for such a small rent'

¹² The advantage of analyzing the data using these semantic features and not others (e.g. cognition verbs, verbs of saying) is that these features are relevant to aspect. For example, the verb *spreken* used as a quotative verb (e.g. *Paulus stont onder hem ghemeene / Ende sprac: Ghi heren van Athene!* [2025] 'Paulus stood together with them and said: "You men from Athens!"') can be regarded as telic, while it is atelic with a prepositional object as in (8a) in this section. The approach adopted here enables us to capture this difference and to provide detailed characterizations of the verbs in each context.

In (8a), *spraken* ‘spoke’ illustrates an atelic event of indeterminate duration that can happen in a sitting posture without change of place. The more grammaticalized the construction is, the more frequently we expect to find instances with less compatible features (i.e. stative, telic, incompatible with the posture, involving movement), as in (8b). In this example, the verb *wroeten* means ‘to work hard’, which is usually incompatible with a lying posture (cf. WNT headword *liggen*: 9).¹³

In the following, the results are first reported and described per verb, and then per semantic feature. Taking *staan* first, Table 4 presents the number of instances for each semantic feature and Figure 4 visualizes the corresponding proportions across the centuries.¹⁴

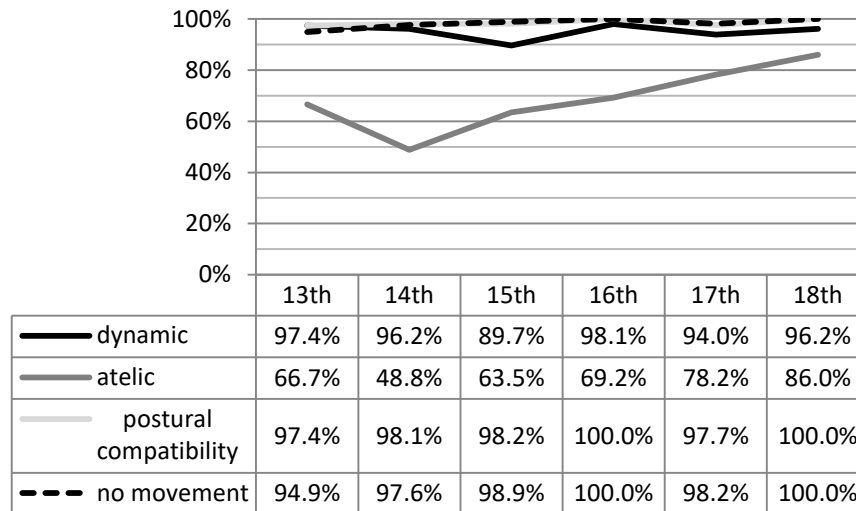
It is evident that, in general, the semantic features that are more compatible with the semantics of the posture verb (marked as ‘+’ in the table) are vastly more frequent than the less compatible or incompatible features (marked as ‘-’ in the table). In particular, the second verb is strongly restricted in terms of postural compatibility and movement throughout the period studied.

Table 4. The distribution per semantic feature for second verbs with *staan*

		13th	14th	15th	16th	17th	18th	sum
dynamic	+	38	203	253	51	203	151	899
	-	1	8	29	1	13	6	58
atelic	+	26	103	179	36	169	135	648
	-	13	108	103	16	47	22	309
postural compatibility	+	38	207	277	52	211	157	942
	-	1	4	5	0	5	0	15
no movement	+	37	206	279	52	212	157	943
	-	2	5	3	0	4	0	14

¹³ It could be the case that the general locative meaning of *liggen* (cf. (6)) facilitated the possibility to combine with a semantically incompatible second verb. At the same time, it should be remembered that the general locative use of *liggen* was not very common in the Early Modern Dutch period, where the example in (8b) comes from.

¹⁴ Note that the distribution is not necessarily characteristic of the posture-verb construction. Since we have no standard of comparison, this distribution may be typical of the entire verb vocabulary.

Figure 4. Semantic compatibility of second verbs with *staan*

In terms of dynamicity, there are more than 50 instances with the incompatible semantic feature (i.e. not dynamic), as illustrated in (9).

- (9) [s]i **stonden** te gader [...] **ende hadden** enen bliden Paesschen [4362]
 ‘they stood together [...] and had a cheerful Easter’.

In this example, the second verb *hadden* ‘had’ is a stative verb and denotes a temporal state of enjoying. As described in 3.3.1., the coordination with a stage-level predicate expressing a temporal state seems to be theoretically possible but marginally acceptable with posture verbs. Indeed, this type of co-occurrence pattern, with a sequence of a posture verb and a stative second verb, only accounts for 2–10% of the total number of instances, and no diachronic development can be observed.

Examples of verbs with the more compatible semantic features are given in (10).

- (10) a. hi **staet** agter di **ende siet** ter vensteren **ute** [105]
 ‘he stands behind you and looks out through the window’
 b. en daar gaa [*sic*] je **staan huilen** als een kind! [883]
 ‘and there you go standing and crying like a child!’

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In both examples, the second verb, i.e. *siet ... ute* (< *utesien*¹⁵ 'to look out') in (10a) and *huilen* 'cry' in (10b), describes an activity compatible with the standing posture and implies no change of place.

The data for telicity show a somewhat different picture. On average, about one-third of the instances (32%) take a telic second verb, as illustrated in (11).

- (11) Mozes zuster **stond** daar ook / **En riep** al: O wonder! [685]
 'Moses' sister also stood there and shouted "Oh wonder!"'

In this example, the utterance *O wonder!* indicates an endpoint for the shouting activity (i.e. *riep* 'shouted'). The proportions of atelic second verbs are especially low in the 14th century (48.8%), with a gradual increase toward the 18th century (86%). Using Fisher's exact test, it was established that the differences in frequency between the 14th and the 17th and 18th centuries are statistically significant ($p < 0.001$ for all cases).

Turning now to *zitten*, Table 5 presents the frequencies for each semantic feature and Figure 5 visualizes the corresponding ratios across the centuries.

The general trend for *zitten* is comparable with that for *staan*: the second verb almost always describes an activity that is compatible with the sitting posture and does not include change of place, as illustrated by the examples in (12).

- (12) a. Up enen dach **sat** Jhesus **ende leerde** in ene synagoge. [1220]
 'one day, Jesus sat and taught in a synagogue'
 b. Dan doe si thuus **sat ende span** [1215]
 'then, when she sat home and span'

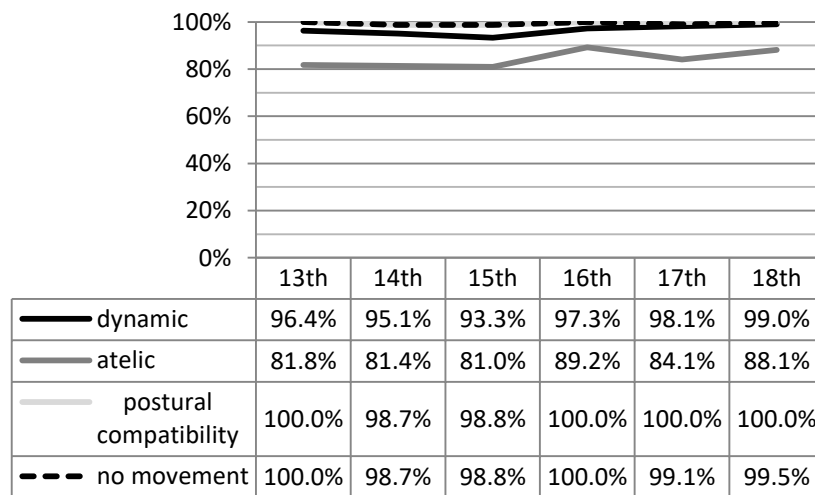
As with *staan*, the proportions of atelic second verbs are smaller compared to the other semantic features. Still, the proportions do not develop significantly over time, and the average proportion of verbs that are atelic (83.8%) is larger than that for *staan* (67.7%). See (13) for an example where *zitten* combines with a telic verb, *suchtede* 'sighed'.

- (13) Bruyn die **sat ende suchtede** ende steende [1305]
 'Bruin (the Bear) sat and sighed and moaned'

¹⁵ The expression after '<' shows the dictionary form of the preceding word.

Table 5. The distribution per semantic feature for second verbs
with *zitten*

		13th	14th	15th	16th	17th	18th	sum
dynamic	+	53	215	152	36	105	200	761
	-	2	11	11	1	2	2	29
atelic	+	45	184	132	33	90	178	662
	-	10	42	31	4	17	24	128
postural compatibility	+	55	223	161	37	107	202	785
	-	0	3	2	0	0	0	5
no movement	+	55	223	161	37	106	201	783
	-	0	3	2	0	1	1	7

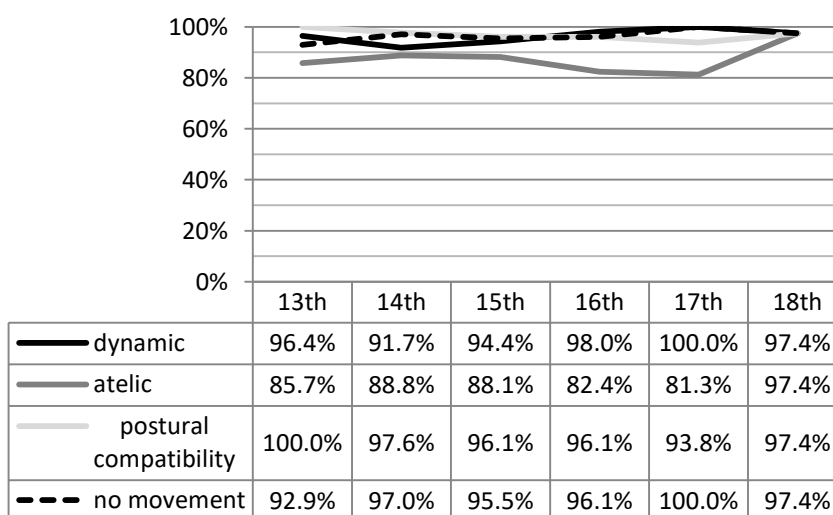
Figure 5. Semantic compatibility of second verbs with *zitten*

With all the semantic features, the proportions of instances with compatible semantic features remain above 81% throughout the period studied, which suggests that there is no diachronic development.

Turning lastly to *liggen*, Table 6 provides the numbers for each semantic feature and Figure 6 visualizes the diachronic developments.

Table 6. The distribution per semantic feature for second verbs
with *liggen*

		13th	14th	15th	16th	17th	18th	sum
dynamic	+	27	155	167	50	32	37	468
	-	1	14	10	1	0	1	27
atelic	+	24	150	156	42	26	37	435
	-	4	19	21	9	6	1	60
postural compatibility	+	28	165	170	49	30	37	479
	-	0	4	7	2	2	1	16
no movement	+	26	164	169	49	32	37	477
	-	2	5	8	2	0	1	18

Figure 6. Semantic compatibility of second verbs with *liggen*

According to the table and the graph, *liggen* presents a similar pattern to *zitten*. Similar to the other posture verbs, the second verb is generally a dynamic verb, and the event it expresses is mostly compatible with the postural meaning¹⁶ and does not include change of place. See (14) for

¹⁶ In 4.2.1., it was pointed out that *liggen* can be used as a general locative verb without referring to the lying posture. In annotation, whether *liggen* is used with or without a postural meaning did not affect the judgment of the compatibility with the posture. This is because the postural compatibility was always decided based on whether the event described by the second verb is compatible with the lying posture, regardless of how *liggen* can be interpreted.

examples involving second verbs with the more compatible semantic features.

- (14) a. Hy **lach en huylde** als een hont [2075]
 ‘he lay and cried like a dog’
 b. wanneer iemant in het gras **ligt te slaapen** [2222]
 ‘when someone lies sleeping in the grass’

Both *huylde* ‘cried’ in (14a) and *slaapen* (= *slapen*) in (14b) can be analyzed as atelic, dynamic verbs, describing an event without movement. *Slaapen* in (14b) in particular aligns well with the postural meaning of *liggen* and occurs frequently in V² position, as described in the previous section (4.2.1.).

In terms of telicity, the proportion of atelic second verbs is slightly lower than the proportions for the other semantic features (as seen in Figure 6). However, it is on average higher than the proportions of atelic verbs with the other posture verbs (87.9%). See (15) for an example where *liggen* combines with a telic verb, *schoot* ‘shot’.

- (15) Ick **lagh** in mijn gebedt, **en schoot** als uit den droom. [2192]
 ‘I lay in my prayer and suddenly awoke as if from a dream’

The percentage of instances where the second verb shows compatible semantic features remains above 81% across the board, suggesting an absence of diachronic development.

As is evident from Tables 4–6, the second verb is mostly semantically compatible with posture verbs throughout the period under study, and instances showing the incompatible semantic features are infrequent. Postural compatibility and movement are the most restricted features, in the sense that the second verb only very rarely shows postural incompatibility or involves movement from one point to another (0–7.1%). Dynamicity is less restricted, but instances with the more compatible feature dominate (89.9–100% of second verbs are dynamic). None of these three semantic features show diachronic developments. Turning to telicity, atelic verbs are generally more preferred than telic verbs, accounting for 68–88% of the instances for each verb on average; however, these proportions are lower than those of the other semantic features. In other words, in terms of semantic compatibility, telicity seems to play a more minor role compared to the other semantic features. As for diachronic development, for *zitten* and *liggen* the proportions of atelic verbs remain high throughout the period

under study; on the other hand, for *staan* the proportion increases from about 50% to 86% from the 14th to the 18th century.

This increase in the proportion of atelic verbs with *staan* seems to be linked to the frequent occurrence of verbs of saying in the earlier periods. As shown in the analysis of the HTRs (cf. Table 3), *staan* frequently co-occurs with such verbs in the 13th–16th century. Illustrative examples are provided in (16).

- (16) a. ende hi **stont** midden onder die iongheren **ende seide**: vrede si
mit u. ^[500]
'and he stood among the apostles and said, "Peace be with you"' (= (3a))
b. Mozes zuster **stond** daar ook / **En riep** al: O wonder! [685]
'Moses' sister also stood there and shouted, "Oh wonder!"
(= (11))

Example (16a) includes *seide* ‘said’, which is one of the verbs typically used as a quotative, and (16b) includes *riep* ‘shouted’; both of these are followed by an utterance, which could be regarded as temporally bounded and hence as a telic activity. Judging from the variation of the second verb (cf. Table 3), this quotative use of verbs of saying to express a telic activity was common in Middle Dutch (13th–16th century) but not in Early Modern Dutch (17th and 18th centuries). Therefore, the decrease in frequency of verbs of saying (and hence quotatives) seems to underlie the decreased co-occurrence of telic second verbs with *staen*.

In terms of the relatively limited role played by telicity in general, the results align with the semantic characteristics of the Modern Dutch posture-verb progressive construction. As described in 1.2.2., both telic and atelic verbs are accepted as the second verb in the modern construction, although atelic verbs are preferred. Moreover, the scene-setting function of posture verbs may also have an influence, in the sense that when posture verbs are used as lexical verbs in natural coordination, they can set an atelic timeframe for the described event (cf. section 3.3.1.). In this way, the verb sequence may acquire an atelic interpretation regardless of the aspectual profile of the second verb.¹⁷ These two points could underlie the relatively high proportions of telic verbs with the posture-verb construction throughout the period studied.

¹⁷ Note that this does not mean that the second verb always automatically receives an atelic interpretation (cf. (15)).

In summary, the analysis of the semantic properties of the second verb suggests that the construction did not change greatly in this respect; semantic cohesion is evident throughout the entire period. This conclusion is based on the observation that no particular period of increased semantic cohesion is observed in my data; in other words, there is no evidence of a temporary period of strong semantic compatibility between the verbs (cf. Hypothesis 2). Instead, the semantic compatibility of the verbs appears to have been important for the posture-verb construction throughout the period studied.

The patterns observed in the data therefore do not seem to reflect increasing grammaticalization, but rather reflect the general characteristics of coordination and the fact that the postural meaning of the construction is not fully bleached, as is also observed for the Modern Dutch posture-verb progressive construction. As presented in 3.3.1., coordination requires the two conjuncts to be semantically and/or pragmatically comparable, especially in the case of natural coordination. This characteristic of natural coordination seems to have imposed semantic restrictions on the construction with *en(de)*. For the *te* construction, the lack of full semantic bleaching in Modern Dutch seems to have been of influence: as described in 1.2.2., the modern construction still retains a link to the postural meaning of the posture verbs, which in turn places some semantic restrictions on complement verbs. In sum, it is plausible that these aspects give rise to semantic restrictions on the second verb throughout the grammaticalization path, and that this is reflected in the data as a consistently high proportion of instances where the second verb displays semantically compatible features.

5.2.3 4.2.3. Hypothesis 3

As grammaticalization proceeds, the connector *ende* is expected to occur more frequently in its phonologically reduced form *en* (cf. section 3.3.3.), as illustrated in (17).

- (17) Al op een beddeken soete ende sachte / **Liggen en slapen** twee
ghelieve [2119]
'on a comfortable and soft bed, two lovers lie and sleep'

In (17), the coordinating conjunction between the adjectives *soete* ‘comfortable’ and *sachte* ‘soft’ is realized as *ende*, whereas the connector between *liggen* and *slapen* is realized as *en*.

As described in 3.4.1., not only does the connector in the posture-verb construction undergo a change from *ende* to *en*, but there is also a lexical development of the coordinating conjunction *ende* to *en*. It is important to investigate the timing of both these developments. If the change from *ende* to *en* is found to begin earlier in the posture-verb construction than in other contexts, this could indicate that the change is internal to the construction; alternatively, if the change of *ende* to *en* in the posture-verb construction is found to occur simultaneously with or later than other contexts, this would suggest that the change observed in the posture-verb construction instead falls under the general development of the coordinating conjunction. Accordingly, the hypothesis is formulated as follows:

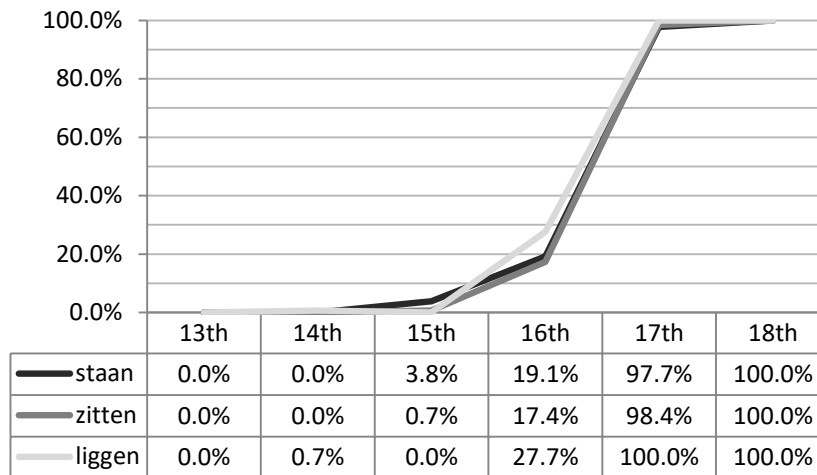
Hypothesis 3

The ratio of *en* (versus *ende*) as a connector increases with increasing grammaticalization. This increase precedes the general development of the coordinating conjunction from *ende* to *en*.

In what follows, a general overview of the distribution of the connector *ende* and *en* in the database is first presented. Since the hypothesis is not concerned with instances that have either *te* as connector or no connector at all, a subset of the data was extracted containing only the instances with either *ende* or *en* as a connector. This subset comprises 729 instances for *staan*, 505 for *zitten*, and 406 for *liggen*. The distribution of the instances per connector is presented below in Table 7, and Figure 7 visualizes the ratio of *en* (versus *ende*) over time.

Table 7. The distribution of instances with either *ende* or *en* as a connector

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	<i>ende</i>	39	209	251	38	3	0	540
	<i>en</i>	0	0	10	9	130	40	189
<i>zitten</i>	<i>ende</i>	51	209	140	19	1	0	420
	<i>en</i>	0	0	1	4	63	17	85
<i>liggen</i>	<i>ende</i>	27	152	148	34	0	0	361
	<i>en</i>	0	1	0	13	26	5	45

Figure 7. The distribution of instances with *en* versus *ende* as connector

The table clearly shows that the frequency of *ende* reduces over time, while that of *en* grows mostly from the 16th century. As evident from the table and the figure, the tipping point is between the 16th and the 17th century, where *en* starts to surpass *ende*. The table also shows a general decrease in the total number of instances with *ende* or *en* in the 18th century, as the construction further develops to take *te* as a connector in the last stage (cf. Figure 2).¹⁸

To verify whether the replacement of *ende* by *en* as a connector in the posture-verb construction precedes the change in form of the coordinating conjunction, it was first necessary to conduct an analysis to establish the development of the coordinating conjunction. To make this feasible, I opted to take a representative sample of instances of *ende* and *en* covering the period studied. One text was chosen per 50 years for each text genre.¹⁹ For

¹⁸ At the same time, instances with *en* never entirely vanish, since *en* can be used as a coordinating conjunction, which can also appear in the database.

¹⁹ Two text genres were distinguished for Middle Dutch, namely prose and verse, and three for Early Modern Dutch, namely non-fiction, drama and prose. This categorization is based on what the corpora provide (cf. section 2.3.), but the category 'prose and verse' for Middle Dutch was excluded. The exclusion is due to the temporally limited distribution of the texts included in this category (cf. Table 3 in section 2.4.). See Appendix C for the list of the names of the texts used. The timeframe of 50 years is used with the aim of distributing the publication years of the texts as much as possible. The results are integrated into the timeframe per century for the sake of comparison.

every text, the first 100 occurrences of each of the forms *ende* and *en* were assessed for whether the word was functioning as a coordinating conjunction. *En* was, for example, a common negator in Middle Dutch, as shown as (18), which accounts for most of the occurrences of *en* in this period.

- (18) Hi sat ende dacht, ende **en** at niet [1298]
 'he sat and thought and did not eat'

Such instances are not included in the comparison. Since the intention of the analysis is to compare cases in the posture-verb construction and elsewhere, the instances which are already included in the database as a (possible) case of the posture-verb construction were also excluded from the sampling.

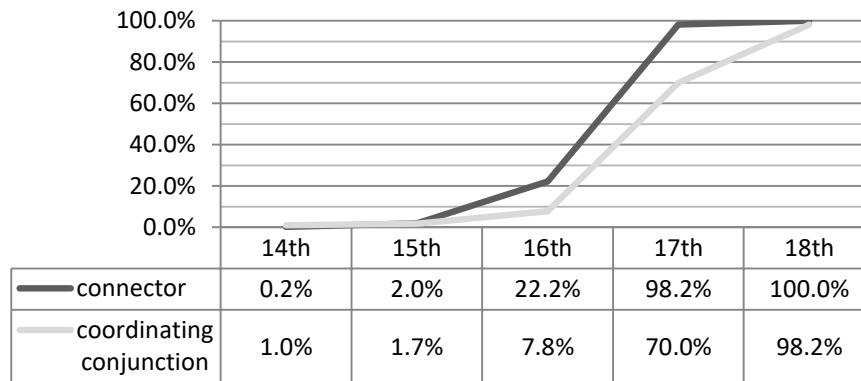
Table 8 presents the number of times that *en* and *ende* are used with a coordinating function in the sample, separated by century. Since the first instance of *en* as a connector is from the 14th century, the sample covers data from the 14th century and later. Note that the frequency of *ende* decreases diachronically, and it was not always possible to find 100 cases of this word form in the 17th and 18th centuries.

Table 8. Frequency of the coordinating conjunction
 in the form of *ende* or *en*

	14th	15th	16th	17th	18th
<i>ende</i>	398	399	400	218	11
<i>en</i>	4	7	34	509	599

As can be seen in the table, there is a clear reduction of frequency for *ende* from 398 to 11 instances, contrary to *en*, which shows an increase from 4 to 599 instances.

Figure 8 below compares the proportion of instances of *en* (versus *ende*) used as a connector (in the posture-verb construction, cf. Table 7) and used as a coordinating conjunction (outside the posture-verb construction, cf. Table 8).

Figure 8. Proportion of *en* (versus *ende*) as connector and as coordinating conjunction

As can be observed from the graph, *en* as a coordinating conjunction is also observed from the 14th century; this suggests that the emergence of *en* as a connector does not precede that of *en* as a coordinating conjunction. At the same time, the proportion of *en* as a connector increases faster than that of *en* as a coordinating conjunction. In the 17th century, the connector is almost always realized as *en* (98.2%) rather than *ende*, while the coordinating conjunction reaches a comparable percentage (98.2%) a century later, i.e. in the 18th century. In short, the figures seem to suggest that the replacement of *ende* by *en* proceeded faster for the connector than for the coordinating conjunction.

Reflecting on the hypothesis, the simultaneous onsets of *en* as a connector and as a coordinating conjunction could indicate that the replacement of the connector *ende* by *en* is not internal to the posture-verb construction. At the same time, the faster phonological reduction of the connector may suggest that the constructional environment facilitated the change.

We may speculate as to why the construction might be a conducive environment for the reduction of *ende*. For example, in a typical pseudo-coordinate structure with monosyllabic verb pairs, such as *lag en sliep* 'lay and slept' and *zat en at* 'sat and ate', the combination of stressed verbs and an unstressed connector leads to the sequence [stressed – unstressed – stressed]. This might facilitate phonological reduction of the connector, especially in rhyming texts (cf. footnote 26 in Chapter 1). At the monoclausal stage of the construction, the function of the connector as a verb introducer (i.e. a function word) might have further facilitated reduction. Alternatively,

regional differences could have played a role: for example, perhaps the construction mainly developed in a region where *ende* was reduced to *en* earlier than other regions. In short, there are various possible reasons for why *ende* was replaced by *en* faster as a connector than as a coordinating conjunction.

In conclusion, the replacement of *ende* with *en* in the posture-verb progressive construction cannot be seen as a construction-internal development. On the other hand, it seems that the replacement progressed faster for the connector than for the coordinating conjunction, possibly indicating that the construction facilitated the development from *ende* to *en*.

5.2.4 4.2.4. Hypothesis 4

As the posture-verb construction became more grammaticalized and was interpreted as having a monoclausal structure, *en(de)* lost its original status as a coordinating conjunction. One of the possible consequences of this development, based on the literature, is that the conjunction developed into an infinitive marker that combined with a second verb in the infinitive, similar to the infinitive marker *te* that would later come to replace it (cf. section 1.3.3.). In the resulting structure [PV_{fin} *en(de)* V_{2inf}], a disagreement in inflection is observed between the finite posture verb and the infinite second verb.

The disagreement in inflection in the construction with *en(de)* is expected to emerge in the latter phase of its development (cf. section 3.3.3.) and increase in proportion as grammaticalization proceeds. This expected finding is summarized by Hypothesis 4.

Hypothesis 4

The proportion of instances of the type [PV_{fin} *en(de)* V_{2inf}] increases with increasing grammaticalization.

The database for this research contains a very limited number of instances that possibly show this phenomenon (one for *staen*, one for *zitten*, four for *liggen*). Three of the six attested instances occur in Middle Dutch with *liggen*; these are presented here in (19). Example (19a) is from the 14th century and (19b) is from the 15th century (note that (19a) includes two instances, one with *laghen ende vaen* lit. ‘lay and catch’ and the other with *laghen ende eten* lit. ‘lay and eat’).

- (19) a. Want si **laghen ende vaen** / Die dulle vissce **ende eten** saen
[1887, 1888]
‘because they lay and caught the foolish fish and ate quickly’
b. so **laghen** si op hoor eten **en brassen** mit gulsicheit [2100]
‘they lay on their meal and banqueted with greediness’

The fact that the two second verbs both appear in the infinitive in (19a) suggests that the infinitive form is chosen intentionally, but the fact that they share one posture verb also indicates that they do not constitute independent choices. Of these two examples, only (19a) rhymes (in *-aen*). All of the presented instances take a plural subject *si* ‘they’, which means that the second verbs can theoretically also be interpreted as being in the present tense plural form, which formally overlaps with the infinitive. However, there is no compelling reason why the second verbs would be in the present tense while the associated posture verbs are in the past tense. Therefore, it seems more plausible to interpret the second verbs as being in the infinitive.

The other three instances appear in Early Modern Dutch texts, and are presented here as (20). All three are rhyming.

- (20) a. Om dat myn oudt Oóm daar so langhe **stont en drenten** [744]²⁰
‘because my old uncle stood there for a long time and tarried’
b. op 't outaar, daar 't vyer op **lach en branden** [2201]
‘on the altar, on which the fire lay and burned’
c. 'tlijckt aers of ghy **sat en suften** [1532]
‘it looks otherwise as if you sat and sighed’

In these examples, the posture verb is in the singular form in the past tense, while the second verb can be interpreted as having either the plural present tense form or the infinitive form. The former option is highly unlikely considering that the coordinated verbs would then disagree in both tense and number with the posture verb, and in number with the subject. Meanwhile, if we interpret the second verb as an infinitive, there is disagreement in finiteness between the posture and the second verb. Alternatively, it is possible to analyze the second verb as a spelling variation of the past tense plural form, for example interpreting *suften* (= *zuchten* ‘to sigh’) in (20c) as a variant of *suftten* (= *zuchtten*). In this case, there would be a number disagreement between the posture verb and the second verb.

²⁰ The WNT (headword *drentelen* ‘to tarry’) points out that the form *drenten* is a case of back-formation from *drentelen*, probably for the sake of rhyme.

The rare occurrence of such instances—where a possibly infinitive second verb combines with a finite posture verb—leads us to assume that this phenomenon does not represent a systematic development of the posture-verb construction. Instead, these instances might represent cross-contaminations between the old and new type of construction. In other words, the structure of the old type of construction with the [*en(de)* V²_{fin}] phrase may have been influenced by the new type of construction with the [*te* V²_{inf}] phrase, possibly resulting in the mixed phenomenon of the connector *en(de)* with an infinitive second verb (i.e. [*en(de)* V²_{inf}]). On the other hand, instances with the [*en(de)* V²_{inf}] phrase are not restricted to the latter half of the period studied (cf. (20)); that is, they are attested earlier than the period when the new type of construction with *te* gained popularity according to the literature. Another possible account is that the examples showing a [PV_{fin} *en(de)* V²_{inf}] structure derive from specific regions where this phenomenon was common, as in modern West Flemish dialects (cf. section 1.2.3.). The distribution of the instances in my database, however, is too sporadic to support further discussion of distribution per period or region.

5.2.5 4.2.5. Hypothesis 5

As indicated in the literature (cf. section 1.3.3.), the connector *en(de)* is thought to have been replaced by the infinitive marker *te* in the 17th century. This point is also investigated here to assess whether the change took place with the expected timing in my database.

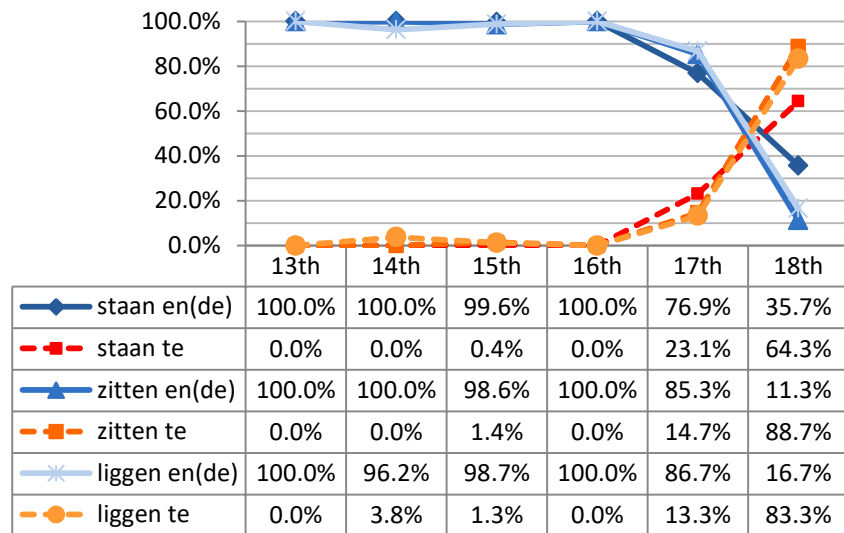
Hypothesis 5

In the 17th century, the proportion of *en(de)* as a connector decreases while *te* increases.

For the analysis, all instances with a connector were extracted. The extracted sample comprises 842 instances for *staan*, 651 for *zitten*, and 450 for *liggen*. Table 9 presents the numbers of instances with *en(de)* or with *te*, and Figure 9 visualizes the change in the ratio between *en(de)* and *te* over time.

Table 9. The distribution of instances with the connector *en(de)* or *te*

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	<i>en(de)</i>	39	209	261	47	133	40	729
	<i>te</i>	0	0	1	0	40	72	113
<i>zitten</i>	<i>en(de)</i>	51	209	141	23	64	17	505
	<i>te</i>	0	0	2	0	11	133	146
<i>liggen</i>	<i>en(de)</i>	27	153	155	47	26	5	413
	<i>te</i>	0	6	2	0	4	25	37

Figure 9. Ratio of instances with the connector *en(de)* or *te*

With all three posture verbs, instances with *en(de)* decrease toward the 18th century. Instances with *te*, meanwhile, appear primarily from the 17th century, eventually dominating over *en(de)* in the 18th century with all three verbs. Although infrequently, some cases with *te* are found already in Middle Dutch with a possible progressive reading, as shown in (21) (note that (21a) includes two instances, one with *sat te etene* lit. 'sat to eat' and the other with *sat te drinckene* lit. 'sat to drink').

- (21) a. ende tfolc **sat te etene** ende **te drinckene** [1264, 1265]
 'and the people sat to eat and to drink' / 'and the people were sitting eating and drinking'

- b. Ende eens centurioes knecht was qualeke hebbende ende **lach te stervene** [1804]
 ‘and once, the centurion’s servant was sick and lay to die’ / ‘and once, the centurion’s servant was sick and lay dying’

The first example, from the 15th century, derives from the book of Exodus (3: 6), which describes people holding a banquet. The second instance, from the 14th century, comes from the Gospel of Luke (7: 2), describing a sick person dying. In these two examples, it is not possible to exclude a purpose interpretation (i.e. ‘in order to eat/drink’) or a resultative one (i.e. ‘fated to die’) of the *te* phrase,²¹ but a progressive interpretation is also not ruled out, as indicated in the translation.

To conclude, the data reflect the expected development from the *en(de)* construction to the *te* construction. The timing of the change coincides with observations in the literature: the former was still frequent in the 17th century until it was superseded by the latter in the 18th century.

5.2.6 4.2.6. Summary of the analyses concerning the verbal complex

In short, the general development of the posture-verb construction from the old type with *en(de)* to the new type with *te* is confirmed by the analysis here (4.2.5.). According to the data, the old type decreased in frequency in the 17th and 18th century, while the new type increased in the same period, overtaking the old type in the 18th century.

Specifically for the old construction, it was further expected that the connector *ende* would be phonologically reduced to *en* (4.2.3.) and that the connector would function as an infinitive marker (4.2.4.). For the first point, the reduction of *ende* to *en* certainly took place during the period under study, and in fact proceeded faster than the replacement of *ende* by *en* as a coordinating conjunction. At the same time, the evidence does not indicate that this was a construction-internal development, although the construction seems to have accelerated the change. For the use of the connector *en(de)* as an infinitive marker, instances with a second verb (possibly) in the infinitive following a finite posture verb are found only sporadically, indicating that there was no structural development in this respect. Since the connector did not acquire the function of infinitive marker, the *en(de)* construction remains

²¹ See Bogaards (2019: 43-49) on the modern Dutch posture-verb construction with a past participle that has a resultative meaning.

formally comparable with a regular coordinate sentence except when the underlying monoclausal structure is clearly marked (e.g. by objects of the second verb being placed before the connector).

With regard to the semantic cohesion of the verbal complex, which was expected to strengthen at the pseudo-coordinate stage of the construction, the analyses present a mixed picture. The analyses of the HTR in 4.2.1. suggest that the 15th–16th century could correspond to the pseudo-coordinate stage of the construction, at least in the case of *staan*, which shows a relatively low HTR and a corresponding limited lexical variety of the second verb. In 4.2.2., on the other hand, it was found that the semantic properties of the second verb had not undergone much development, indicating that no particular period involved stronger semantic cohesion than other periods. The consistently strong semantic compatibility between the posture verb and the second verb could be attributed to the general characteristics of natural coordination. It simultaneously suggests consistency in the spatial semantics of posture verbs over the centuries, which in turn imposed semantic restrictions on the second verb. Further discussion of the correspondence between the observed data and the degree of grammaticalization will follow in 4.5., taking the results for the hypotheses on the noun (4.3.) and the modifier (4.4.) into consideration.

5.3 4.3. Noun

5.3.1 4.3.1. Hypothesis 6

The posture-verb construction with *en(de)* is hypothesized to start as an ordinary coordinate structure, which means that, at the very beginning of the grammaticalization path (cf. section 3.3.1.), there would have been freedom to realize the subject of the second verb as shown in (22a).²² This possibility is expected to be lost when the *en(de)* construction has a monoclausal structure, presumably resulting in a structure like (22b) with one subject (here, *dye heeren ende vrouwen* ‘the men and the women’) for the posture verb and the second verb.

²² Note that coordination of two events with different agents (e.g. *hij zat bij het raam en zij stond in de keuken* ‘he sat by the window and she stood in the kitchen’) is possible but is not included in the database for this research (cf. section 2.2.3.).

- (22) a. Si **saten ende si aten** [1127]
 'they sat, and they ate'
 b. ende hi quam inder salen daer dye heeren ende vrouwen **saten ende aten** [1421]
 'and he came into the hall where the men and women sat and ate'

If the coreferential subject for the second verb was not realized except in the period where the construction was coordinate, the proportion of instances with an overt subject for the second verb will decrease as the construction becomes more grammaticalized. This expectation is stated in Hypothesis 6.

Hypothesis 6

In instances of the *en(de)* construction, the proportion of overt subjects for the second verb decreases in the course of grammaticalization.

Table 10 presents the distribution of instances with and without an overtly realized subject for the second verb in the *en(de)* construction.

Table 10. The distribution of instances with and without an overt subject of the second verb in the *en(de)* construction

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	with	0	2	4	0	0	1	7
	without	39	207	257	47	133	39	722
<i>zitten</i>	with	0	9	5	0	0	0	14
	without	51	200	136	23	64	17	491
<i>liggen</i>	with	0	7	2	0	0	0	9
	without	27	146	153	47	26	5	404

As can be seen in the table, the numbers of relevant instances are very low and mostly restricted to the 14th and 15th centuries (29 of 30 instances). Note, however, that these two centuries are the periods with the most data in the first place.

Two examples with an overt subject for the second verb are shown in (23) with the subjects underlined. Note that (23b) rhymes, and the subject pronoun (*si* 'she') is possibly inserted for the sake of meter.

- (23) a. Ende also dit spraken, **stont** Ihesus in midden hen **ende** hi **seide**
 hen (...) [155]
 ‘and when they spoke about this, Jesus stood among them, and
 he said to them’
- b. Daer die vrouwe ten venstren **lach** / **Ende** si den ridder comen
sach [1934]
 ‘when the woman lay at the window, and she saw the knight
 come’

Although such instances are found in the data, the major trend is that only the posture verb takes an overt subject, as shown in (22b). Additionally, the number of such instances (i.e. 30 instances in the entire database) is arguably too small to provide conclusive evidence on the diachronic development of the construction in this respect.

5.3.2 4.3.2. Hypothesis 7

With increasing grammaticalization of the *en(de)* construction, not only the subject but also the object is hypothesized to behave differently. As outlined in Chapter 3, two developments are expected in this respect: object extraction, and objects of the second verb being placed before the connector. In the following, I first discuss object extraction, before turning to objects before the connector in the next sections (4.3.3. & 4.3.4.).

Object extraction refers to a phenomenon whereby the (in)direct or prepositional object of the second verb is extracted and placed in clause-initial position, as shown by (24) (cf. sections 2.2.1. & 3.4.2.).

- (24) (...) waar op een ieder **zit en peinst** [1557]
 ‘(...) upon which each sits and thinks’

In this example, the prepositional phrase associated with the second verb (*peinst* ‘thinks’) is extracted to the clause-initial position, in the form *waar op* ‘upon which’.

As presented in 3.3.2., object extraction is already possible when the first verb is quasi-auxiliary, meaning that the occurrence of this phenomenon is not a strong indication of the auxiliation of posture verbs. Nonetheless, it reflects the fact that the verb is starting to lose its status as a full lexical verb, since object extraction is not possible with regular coordination (cf. (3b) in

2.1.1.). As the phenomenon is linked to somewhat auxiliarized posture verbs, it is expected to appear more frequently as grammaticalization proceeds and as posture verbs become more auxiliarized. This expectation is formulated as Hypothesis 7.

Hypothesis 7

In the *en(de)* construction, the incidence of object extraction increases in the course of grammaticalization.

All the instances of the *en(de)* construction where the second verb has no (in)direct or prepositional object/objects were excluded from the data, resulting in a subset with 693 instances. Table 11 shows the absolute frequency of instances with and without object extraction in this subset.

Table 11. The distribution of instances with object extraction
in the *en(de)* construction

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	with	0	0	0	0	1	0	1
	without	19	119	135	17	48	19	357
<i>zitten</i>	with	0	0	0	0	0	2	2
	without	23	86	62	4	23	8	206
<i>liggen</i>	with	0	0	0	0	1	0	1
	without	8	57	42	13	4	2	126

As can be seen in the table, instances with object extraction are very infrequent in the dataset (one instance for *staan*, two for *zitten*, and one for *liggen*). All four instances occur in the period of Early Modern Dutch (17th and 18th centuries). In addition to the example shown in (24) from the 18th century, (25) provides an example from the 17th century.

- (25) Siet aen myn slinckerhant: waer na **staen** wy **en drieghen**? [743]
'look at my left hand: what do we stand and wait for?'

In this example, the prepositional phrase associated with the second verb *drieghen* 'tarry, delay' is placed in clause-initial position in the form *waer na* (= *waarnaar* 'for what').

Since object extraction with *en(de)* is still attested in the 18th century, specifically with *zitten* (see (24a) for an example), the construction with *en(de)* may have still retained its meaning and function as a progressive

construction in the 18th century. On the other hand, given that instances with object extraction are rare in the database, it is difficult to draw valid conclusions about the diachronic development of this phenomenon.

5.3.3 4.3.3. Hypothesis 8

Besides extraction of the object, the placement of the unextracted object is also thought to reflect the auxiliation of posture verbs. In a monoclausal structure, objects of the second verb may be placed before the connector and after the posture verb, as presented in 3.3.3. This is illustrated in (26) with the object underlined.

- (26) Een waterlantsche Trijn **sat** eens ajuyen **en** **schelde**.
 ‘a girl from Waterland once sat and peeled onions’
 (= (18a) in Chapter 1)

In this example, the object *ajuyen* (= *ajuin* ‘onion’) of the second verb (*schelde* ‘peeled’) is placed before the connector *en*. This phenomenon will henceforth be referred to as a preposed object.

In ordinary coordination with a biclausal structure, objects of the second verb are normally placed after the second verb, as illustrated by (27).

- (27) Ende hi **stont** boven hare **ende gheboot** den coorts [56]
 ‘and he stood over her and ordered the fever (away)’

In this example, the object *den coorts* ‘the fever’ of the second verb *gheboot* ‘ordered, commanded’ is placed after the second verb. This sentence pattern is expected to be observed for a biclausal structure, while those like (26) indicate a monoclausal one involving a clause bracket (cf. section 3.3.3.). Therefore, the placement of objects after the posture verb and before the connector, as in (26), is expected to occur when the construction has a monoclausal structure, and to grow in frequency with increasing grammaticalization. This expectation is formulated as Hypothesis 8.

Hypothesis 8

In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of objects after the posture verb and before the connector increases in the course of grammaticalization.

The analysis is conducted with a subset of the data comprising only instances with *en(de)* as a connector and a posture-verb non-clause-final word order, and where the second verb has one or more objects associated with it. This subset contains 478 instances.

Table 12 presents the number of instances with and without a preposed object in the posture-verb non-clause-final word order.

Table 12. The distribution of instances with (non-)preposed object(s) in the posture-verb non-clause-final word order

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	preposed	0	1	1	1	2	0	5
	non-preposed	10	87	100	14	36	13	260
<i>zitten</i>	preposed	0	0	0	0	2	0	2
	non-preposed	17	55	41	2	12	7	134
<i>liggen</i>	preposed	0	0	0	0	0	0	0
	non-preposed	4	33	25	10	3	2	77

The number of instances with a preposed object (i.e. [PV Obj *en(de)* V²]) is very limited, with five instances for *staan*, two for *zitten* and none for *liggen*. An example with *zitten* is given in (28).

- (28) u Vader is geseten / Al aen de tafel Heer, en **sit na u en wacht**
[1528]
 ‘your father is seated already at the table, sir, and sits and waits for you’

In this example, the prepositional object *na u* ‘for you’ of the second verb *wacht* ‘waits’ is placed before *en wacht*, suggesting the existence of a middle field between *sit* ‘sits’ and *en* and indicating that the sentence has a monoclausal structure. Note, however, that this example comes from a text with rhyme and meter. Overall, such instances appear to be infrequent during the period studied.

A question arises as to whether this sporadic occurrence of preposed objects is characteristic of the *en(de)* construction or whether it can also be observed with the *te* construction. If the word order [PV Obj C V²] does not differ in frequency between the *en(de)* and the *te* construction, then the phenomenon may still count as evidence—albeit weak—that the *en(de)* construction has a monoclausal structure (as the *te* construction is more

strongly associated with a monoclausal structure).²³ On the other hand, if it is frequent for the *te* construction but not for the *en(de)* construction, this is a good indication that the *te* and *en(de)* constructions are different in terms of their structure; in particular, that the *en(de)* construction is generally biclausal (cf. section 3.4.2.). In order to investigate this point, the rates of instances with a preposed object in the *en(de)* and the *te* construction will be compared here.

Table 13 provides the number of instances where object(s) are preposed and where they are not, per connector. When interpreting the table, it is important to note that in the posture-verb non-clause-final word order there is an overall difference in the frequency of the *en(de)* versus the *te* construction (548 and 60 instances respectively for *staan*, 308 and 83 instances for *zitten*, and 216 and 16 instances for *liggen*).²⁴

Table 13. Distribution of instances with (non-)preposed object(s)
per connector

	<i>staan</i>		<i>zitten</i>		<i>liggen</i>	
	<i>en(de)</i>	<i>te</i>	<i>en(de)</i>	<i>te</i>	<i>en(de)</i>	<i>te</i>
preposed object(s)	5	10	2	19	0	0
non-preposed object(s)	260	6	134	8	77	0

As can be seen in the table, the numbers of instances of the *te* construction with preposed object(s) are more frequent compared to those with non-preposed object(s), at least for *staan* and *zitten*. This trend contrasts with that of the *en(de)* construction, which has more instances where the object is after the connector, i.e. not preposed, for all posture verbs. The data thus appear to suggest that the two constructions are different in terms of the placement of the object of the second verb; only the *te* construction occurs frequently with a preposed object. As outlined above, this distributional difference

²³ Recall also that the position of the object between the posture verb and the connector (i.e. [PV Obj *te* V²]) is the only possible placement of (in)direct objects in the *te* construction (cf. (13) in 3.4.2.).

²⁴ Although the trend that the *en(de)* construction has more instances than the *te* construction is common to all posture verbs, the proportions of instances with an object differ between the verbs. *Zitten* shows no difference between the constructions: both are accompanied by the object in about one-third of cases. *Staan* and *liggen*, meanwhile, take an object more frequently in the *en(de)* construction (265 of 548 instances for *staan* and 72 of 216 instances for *liggen*) than in the *te* construction (16 of 60 instances for *staan* and 0 of 16 instances for *liggen*). This observation can probably be linked to the development of frequent co-occurring verbs presented in 4.2.1.

could be linked to the difference in the structure of the constructions. Since the sentence pattern [PV Obj C V²] can be linked to a monoclausal structure, the data seem to indicate that the *en(de)* construction can only rarely be interpreted as monoclausal and is mostly treated as biclausal. However, the limited frequency of instances of instances with preposed objects and *en(de)* as connector makes it difficult to test the hypothesis.

5.3.4 4.3.4. Hypothesis 9

The second hypothesis regarding the placement of the object in the *en(de)* construction concerns instances where the posture verb is clause final, i.e. with a posture-verb clause-final word order. For this word order, a development has been proposed in section 3.4.2. involving three stages, as illustrated in the examples in (29) with the objects underlined.

- (29) a. Die sieke sal recht **staen ende hem recken** [296]
‘the sick person shall stand upright and stretch out’
b. daer hi eens nachts **lach gode ende bat** [1765]
‘when he lay and prayed to God one night’
c. Want ic **mi ligge ende aisiere** / Met groten rasten bi den viere
[1876]
‘because I was lying and resting myself very peacefully by the fire’

In ordinary coordination, as shown by (29a), the reflexive pronoun *hem* (= *zich* 'himself') belonging to the second verb *reken* 'to stretch out' is placed between *ende* and *reken*. (29b) shows that the object *gode* (= *god* 'god') of the second verb *bat* 'prayed' occupies the position before the connector *ende* and after the posture verb *lach* (= *lag* 'lay'). Such an instance is supposed to represent an intermediate stage in the formation of a monoclausal sentence pattern like (29c), in which the reflexive pronoun *mi* 'myself' of the second verb *aisiere* 'rest, restore' is placed before the whole verbal complex. Note that it is possible to place a prepositional object after the second verb in both a bi- and a monoclausal structure (cf. (16b & e) in 3.4.2.), meaning that the [PV C V² Obj] order is not indicative of structure.

In short, the development from a structure like (29a) through (29b) to (29c) is expected, as formulated as Hypothesis 9.

Hypothesis 9

In instances of the *en(de)* construction with the posture verb in clause-final position, objects are increasingly likely to appear before the connector in the course of grammaticalization:

- a) Placement of objects between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);
- b) Placement of objects before the posture verb (i.e. in the middle field) increases at a constant rate.

The analysis is conducted with the subset of data that includes only instances with *en(de)* as a connector in the posture-verb clause-final word order and where the second verb has one or more objects associated with it. This subset contains 214 instances. Table 14 gives an overview of the distribution of instances that have one or more objects appearing before the second verb.

Table 14. The distribution of instances with objects in the *en(de)* construction in the posture-verb clause-final word order

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	[PV <i>en(de)</i> Obj V ²]	2	15	14	0	6	4	41
	[PV Obj <i>en(de)</i> V ²]	0	0	0	0	0	0	0
	[Obj PV <i>en(de)</i> V ²]	0	1	3	0	1	0	5
<i>zitten</i>	[PV <i>en(de)</i> Obj V ²]	0	10	11	0	1	1	23
	[PV Obj <i>en(de)</i> V ²]	0	0	0	0	0	0	0
	[Obj PV <i>en(de)</i> V ²]	0	0	0	1	4	0	5
<i>liggen</i>	[PV <i>en(de)</i> Obj V ²]	1	13	8	1	1	0	24
	[PV Obj <i>en(de)</i> V ²]	1	0	0	1	0	0	2
	[Obj PV <i>en(de)</i> V ²]	0	1	0	0	0	0	1

The word order [PV *en(de)* Obj V²] is the most frequent with all the verbs, accounting for about 80–90% of all cases. An example with this structure is given in (30). Note that the verb *bat* ‘begged’ rhymes with *sat* ‘sat’ in the previous line.

- (30) Enen man, die daer met crocken **sat** / **Ende** om almoessene daer
bat [1107]
 ‘a man, who sat there with crutches and begged there for alms’

In this instance, after the posture verb *sat* ‘sat’, the prepositional object *om almoessene* ‘for alms’ of the second verb *bat* ‘begged’ is placed between the connector and the second verb; this represents the normal word order with coordination in a subordinate clause.

In contrast, the structures with the object before *en(de)* ([PV Obj *en(de)* V²] and [Obj PV *en(de)* V²]) are very limited in frequency (five instances for *staan*, five for *zitten* and three for *liggen*). In particular, the sentence pattern [PV Obj *en(de)* V²] is only found twice, both times with *liggen* in combination with *wachten* ‘to wait’. An example of each word order is given in (31).

- (31) a. ende dye int bedde **leyt na u en wacht**, dats die duvel Belial
[2159]
‘and the one that lies in bed and waits for you, that is the devil Belial’
- b. Daer die aertsebiscop Durbrices / **Na hem daer stont ende wacht**
[337]
‘where the Archbishop Dubricius stood there and waited for them’

Example (31a) shows the word order [PV Obj *en(de)* V²], in which the prepositional object *na u* ‘for you’ of the second verb *wacht* ‘waits’ is placed between the posture verb and the connector. In my database, this instance and the instance given in (29b) are the only ones found with this structure. (31b) illustrates the pattern where the object *na hem* ‘for him’ is placed before the whole verbal complex ([Obj PV *en(de)* V²]), which is thought to represent the most grammaticalized form. Although each pattern is attested at least once in my dataset, the major trend—particularly in the Middle Dutch period—is that the object is placed between the connector and the second verb (88 of 101 instances), as shown in (30).

In line with the previous hypothesis (cf. section 4.3.3.), the findings are compared with those of the *te* construction. Table 15 presents the number of instances in each sentence pattern per connector.

Table 15. Distribution of instances with objects in the different posture-verb clause-final sentence patterns, per connector

	[PV C Obj V ²]		[PV Obj C V ²]		[Obj PV C V ²]	
	<i>en(de)</i>	<i>te</i>	<i>en(de)</i>	<i>te</i>	<i>en(de)</i>	<i>te</i>
<i>staan</i>	41	0	0	1	5	11
<i>zitten</i>	23	0	0	4	5	21
<i>liggen</i>	24	0	2	0	1	3

As can be seen in the table, the *en(de)* construction is more frequent with the [PV C Obj V²] order (the leftmost column), while the *te* construction occurs more often in the [Obj PV C V²] order (the rightmost column). In other words, the *en(de)* construction occurs more often in a sentence pattern typical of a biclausal structure (cf. (29a) & (30)) and the *te* construction more often in a word order associated with a monoclausal structure (cf. (29c) & (31b)). Therefore, on this basis, there is little reason to consider the *en(de)* construction monoclausal, especially in comparison with the unambiguously monoclausal *te* construction.

To conclude, the analysis of the placement of objects in the posture-verb clause-final word order suggests that the *en(de)* construction is biclausal rather than monoclausal, although a monoclausal word order ([Obj PV *en(de)* V²]) is not impossible according to the data. This result aligns with what we have seen in the previous section (4.3.4.) for the placement of objects in the posture-verb non-clause-final word order. With regard to the diachronic perspective, no indications of historical development are found.

5.3.5 4.3.5. Summary of the analyses concerning the noun

The analyses concerning the noun of the *en(de)* construction suffer from a general lack of relevant instances. Throughout 4.3.1.—4.3.4., it was difficult—if not impossible—to find solid evidence for any specific diachronic development of the phenomena studied. In 4.3.1., it was demonstrated that most instances do not overtly realize a subject for the second verb, meaning that it was not possible to confirm the expected development, i.e. from frequent realization of the subject of the second verb in coordination to infrequent realization in pseudo-coordination. This could imply that the development from a coordinate to a pseudo-coordinate structure is not reflected in the data; but it is also possible that it was not common to realize the coreferential subject in coordination in the first place.

The data for object extraction were even more limited, with only 4 relevant instances from the 17th and 18th centuries, making it hard to draw valid conclusions about the diachronic development of this phenomenon.

The data for instances with objects preceding the connector were also few, with 7 relevant instances in the posture-verb non-clause-final word order (cf. section 4.3.3.) and 13 instances in the posture-verb clause-final word order (cf. section 4.3.4.). Nonetheless, the comparison with the data for the *te* construction provided some insight on the structure of the *en(de)* construction. In short, the data for the placement of the unextracted object seem to suggest that the *en(de)* construction is mostly treated as biclausal and not monoclausal. It should be noted that some instances are found which can be interpreted as having a clause bracket and a middle field (i.e. a monoclausal structure); however, these occurrences are scarce.

With respect to the temporal order of the phenomena, the expectation that object extraction occurs earlier than the preposing of objects is not borne out. According to the analyses, objects may be placed before the connector from the earliest period, namely from the 14th century with *staan* in the posture-verb non-clause-final word order (cf. Table 12 in 4.3.3.) and from the 13th century with *liggen* in the posture-verb clause-final word order (cf. Table 14). In contrast, the first attested instance of object extraction (cf. section 4.3.2.), which is assumed to be associated with a less grammaticalized stage (i.e. pseudo-coordination), dates from the 17th century. The existence of early cases of preposed objects of the second verb (i.e. appearing before the connector) could be attributed to a greater freedom of word order in earlier periods and, in some cases, to artistic license in adjusting word order for the sake of rhyme and/or meter; however, they could also be an indication that the construction was already grammaticalized in an early period, although—again—this does not constitute strong evidence.

Additionally, the progressive *en(de)* construction was expected to disappear in the final step of the development of the posture-verb construction (cf. section 3.3.5.). At that stage, the construction with *en(de)* would thus be expected to allow an overtly realized subject for the second verb, while disallowing object extraction and preposed objects before the connector. In all cases, the numbers of relevant instances of the phenomena in question are very small, which precludes a fruitful discussion of diachronic developments. It may still be worth pointing out that the latest instances with preposed objects date from the 17th century and the latest with object extraction date from the 18th century, which could indicate the gradual disappearance of the progressive *en(de)* construction toward the 18th century.

5.4 4.4. Modifier

5.4.1 4.4.1. Hypothesis 10

The analyses regarding the placement of the adverbial in the *en(de)* construction are presented in this section and the next section (4.4.2.), distinguishing between the two word orders (i.e. posture-verb non-clause-final and posture-verb clause-final). First, the behavior of the adverbial in the posture-verb non-clause-final word order is described below.

As presented in 3.4.3., adverbials associated with the second verb are typically placed after the second verb in a biclausal structure in a main clause (32a), while they can be placed after the posture verb and before the connector (i.e. in the middle field) in a monoclausal structure (32b).

- (32) a. Daer **lach** de vrouwe **ende sach** uutwart [1933]
 'there, the lady lay and looked outside'
 b. Hi **stoet** van vruchte **en beeft** [537] (= (18b) in Chapter 1)
 'he stood and trembled with fear'

Example (32a) is an example of ordinary coordination; here, the adverb *uutwart* (< *utewaert* 'outward') modifying the second verb *sach* 'looked' is placed after the second verb. Meanwhile, (32b) represents a more grammaticalized state of the construction, since the intervening adverbial *van vruchte* (= *van vrees* lit. 'from fear') can be semantically interpreted as modifying *beeft* 'trembled', expressing the reason for the agent's behavior; yet it is positioned after the posture verb. As part of the expected development of the posture-verb construction with *en(de)* from a biclausal to a monoclausal structure, the placement of adverbials after the second verb (32a) should decrease in proportion, while the placement between the posture verb and second verb (32b) may increase. The hypothesis can therefore be formulated as follows:

Hypothesis 10

In instances of the *en(de)* construction with the posture verb in non-clause-final position, the placement of non-locative/durative adverbials after the posture verb and before the connector increases in the course of grammaticalization.

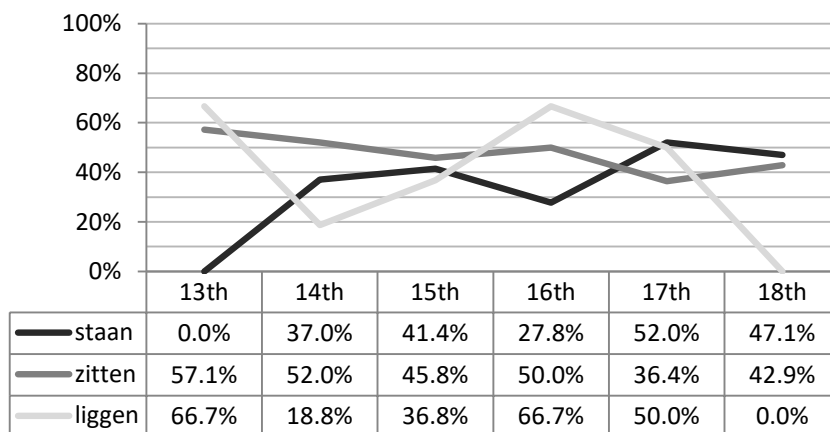
For the analysis, I extracted instances in the posture-verb non-clause-final word order with *en(de)* as a connector and with a non-locative and non-

durative adverbial, resulting in a subset with 421 instances. In this subset, 350 instances have one or more adverbials that appear after the posture verb and either before the second verb (cf. (32b)) or after it (cf. (32a)). Table 16 presents the distribution of these instances with each sentence pattern, and Figure 10 visualizes the proportion of instances with an adverbial between the posture verb and *en(de)*.

Table 16. The distribution of non-locative adverbials in the *en(de)* construction in the posture-verb non-clause-final word order

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	[PV <i>en(de)</i> V ² Adv]	2	17	41	13	24	9	106
	[PV Adv <i>en(de)</i> V ²]	0	10	29	5	26	8	78
<i>zitten</i>	[PV <i>en(de)</i> V ² Adv]	3	24	13	1	7	4	52
	[PV Adv <i>en(de)</i> V ²]	4	26	11	1	4	3	49
<i>liggen</i>	[PV <i>en(de)</i> V ² Adv]	1	26	12	2	2	1	44
	[PV Adv <i>en(de)</i> V ²]	2	6	7	4	2	0	21

Figure 10. Proportion of instances with non-locative/durative adverbials between the posture verb and *en(de)* in the posture-verb non-clause-final word order



The proportion of instances for *staan* appears to increase over time, showing a more or less steady pattern around 35–50%, with a notable rise from the 13th to 14th century. However, this upward trend is not statistically significant (Kendall's tau = 0.6, $p = 0.13$). For *zitten*, meanwhile, the proportion appears to remain around 40–50%; there is a slight decrease, but this is not statistically significant (Kendall's tau = -0.73, $p = 0.06$). The

proportion of *liggen* fluctuates, with the lowest proportion occurring in the 14th century (18.8%) and peaks in the 13th and 16th centuries (both, 66.7%). However, the differences between the periods are not statistically significant (pairwise comparisons using Fisher's exact test, $p > 0.46$).

In summary, the data do not show the expected development: it appears that the two sentence patterns [PV *en(de)* V² Adv] and [PV Adv *en(de)* V²] are overall evenly distributed throughout the period studied. Examples of both sentence patterns are given in (33).

- (33) a. Hier **zat** zy eenzaem, **en weende bitter** [1494]
 'she sat here lonely and cried bitterly'
 b. hoe **staeje** hier soo bitterlijck **en huylt**? [656]
 'why do you stand here and cry so bitterly?'

In (33a), the adverb *bitter* 'bitterly' is placed after the verb that it modifies (i.e. *weende* 'cried'). In (33b), the adverbial phrase *so bitterlijck* 'so bitterly' can be also interpreted as modifying the verb (i.e. *huylt* 'cries'), though it is placed between the posture verb and *en(de)*. The former example is thought to represent a biclausal structure and the latter a monoclausal one. As stated in the hypothesis, the sentence pattern exemplified by (33b) was expected to increase in proportion; however, this expectation was not borne out. Nonetheless, the results do provide evidence that structures associated with monoclausality and biclausality, respectively, are both observed during the period studied.

5.4.2 4.4.2. Hypothesis 11

The placement of adverbials in the *en(de)* construction in the posture-verb clause-final word order is hypothesized to develop through three stages (cf. section 3.4.3.). The adverbial for the second verb may first be placed after the connector and before the second verb (34a), subsequently after the posture verb and before the connector (34b), and eventually before the whole verbal complex (34c).

- (34) a. Dese drie dade die koninck Artur mettien / Ten verster **liggen**
 ende wtwaert zien [1992]
 'the king Arthur made these three immediately lie at the
 window and look outside'

- b. dat si dus **saten** / Met groter bliscap **ende aten** [1048]
‘that they thus sat and ate with great pleasure’
c. Daer hi van vruchte **staet en beeft** [528]
‘while he stands and trembles with fear’

In (34a), an example of regular coordination, the adverb *wtwaert* (< *utewaert* ‘outward’), which modifies the second verb *zien* ‘look’, is placed between *ende* and *zien*. Meanwhile, (34b) is thought to reflect a more grammaticalized pattern, since the adverbial phrase [*m*]et groter bliscap ‘with great pleasure’ is placed before the connector and closer to the posture verb than the second verb, although it can be interpreted as modifying the second verb *aten* ‘ate’. In the most grammaticalized form—that is, the monoclausal form—the adverbial is placed before the posture verb, as in (34c), where *van vruchte* ‘with fear’ (lit. ‘from fear’) indicates the reason for trembling (i.e. *beeft* ‘trembles’).

Since the *en(de)* construction is expected to develop from a biclausal to a monoclausal structure, instances like (34b) and eventually (34c) should increase in proportion over time. This expectation is formulated as Hypothesis 11.

Hypothesis 11

In instances of the *en(de)* construction with the posture verb in clause-final position, the placement of non-locative/durative adverbials before the connector increases in the course of grammaticalization:

- a) Placement of the adverbials between the posture verb and the connector initially increases and then decreases again (as the construction becomes more fully monoclausal);
- b) Placement of the adverbials before the posture verb (i.e. in the middle field) increases continuously.

For the analysis, I extracted instances in the posture-verb clause-final word order with *en(de)* as a connector and with one or more non-locative/durative adverbials, resulting in a subset with 181 instances. Among these cases, 153 instances have one or more adverbials between *en(de)* and the second verb (cf. (34a)), between the posture verb and *en(de)* (cf. (34b)), or before the posture verb (cf. (34c)). The distribution of these 153 instances is given in Table 17, distinguishing the three sentence patterns presented in (34).

Table 17. The distribution of non-locative adverbials in the *en(de)* construction in the posture-verb clause-final word order

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	[PV <i>en(de)</i> Adv V ²]	0	3	1	0	2	2	8
	[PV Adv <i>en(de)</i> V ²]	0	2	1	0	0	0	3
	[Adv PV <i>en(de)</i> V ²]	2	3	8	1	8	4	26
<i>zitten</i>	[PV <i>en(de)</i> Adv V ²]	0	3	4	0	0	0	7
	[PV Adv <i>en(de)</i> V ²]	0	11	2	0	2	0	15
	[Adv PV <i>en(de)</i> V ²]	2	16	11	1	4	3	37
<i>liggen</i>	[PV <i>en(de)</i> Adv V ²]	1	8	6	0	0	1	16
	[PV Adv <i>en(de)</i> V ²]	1	3	2	0	0	0	6
	[Adv PV <i>en(de)</i> V ²]	1	14	14	5	1	0	35

According to the table, the pattern with adverbials preceding the posture verb ([Adv PV *en(de)* V²]) is the most frequent throughout the centuries for all the verbs, ranging around 60–80% on average. An example with this structure is given below in (35).

- (35) die zijn handen op een simpele manier **zat en klouwde** [1501]
 ‘who sat and grasped his hands in a simple way’

In this example, the adverbial phrase *op een simpele manier* ‘in a simple way’, which can be interpreted as modifying the second verb *klouwde* ‘grasped’, is placed before the posture verb. Recall that the appearance of adverbials in this position is thought to indicate that the instance in question has a monoclausal structure. Note also that the direct object of *klouwde* (i.e. *zijn handen* ‘his hands’) is placed before the verbal complex in this example, which also supports the monoclausal analysis (cf. section 4.3.4.).

On the other hand, the placement of the adverbial after the posture verb (as in [PV *en(de)* Adv V²] and [PV Adv *en(de)* V²]) is relatively infrequent (20.3% and 15.7% on average, respectively). In particular, the latter pattern is almost completely absent in the Early Modern Dutch period (16th–18th century), although it should also be noted that the overall frequencies of the *en(de)* construction drop in this period (cf. Figure 2 in 4.1.). An example of each sentence pattern is shown in (36).

- (36) a. Als si op een tijt in haer ghewoenlike ghebet **lach ende seer**
screyde [2048]
 ‘when she once lay in her usual prayer and cried hard’

- b. Ter cameren, daer hi in **lach** / Haerde sachte **ende sliep** [1954]
 'at the room, in which he lay and slept very soundly'

Example (36a) illustrates a biclausal sentence pattern with the adverb *seer* 'hard, extremely' being placed before the verb that it modifies (*screyde* 'cried, screamed'). This pattern is the second-most frequent for *staan* and *liggen*, accounting for about 17% of the data for *staan* and 32% for *liggen*. In (36b), the adverbs *haerde sachte* 'very soundly', which can be interpreted as modifying the second verb *sliep* 'slept', are placed between the posture verb and *ende*. This pattern is almost exclusively found in the Middle Dutch period and only accounts for approximately 6–9% of the instances with *staan* and *liggen*. Note, however, that for *zitten* this is the second-most frequently observed structure, with 15 cases (13.6%), of which 13 cases come from Middle Dutch. Nonetheless, the restricted occurrence of the intermediate [PV Adv *en(de)* V²] pattern in the Middle Dutch period may indicate the structural ambiguity of the posture-verb construction that is characteristic of the intermediate period, although it is important to also bear in mind the effect of rhyme and/or meter found in Middle Dutch verses.

In conclusion, the data do not show the expected developments. The preposing of the adverbial, which is expected to coincide with the monoclausal stage of the construction, is common throughout the period studied. This result could indicate that the verb phrase was already strongly integrated from the beginning of the 13th century.

5.4.3 4.4.3. Hypothesis 12

As posture verbs become more grammaticalized, they lose their status as full lexical verbs in the construction. One of the possible consequences of this change is the backgrounding of their postural/locative semantics and the corresponding omission of locative modifiers (cf. section 3.3.2.). As postural/locative verbs, posture verbs usually need locative modification, such as *op de bank* 'on the couch' in (37a). Note that an adverbial describing the manner of posture is also counted as a locative modifier in this research, like *rechttop* 'straight' in (37b).

- (37) a. De man **zat** op de bank.
 'the man sat on the couch'

- b. De vrouw **stond** rechtop.
 'the woman stood up straight'

The same sentences without these modifiers (e.g. *de man zat* 'the man sat') are less acceptable, and require specific contexts to sound natural (for example, a contrastive context, such as *de man zat terwijl de vrouw stond* 'the man sat while the woman stood').

When posture verbs are used as auxiliaries, on the other hand, there is no strong necessity for locative modification (cf. sections 2.2.1. & 3.3.2.). See (38) for an example.

- (38) Ik **zat** (op mijn kamer) een boek **te lezen**.
 'I was sitting and reading a book (in my room)'

The progressive sentence in (38) is grammatical with or without a locative modifier (here, *op mijn kamer* 'in my room').

As posture verbs are expected to grammaticalize over time, a decrease in locative modification should be observed over the period studied, as stated as Hypothesis 12.

Hypothesis 12

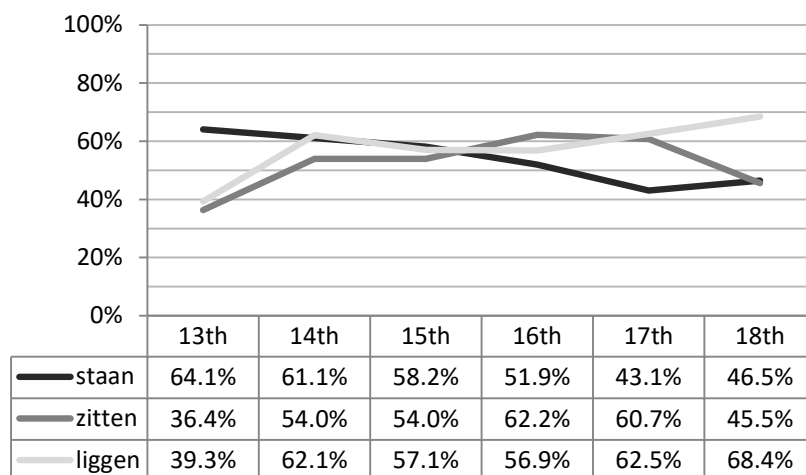
Instances with one or more locative modifiers decrease in proportion in the course of grammaticalization.

Table 18 provides the number of instances with and without locative modification, and Figure 11 visualizes the change in the proportion of instances with locative modification (versus those without).

Table 18. The distribution of instances with and without locative modification

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	with	25	129	164	27	93	73	511
	without	14	82	118	25	123	84	446
<i>zitten</i>	with	20	122	88	23	65	92	410
	without	35	104	75	14	42	110	380
<i>liggen</i>	with	11	105	101	29	20	26	292
	without	17	64	76	22	12	12	203

Figure 11. Proportion of instances with locative modification



As can be seen in the table and the figure, each verb shows a different tendency. Only *staan* shows a downward trend, from 64.1% to 46.5%, and this is statistically significant (Kendall's tau = -0.87, $p = 0.02$). Meanwhile, the proportions for *zitten* and *liggen* rather stay stable. *Zitten* shows relatively fixed proportions around 54–60% with low points in the 13th and 18th centuries, while *liggen* shows an upward trend from 39.3% to 68.4%, which is not statistically significant (Kendall's tau = -0.60, $p = 0.13$). It should be noted, however, that the proportions mostly hover between 50–70% for all three posture verbs. Even in the latest century investigated, more than 45% of the sentences occur with a locative modifier.

Two examples with locative modification are given in (39).

- (39) a. Dat witte meysje, dat daar ginder **sit en schreyt** [1518]
 'that white girl, who sits and cries over there'
 b. dat is een mooi voogeltje, dat daar **ligt te slaapen**. [2232]
 'that is a beautiful bird, that lies sleeping there'

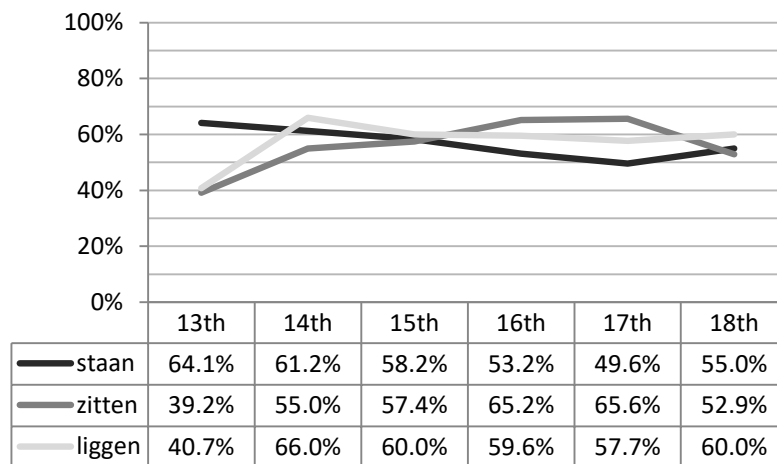
In (39a), *daar ginder* 'over there' is considered to be a locative adverbial associated with the posture verb *sit* (= *zit* 'sits'); the same holds for the adverb *daar* 'there' and the posture verb *ligt* 'lies' in (39b). The fact that locative modification, as illustrated in (39), never becomes infrequent during the period under study could indicate that the postural/locative meaning of posture verbs has remained stable over time.

It is also expected that the construction with *en(de)* would be more frequently modified by locative modifiers at its last stage of development, given that the progressive *en(de)* construction was lost at that point, and instances with *en(de)* should come to be interpreted as coordinate structures involving lexical posture verbs (cf. section 3.3.5.). The number of instances with and without locative modification in the *en(de)* construction are reported in Table 19, and the corresponding proportions are visualized in Figure 12.

Table 19. The distribution of instances of the *en(de)* construction with and without locative modification

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	with	25	128	152	25	66	22	418
	without	14	81	109	22	67	18	311
<i>zitten</i>	with	20	115	81	15	42	9	282
	without	31	94	60	8	22	8	223
<i>liggen</i>	with	11	101	93	28	15	3	251
	without	16	52	62	19	11	2	162

Figure 12. Proportion of instances of the *en(de)* construction with locative modification



As can be observed from the table and the figure, the proportions stay relatively stable around 50–70%, with some outliers such as 39.2% for *zitten* and 40.7% for *liggen* in the 13th century. The patterns for the *en(de)* construction seem to align with the overall patterns for locative modification,

shown in Figure 11; in particular, the proportions do not increase in the last centuries. In other words, no specific development for the *en(de)* construction is found in the data with regard to this feature.

In sum, it seems that the construction underwent a slight decrease in locative modification with *staan*, though not with *zitten* and *liggen*. This may indicate that there is a difference between the verbs in terms of how they developed: *staan* seems to have gradually weakened its status as a postural/locational (i.e. lexical) verb, while *zitten* and *liggen* remained relatively unchanged in this respect. Attention should also be paid to the fact that the proportions stay around 50–70% with all of the verbs, which means that locative modification was not a rare phenomenon at any point during the period studied. This suggests that posture verbs largely retained their postural meaning and hence were compatible with locative modifiers throughout the period under study, although locative modification is no longer obligatory when the posture-verb construction is a grammaticalized progressive construction.

5.4.4 4.4.4. Hypothesis 13

Backgrounding of the postural/locative meaning of posture verbs, as presented in the previous section (4.4.3.), is expected to have proceeded hand in hand with the foregrounding of their temporal semantics and the acquisition of progressive aspectual meaning (cf. section 3.3.2.). This temporal profile can be further emphasized by temporal modifiers that highlight the duration of the activity described by the second verb (e.g. *de hele dag* ‘the whole day’).²⁵ Accordingly, we can hypothesize as follows:

Hypothesis 13

Instances with one or more temporal modifiers expressing the duration of time increase in proportion in the course of grammaticalization.

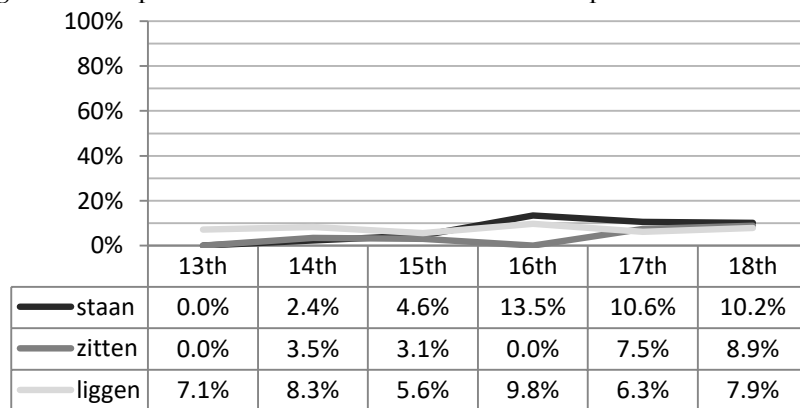
Table 20 presents the number of instances with and without durative temporal modification and Figure 13 visualizes the diachronic development of the proportion of instances with durative temporal modification.

²⁵ Non-durative temporal adverbials are not included in this analysis; these include, for example, *nu* ‘now’ and *deze maandag* ‘this Monday’.

Table 20. The distribution of instances with and without durative temporal modification

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	with	0	5	13	7	23	16	64
	without	39	206	269	45	193	141	893
<i>zitten</i>	with	0	8	5	0	8	18	39
	without	55	218	158	37	99	184	751
<i>liggen</i>	with	2	14	10	5	2	3	36
	without	26	155	167	46	30	35	459

Figure 13. Proportion of instances with durative temporal modification



The table and figure reveal that the proportions of instances with a durative temporal modifier are always below 13.5%. These low proportions are not surprising, as this kind of marking is optional. For *staan* and *zitten*, the proportions increase slightly over the period studied, particularly in the last three centuries (rising to around 10–13% for *staan* and 7.5–9% for *zitten*). For *staan*, the differences in proportion between the 14th century and the 17th and 18th century are statistically significant (pairwise comparison using Fisher's exact test, $p = 0.01$ and $p = 0.03$ respectively). *Staan* may therefore be characterized by a somewhat higher co-occurrence with durative temporal modifiers in the Early Modern Dutch period compared to the Middle Dutch period. *Liggen*, meanwhile, shows a rather stable pattern, around 7% on average.

Examples with durative temporal modification are given in (40). Example (40a) is from the 14th century and (40b & c) are from the 18th century.

- (40) a. Daer de proefst Florens **lach** / **Ende wachte** nacht ende dach
[1814]
‘where the dean Florens lay and waited night and day’
b. myn neef heeft lang hier voor de deur **staan wachten** [889]
‘my nephew/cousin has been standing and waiting here in front
of the door for a long time’
c. Zy **zit een uur te ontbyten**, zonder iets te doen [1690]
‘she is sitting and having breakfast for an hour, without doing
anything’

Example (40a) includes *nacht ende dach* ‘night and day’, (40b) includes *lang* ‘for a long time’, and (40c) includes *een uur* ‘for an hour’, which are regarded as durative temporal modifiers.

With regard to the development of the *en(de)* construction, temporal modification is expected to become relatively infrequent in the last centuries due to the disappearance of the progressive *en(de)* construction (cf. section 3.3.5.). Based on the data, it is certainly true that instances of the *en(de)* construction with a temporal modifier are infrequent in the 17th and 18th centuries (12 of 173 instances for *staan*, 6 of 81 instances for *zitten*, and 1 of 31 instances for *liggen*), but this tendency matches the general trend reported in Table 20. Therefore, there is no indication that the *en(de)* construction underwent a specific development in this respect at the end of the period studied.

To conclude, the occurrence of a durative temporal modifier in the construction is infrequent overall. Of the three posture verbs, only *staan* seems to show a slight increase in the proportion of such instances, which could be linked to foregrounding of durative aspect. *Zitten* and *liggen*, on the other hand, are relatively limited in their co-occurrence with durative temporal modifiers (proportions between 0–9.8%) and thus do not appear to develop over time in this respect.

5.4.5 4.4.5. Hypothesis 14

As the *en(de)* construction becomes more grammaticalized, the posture verb and the second verb are expected to lose their mutual independence and increasingly behave as a two-verb unit. One of the consequences of this development is that it becomes impossible to negate individual verbs. In

ordinary coordination, both the posture verb and the second verb can in theory be individually negated, as demonstrated in (41).

- (41) a. Die avond **lag** zij niet vroeg in bed, **en las** een spannend boek.
 ‘that evening, she did not lie early in bed, and read an exciting book’
 b. (...) dat hij voor de deur **stond en niet wist** wat te zeggen.
 ‘(...) that he stood in front of the door and did not know what to say’

In (41a), the negator *niet* (underlined) is in the position to negate *lag* ‘lay’, i.e. after the verb it modifies. On the other hand, in (41b) only the second verb is negated. This example also shows that in a subordinate clause, the negator is placed before the verb it modifies (here, *wist* ‘knew’).

As the construction becomes more grammaticalized, the negator for the posture verb is expected to take scope over the whole verbal complex, as shown in (42).

- (42) Wie van u is, die enen toern tymmeren wil, **sit** hi niet ierst **ende rekent** den cost [1077]
 ‘who of you is the one who wants to build a tower, who does not sit first and calculate the costs’

In this example, the negator *niet* ‘not’ is in the position to negate *sit* (= *zit* ‘sits’), but, semantically, it is interpreted as negating the whole verb sequence (i.e. the action of sitting and calculating).²⁶ When one negator takes scope over the whole verbal complex, as in (42), an individual negator for the second verb would be unnecessary or even redundant. Under this view, the proportion of instances with an individual negator for the second verb would decrease as the *en(de)* construction grammaticalizes. The hypothesis can therefore be formulated as follows:

Hypothesis 14

In the *en(de)* construction, negators that modify only the second verb decrease in proportion in the course of grammaticalization.

²⁶ The translation of this part (Gospel of Luke 14: 28) in Modern Dutch is ‘Want wie van jullie die een toren wil bouwen gaat niet eerst de kosten berekenen’ (Nieuwe Bijbelvertaling), and in Modern English ‘Suppose one of you wants to build a tower. Won’t you first sit down and estimate the cost to see if you have enough money to complete it?’ (New International Version).

Table 21 presents the number of instances where a negator appears in the position to negate the posture verb (e.g. (41a), (42)), or only the second verb (e.g. (41b)).

Table 21. The distribution of instances with a negator
for the posture verb (PV) or the second verb (V²)

		13th	14th	15th	16th	17th	18th	sum
<i>staan</i>	for PV	0	0	1	0	0	0	1
	for V ²	1	1	2	0	0	1	5
<i>zitten</i>	for PV	3	7	0	0	0	0	10
	for V ²	0	1	2	0	2	0	5
<i>liggen</i>	for PV	0	0	0	0	0	0	0
	for V ²	0	2	1	0	0	0	3

Clearly, the overall number of instances with a negator is very low for all three verbs (6 of 729 instances for *staan*, 15 of 505 instances for *zitten*, and 3 of 413 instances for *liggen*). These low frequencies make it difficult to evaluate the change in proportion from a diachronic perspective; however, some observations can be made. For *staan* and *liggen*, instances with a negator in the position to negate the second verb are more frequent than those with a negator in the position to negate the posture verb. An example with *staan* is given below.

- (43) hy **staat** als een gek, **en weet** niet wat te antwoorden [891]
‘he stands like an idiot and does not know what to answer’

In this example, the negator *niet* is in the position to negate the second verb *weet* ‘knows’.

Zitten, meanwhile, shows the opposite trend; there are more instances with a negator in the position to negate the posture verb. In these instances, the negator can be interpreted as taking scope over the whole verbal complex, as in examples (42) and (44). It should be noted, however, that all ten examples with *zitten* in the 13th and 14th centuries come from the same part of the Gospel of Luke (14: 28 & 31).

- (44) Of wat coninc isder, die strijt leveren sal yghens enen anderen coninc, **sit** hi niet irst **ende dencket**, of hi mit tien dusent ghemoeten mach den ghenen die mit twintich dusenten tot hem comet? [1078]

'or what king is there, who is to fight against another king, and does not sit first and think if he can face the one who comes against him with twenty thousand (soldiers), with ten thousand?'

In this example from the 14th century, the negator *niet* should be interpreted as negating not only *sit* 'sits' but also *dencket* (= *denkt* 'thinks').²⁷

Besides these ten examples with *zitten*, only one other instance of a posture-verb negator is found; this instance, with *staan*, comes from the 15th century, and is provided in (45). Note that in this example the negator only takes scope over the posture verb (not the whole verbal complex).

- (45) Selich is die man die (...) niet en stont in den weghe der sundere ende niet en sat in den stole der steruinghe [329]²⁸
 'blessed is the man who (...) did not stand in the way of sinners and did not sit in the chair of death'

This example includes two pairs of negators (both underlined): one pair for the posture verb *stont* 'stood' and the other for the second verb *sat* 'sat'. The fact that each verb is accompanied by an individual negator indicates that this is a case of coordination of two negated clauses. Except for this example, no further instances were found with a negator that exclusively negates the posture verb.

In sum, the instances with a negator for the second verb and for the posture verb are roughly evenly distributed (13 and 11 instances, respectively), but the latter mostly comprises instances from the Gospel of Luke, which is one of the most repeated text sources in the database (cf. footnote 9 in 4.2.1.). Considering this point, the pattern with a negator just for the second verb seems to be slightly more widespread than the pattern with a negator in the position to (also) negate the posture verb. At the same time, however, the data for negators are limited (24 instances in total), which

²⁷ The modern translation of this passage (from the Gospel of Luke 14: 31) in Modern Dutch is 'En welke koning die eropuit trekt om met een andere koning oorlog te voeren, zal niet eerst bij zichzelf te rade gaan of hij wel met tienduizend man kan optrekken tegen iemand die met twintigduizend man tegen hem oprukt?' (Nieuwe Bijbelvertaling), and in Modern English 'Or suppose a king is about to go to war against another king. Won't he first sit down and consider whether he is able with ten thousand men to oppose the one coming against him with twenty thousand?' (New International Version).

²⁸ Recall that negation in Middle Dutch commonly includes two parts (*en* and *niet*), as shown in (18) in 4.2.3.

makes it difficult to evaluate the diachronic development of the *en(de)* construction with a negator.

5.4.6 4.4.6. Summary of the analyses concerning the modifier

The analyses regarding the placement of adverbials seem to hint at a monoclausal structure for the *en(de)* construction. In 4.4.1., it was suggested that the *en(de)* construction in the posture-verb non-clause-final word order forms both monoclausal and biclausal structures. For the posture-verb clause-final word order, discussed in 4.4.2., the analysis appears to suggest that the verb phrase was strongly integrated from the beginning of the period studied.

In terms of specific types of adverbial modification, locative and temporal adverbials were investigated in 4.4.3. and 4.4.4. The results in 4.4.3. suggest that locative modification was a common phenomenon during the period studied, possibly suggesting that the postural/locative meaning of posture verbs remained stable. Only the data for *staan* show a steady downward trend, in line with Hypothesis 12. This may reflect some backgrounding of the postural/locative meaning of the verb. The data for *zitten* and *liggen*, meanwhile, follow a rather stable pattern with no significant diachronic development. This could imply that these two verbs did not undergo increased backgrounding of the postural/locative meaning over the period studied.

The analysis of durative temporal modifiers in 4.4.4. also presents a distinction between *staan*, on the one hand, and *zitten* and *liggen*, on the other hand. According to the data, *staan* shows a relatively frequent occurrence of temporally modified instances in the 16th–18th century, while *zitten* and *liggen* appear to show a stable pattern without diachronic development. At the same time, the proportions are generally very low for all the verbs (below 13.5%), indicating that temporal modification might not be a good indication of how grammaticalized the construction is.

For both locative and temporal modifiers, the percentages in the 18th century are generally comparable with those reported in Lemmens (2005) for the modern posture-verb progressive construction. According to Lemmens, the posture-verb progressive construction in Modern Dutch is modified for location in 44% of cases (601 of 1369 instances) and for durative temporal aspect in 12.2% of cases (167 of 1369 instances), while the corresponding percentages in the 18th century are 48.1% for location (191 of 397 instances)

and 9.3% for duration (37 of 397 instances; cf. sections 4.4.3. & 4.4.4.). Therefore, it is likely that the posture-verb construction in the 18th century is comparable with the modern construction, especially in terms of locative and temporal modification.

As for the characteristics of the *en(de)* construction in the last phase—that is, when the *te* construction took over the progressive meaning and *en(de)* was reduced to a normal coordinating conjunction—no specific diachronic development was found for locative and durative temporal modification (cf. sections 4.4.3. & 4.4.4.). This means that the expectation that the progressive *en(de)* construction would disappear, and that the accompanying features would be lost, was not borne out by the data (cf. section 3.3.5.).

With respect to negation, the overall number of instances with a negator was too small to provide evidence for any diachronic development (cf. section 4.4.5.).

5.5 4.5. Summary and discussion

5.5.1 4.5.1. Summary of the results

The major developments revealed by the analyses above (sections 4.2. –4.4.) can be summarized as follows.

(46) Verb complex

- a. The lexical diversity of the second verb is temporarily restricted in the 15th and 16th centuries with *staan*, but not with *zitten* and *liggen*. (4.2.1.)
- b. The semantics of the second verb stay stable, except for the semantic feature of telicity. (4.2.2.)
- c. *Ende* reduces to *en* over time; this change proceeds slightly faster within than outside the posture-verb construction. (4.2.3.)
- d. The structure [PV_{fin} *en(de)* V_{inf}²] is rarely found. (4.2.4.)
- e. The connector *te* is mainly used from the 17th century onward. (4.2.5.)

(47) Noun

The object of the second verb is rarely placed before the connector in the *en(de)* construction. (4.3.3. & 4.3.4.)

(48) Modifier

- a. In the posture-verb non-clause-final word order, adverbials may be placed either between the posture verb and *en(de)*, or after the second verb. (4.4.1.)
- b. In the posture-verb clause-final word order, adverbials are mostly placed before the verbal complex. (4.4.2.)
- c. Locative modification remains common overall; for *staan*, there is a decrease in frequency over time which is statistically significant. (4.4.3.)
- d. Durative temporal modification occurs occasionally; for *staan*, there is a small increase in frequency over time which is statistically significant. (4.4.4.)
- e. Locative and durative temporal modification both show stable frequencies over time with *zitten* and *liggen*. (4.4.3. & 4.4.4.)

According to the analyses reported in the previous sections, the data reflect the general development from the old type of construction with *en(de)* to the new type with *te* (45e). The results reported in 4.2.5. clearly illustrate that the *en(de)* construction decreases in frequency in the 17th and 18th centuries, while the *te* construction becomes more frequent in the same period.

With regard to the *en(de)* construction, the data confirm the reduction of the connector from *ende* to *en* (46c). As to whether the *en(de)* construction developed from a biclausal to a monoclausal structure, the evidence seems to be contradictory. The findings on the placement of the object (in 4.3.3. and 4.3.4.) seem to suggest that the construction is fundamentally biclausal (47). On the other hand, the findings on the placement of adverbials (in 4.4.1. and 4.4.2.) indicate that the verb phrase has an integrated status, particularly in the posture-verb clause-final word order (48a & b).

What is not confirmed by the data is the semantic and lexical development of the second verb (46a & b). As shown in 4.2.2., the semantics of the second verb do not appear to have developed over time, which seems to indicate that posture verbs did not undergo semantic bleaching. This conflicts with some examples presented in the literature (cf. section 1.3.3), but aligns with the strong semantic compatibility observed for the second verb of the Modern Dutch posture-verb progressive construction (cf. section 1.2.2.). In addition, the expectation regarding the infinitival second verb was not borne out, since only eight relevant instances were found (46d),

indicating that the phenomenon was not widespread in the database for this research (cf. section 4.2.4.).

For some hypotheses, such as Hypothesis 7 on object extraction (cf. section 4.3.2.), we do not have sufficient instances to draw valid conclusions. Furthermore, instances with an overtly realized subject for the second verb (cf. section 4.3.1.) and with a negator (cf. section 4.4.5.) only number 30 and 24 cases respectively, making it difficult to observe diachronic changes.

In summary, the development of the posture-verb construction from the *en(de)* to the *te* construction is confirmed by the data. The conflicting results regarding the structure of the *en(de)* construction (47, 48a & b) and verb-specific characterization (46a & 48c-e) will be discussed in detail in the next section.

5.5.2 4.5.2. Discussion

The question arises of whether the *en(de)* construction can be characterized as monoclausal or biclausal. One of the structural indications of monoclausality was the infinitival second verb (i.e. [PV_{fin} *en(de)* V_{inf}]). As described in 3.2., when the two verbs do not agree in finiteness, this could suggest that the original coordinating conjunction *en(de)* is functioning as an infinitive marker in a comparable manner with *te*; this would in turn indicate that the verbal elements comprise an integrated unit as in the *te* construction. Given that the phenomenon occurred only sporadically (as revealed by the analysis in 4.2.4., see also (45d)), it seems that *en(de)* never functioned systematically as an infinitive marker, and the *en(de)* construction seems not to be comparable with the *te* construction in this respect. The finding with regard to infinitival second verbs is thus one reason to view the *en(de)* construction as monoclausal, albeit not in the same way as the *te* construction.

Moreover, the analyses in sections 4.3.3. and 4.3.4. reveal that the object of the second verb is rarely placed before the connector, suggesting that the *en(de)* construction is mostly treated as biclausal. On the other hand, the analyses regarding the placement of adverbials seem to indicate that the construction is monoclausal: structures which are assumed to indicate monoclausality are found regularly in the posture-verb non-clause-final word order (48a) and are even frequent in the posture-verb clause-final word order (48b). One way to deal with these seemingly contradictory results is to interpret such mixed characteristics as indicating pseudo-

coordination. In 3.3.2., the pseudo-coordinate *en(de)* construction was hypothesized to be semantically monopredicative and structurally biclausal, with some monoclausal-like behaviors such as object extraction. It is plausible that the placement of adverbials could also feature among such deviant behaviors.

A possible reason why adverbials are more likely to behave in a monoclausal way is ambiguity in the modification relationship. Some adverbials are ambiguous in terms of whether they can be interpreted as modifying either one of the verbs or both verbs, while this kind of ambiguity does not arise with objects. For example, the adverbial *te nacht* ‘in the night’ in (49) can be interpreted as modifying either *lach* ‘lay’ or *sliep* ‘slept’, or both.

- (49) ende daer ic te nacht **lach en sliep**, so quam een stemme dye mi toe riep [2158]
 ‘and when I lay and slept in the night, the voice came that shouted to me’

Since *te nacht* is compatible with both verbs, it is difficult to determine which verb the adverbial is associated with (if not with both verbs), let alone to argue that this instance has a monoclausal structure in which the adverbial of the second verb is preposed. Meanwhile, the same word order (with the adverbial before the posture verb, i.e. [Adv PV *en(de)* V²]) may be seen as having a monoclausal structure when the adverb is interpreted as modifying only the second verb, as shown in (50) (cf. section 4.4.2.).

- (50) Daer hi van vruchte **staet en beeft** [528]
 ‘while he stands and trembles with fear’ (= (34c))

In this example, the adverbial *van vruchte* (= *van vrees* lit. ‘from fear’) is interpreted as being associated with the second verb *beeft* ‘trembled’.

In short, the structure with an adverbial before the connector can be interpreted as monoclausal (50) but not necessarily (49). This ambiguity of interpretation may have meant that adverbials relating only to the second verb could still appear before the connector, resulting in frequent occurrences of the structure that is hypothesized to be associated with monoclausality.

Crucially, this kind of ambiguity does not arise with objects. Since posture verbs are intransitive verbs, the object in the structure must be affiliated with the second verb, regardless of where it is placed. Therefore, a structure with an object before the connector (e.g. [PV Obj *en(de)* V²]) is a

strong indication that the object is preposed and that the posture verb is reduced to a kind of auxiliary. However, as we have seen, posture verbs have generally retained their postural semantics; they never really become bleached (section 4.2.2). Therefore, preposing of the object may have been less easily motivated than preposing of the adverbial. This difference between the structure with preposed adverbials and preposed objects may account for the apparently contradictory results in terms of mono-/biclausality of the *en(de)* construction.

In sum, the *en(de)* construction cannot be strictly characterized as monoclausal. The connector *en(de)* is not an infinitive marker and the object of the second verb is rarely preposed. On the other hand, the frequent placement of the adverbial before the connector may suggest that the construction is not totally biclausal either. The characterization of the *en(de)* construction as mostly biclausal with some deviations aligns with the definition of pseudo-coordination, as presented in 1.2.3. The conclusion is thus that the *en(de)* construction is pseudo-coordinate.

In line with this discussion, it may also be worth pointing out that most instances with *en(de)* in the database lack clear evidence determining whether the structure is monoclausal or biclausal. For example, a sentence such as [*i*]ck (...) *lagh in mijn slaepkamer en sliep* [2214] ‘I lay in my bedroom and slept’ may be interpreted as structurally biclausal with a locative adverbial following the posture verb, but also as a monoclausal structure where the two verbs are placed at the first and the second poles and the adverbial in the middle field. The fact that the majority of instances in the database are ambivalent in terms of structure makes it difficult to evaluate the clausal structure of the *en(de)* construction; however, the conclusion that this construction has a pseudo-coordinate structure is supported by the analyses presented above.

The proposal made here—that the *en(de)* construction is pseudo-coordinate with occasional cases of monoclausal features, even at its most grammaticalized stage—contradicts the initial assumption presented in 3.2. and 3.3. There, it was asserted that the transition from the *en(de)* construction to the *te* construction proceeded with the former gradually developing into a monoclausal structure, followed by the replacement of the connector *en(de)* by *te*. As no monoclausal *en(de)* construction seems to have existed (at least, not on a large scale), the data instead suggest that a pseudo-coordinate *en(de)* construction developed into a monoclausal *te* construction. However, it would be difficult to conceive of this as a gradual development. It would be more reasonable to view the *en(de)* construction and the *te* construction as inherently independent of each other, although both could be used to

express progressive meaning. Under this view, the *te* construction did not develop out of the *en(de)* construction, but rather emerged as a separate posture-verb construction. This assumption aligns with the proposals of Van der Horst (2008) and Van den Toorn (1975), who do not consider the *te* construction as having grown out of the *en(de)* construction (cf. section 1.3.3.). In other words, the current findings align with proposals that assume that the *en(de)* construction and the *te* construction are two fundamentally distinct linguistic phenomena, of which one (the *te* construction) has ultimately supplanted the other.

As the *te* construction does not seem to have grown out of the *en(de)* construction, the question arises how it emerged. The earliest two attestations in my database date back to the 14th century (cf. (21b) in section 4.2.5.). In both cases, the sentences were not exclusively progressive in meaning and were open to other interpretations (e.g. purposive and resultative). These ambiguous attestations could be seen a locus of change, showing the onset of the posture-verb progressive construction with *te*. As a result of this change, the ‘on-goingness’ became a fixed part of the construction, crystallizing into a progressive construction at some moment in late Middle Dutch or Early Modern Dutch (cf. section 4.2.5.). If we adopt the theory of Van den Toorn (1975: 261ff.) and Van Pottelberge (2002: 163), the establishment of the [*om te V_{inf}*] construction as a purposive construction possibly facilitated the fixation of the *te* construction as a progressive (cf. section 1.2.3.). The present observations on the earliest attestations of the *te* construction lends support to this proposal.

In addition to the general development of the posture-verb construction, individual differences between posture verbs are also observed in the analyses above. On the one hand, *zitten* and *liggen* show a stable pattern (46a & 48e); on the other hand, *staan* seems to develop diachronically in terms of the lexical variety of the second verb (46a) and locative and durative temporal modification (48c & d).

The stable characterization of *zitten* and *liggen* is also reflected in their preferences for certain second verbs (cf. Table 3 in 4.2.1.). The former shows a strong orientation toward *eten* (124 of 380 occurrences) between the 13th and 16th century, and the latter shows a strong orientation toward *slapen* (122 of 441 occurrences) throughout the whole period studied. The repeated occurrence of these idiomatic verb pairs, i.e. *zitten en(de) eten* (lit. ‘sit and eat’) and *liggen en(de)/te slapen* (lit. ‘lie and/to sleep’), could have facilitated the verb sequence being interpreted as a unit, but may not be strongly linked to grammaticalization. In other words, the development of *zitten* and *liggen* may be regarded as the fossilization of such idiomatic expressions—

especially in the case of *liggen*, which decreased in frequency as a general locative verb, further strengthening its orientation toward *slapen* in Early Modern Dutch. With regard to *zitten*, the idiomatic combination of *zitten en(de) eten* seems to have subsided toward the end of Middle Dutch (cf. section 4.2.1.). This downward trend is probably reflected in the tendency of *zitten* to occur less frequently with *en(de)* in general (cf. Figure 2 in 4.1.). Despite possible fossilization, the construction with *zitten* and *liggen* first participated in the *en(de)* construction and later in the *te* construction, just like *staan* (cf. section 4.2.5.). Therefore, the developments of *zitten* and *liggen* could still be considered as part of the grammaticalization of the posture-verb progressive construction.

Besides, the repeated occurrence of certain verb types with *zitten* and *liggen* could be linked to the relatively restricted number of activities one can carry out while sitting or lying. Not many activities are compatible with the lying posture except sleeping, resting, and waiting, for example (cf. Lemmens 2005: 201). The sitting posture could be combined with a wider variety of activities, such as eating, drinking, writing, reading, and watching, but, as noted in 4.2.1., some of these were not common in Middle Dutch (e.g. reading and writing). Since the postural meaning of the verbs never became bleached on a large scale (cf. section 4.2.2.), the kind of activities that can combine with the posture has probably had a great impact on the variety of second verbs throughout the centuries.

On the other hand, *staan* seems to have undergone some diachronic development. As described in 4.2.1., the HTR of *staan* develops in three stages with a low point in the 15th to the 16th century, which could be an indication of limited semantic diversity linked to the pseudo-coordinate status of the construction with *staan*. Other deviant patterns observed for *staan* compared to *zitten* and *liggen* come from locative and temporal modification. In particular, the proportions of instances modified for location and temporal duration increase over time with *staan*, which contradicts the steady rates of modification with *zitten* and *liggen*. The stable rates of modification observed for *zitten* and *liggen* align with the fixed semantics of the second verb, which indicates that posture verbs did not undergo semantic bleaching. Although *staan* also shows semantic stability of the second verb (cf. section 4.2.2.), the adverbial modification seems to have developed diachronically.

It is not clear from the data why only *staan* developed in these respects. With regard to HTRs, the three-stage development of the HTRs of *staan* could be regarded as a deviant pattern probably influenced by the diachronic development of the use of the verb (e.g. as a quotative in Middle

Dutch), considering the results regarding the semantic variety of the second verb (cf. section 4.2.2.). This pattern may also have been influenced by extra-linguistic factors, as observed for *zitten*. With regard to adverbials, the proportion of instances with *staan* that have temporal modification grows from 0% in the 13th century to 10.2% in the 18th century (cf. section 4.4.4.). Still, the overall infrequency of temporal modification could be seen as aligning with the low proportions of modification observed for *zitten* (4.9% on average) and *liggen* (7.3% on average). As such, the growth could be considered a marginal phenomenon which does not contradict the stable semantic characterization observed for the other posture verbs. For locative modification with *staan*, the proportion decreases from 64.1% in the 13th century to 46.5% in the 18th century (cf. section 4.4.3.). Although this drop should not be dismissed, it is also true that instances without locative modification always account for a sizeable proportion of the data, in line with the other posture verbs.²⁹ Therefore, despite some verb-specific developments, the stability of the postural/locative meaning of *staan* could be regarded as comparable with *zitten* and *liggen*. In short, there is not conclusive evidence to view *staan* as having a divergent pattern of development, compared to *zitten* and *liggen*.

5.5.3 4.5.3. Some reflections on sources and analytic tools

Before presenting a final proposal, it is useful to reflect on the limitations of the data sources used, and on some of the implications.

As already indicated in 2.3., the data sometimes showed a clear distinction between Middle Dutch and Early Modern Dutch; however, this corresponds not only to the historical stages of the language, but also to the boundaries of the corpora used. As mentioned in Chapter 2, most of the Middle Dutch period (i.e. 14th–15th century) is covered by the *Corpus Middelnederlands* while the Early Modern Dutch period (i.e. 17th–18th century) is covered by the *Corpus literair Nieuwnederlands*. Some of the results seem to reflect this distinction, including the frequencies and proportions of the instances with *te*. As observed in 4.1. and 4.2.5., instances with the connector *te* are mostly restricted to Early Modern Dutch (i.e. 17th–18th century) in my

²⁹ Compare this result with the Swedish pseudo-coordinate construction with *sitta*, of which about 70% of instances are not modified for location in the modern language (Hilpert & Koops 2008: 253).

database. This coincides with previous research and could be regarded as observable language change; however, the clear boundary between Middle Dutch (with almost no instances with the connector *te*) and Early Modern Dutch (with almost all attested instances involving *te*) might instead reflect the change in data source, i.e. a difference between types of data in the corpora. But although there may be a discrepancy between the data sources for Middle Dutch and Early Modern Dutch, the data do nonetheless seem to be reflective of gradual language change, witness, for example, the reduction of *en(de)* to *en* (cf. the discussion of Hypothesis 3 in section 4.2.3.). The data can therefore be considered reliably informative.

Another issue worth reflecting on is the potential influence of rhyme on the results. As pointed out in the beginning of this chapter, rhymes could affect the word order of a sequence: elements can appear in a non-canonical order (cf. section 4.1.). This point was taken into account in the analyses (cf. 4.2.4.) but not in a systematic way, due to two reasons. First, the distinction of genres is not consistent between corpora. As described in section 2.4., the Middle Dutch corpora provide a bipartite classification of verse and prose, while the Modern Dutch corpus consists of three text genres, namely, drama, prose, and non-fiction. This made it difficult to handle the data in a uniform manner. Second, the data size was not large enough to retain detailed classifications of relevant attestations. For example, when the data for Hypothesis 10 regarding the placement of adverbials in the *en(de)* construction were further split into prose and verse, each data set had only 8 attestations on average per century for two types of word order (i.e. 4 attestations on average per word order). These numbers are not large enough to discuss diachronic development of one category in comparison to the other one in a meaningful way. Therefore, in the present analysis, the whole relevant data set was treated comprehensively under the assumption that the influence of rhyme was constantly present but can be neglected from a holistic viewpoint. In this way, each category of data retained as many attestations as possible, which enabled meaningful analysis. This assumption possibly underestimated the potential influence of rhyme but was realistic considering the characteristics of the data available.

Additionally, potential interactions between the hypotheses are not discussed in the present analysis. It may well be the case, for example, that changes in word order interact with the change from *en(de)* to *te*. How each feature may have contributed to the replacement of the *en(de)* construction by the *te* construction can be assessed, for instance, by conducting a regression analysis for the dataset per century and comparing the regression coefficients. But there are problems for applying this kind of statistical

modeling to my dataset. First, we see the systematic absence of data (e.g., the number of instances of each construction per century is highly imbalanced, see Table 9 in 4.2.5.). Second, for some features only a part of the data is relevant (e.g., the analyses on the noun are solely based on the data of the *en(de)* construction). Therefore, the data available for modeling is limited, which impairs the validity of the results. Moreover, before applying any statistical modeling, it is important to check basic descriptive statistics, which is what I have reported in the previous sections. The above description thus constitutes a meaningful first step, awaiting further analytical methods applicable to the data.

Still, an attempt was made, as a test of costs and benefits, to conduct a logistic regression analysis for some explanatory variables to which these objections do not (fully) apply. These were restricted to verbal parameters (i.e. the information regarding the posture verb (2), the semantic features of the second verb (4 d-g), and the location of the posture verb (9), as mentioned in Appendix A), since all instances have two verbs in each attestation and, theoretically, there are no missing values. Furthermore, the data of the 17th and 18th century were selected in order to secure enough attestations for both constructions (response variable). Two models were built, based on the data for each century. These models do not differ much in terms of which variables are linked with either construction, indicating that most (if not all) relevant information relating to such links has been captured. The only notable result of the analysis was that the atelic semantic feature seems to be strongly linked to the *te* construction in the 18th century. This probably reflects the high frequency of an atelic second verb in the *te* construction (208 of 397 instances). Further analysis of the atelic semantic feature in both the *en(de)* and the *te* constructions could thus be an option for future study. But the fact that this was the only result of the regression analysis, for one of the few cases in which it could be applied at all, indicates that we will need much richer data sets before this kind of statistical modeling can be used fruitfully.

5.5.4 4.5.4. Final proposal

This section discusses how the observations presented in (46-48) are spread over the centuries and how they can be temporally ordered in the form of a step-by-step developmental pathway, as proposed in 3.3. The proposed grammaticalization path comprises five stages: Stage 1 for coordination,

Stage 2 for pseudo-coordination, Stage 3 for the monoclausal *en(de)* construction, Stage 4 for the transition from the *en(de)* construction to the *te* construction, and Stage 5 for the dominance of the *te* construction as the only posture-verb progressive construction (cf. Table 1 in 3.3.).

The major observation of the analyses in relation to the grammaticalization path is that the proportion of instances with the connector *te* increases from the 17th century, while the proportion of instances with *en(de)* decreases in the same period. Hence, a transitional period from the *en(de)* to the *te* construction, i.e. Stage 4, is verified by the data. The transition from Stage 4 to Stage 5 could be determined based on when the progressive *en(de)* construction disappeared (cf. section 3.3.5. & (12b) in 3.3.6.). An overall decrease in frequency is certainly observed, in particular in the 17th and 18th centuries (from 223 to 62 instances), presumably reflecting the increasing dominance of the *te* construction and the loss of the progressive *en(de)* construction (cf. section 4.2.5.). Other changes expected to coincide with the disappearance of the progressive *en(de)* construction concern the rate of locative and durative temporal modification (i.e. Hypotheses 12 and 13), and the placement of adverbials (i.e. Hypotheses 10 and 11) and the object (i.e. Hypotheses 8 and 9). The analyses regarding modification (i.e. Hypotheses 10-13) do not indicate that the progressive *en(de)* construction was becoming lost during the period studied (cf. section 4.4.6.). The analyses regarding nouns, on the other hand, may suggest the gradual loss of the progressive *en(de)* construction toward the 18th century, based on the relative timing of the latest attested instances of object extraction and of preposed objects of the second verb (cf. section 4.3.5.). Consequently, Stage 4 (transition from the *en(de)* to the *te* construction) in the 17th century and Stage 5 (dominance of the *en(de)* construction) in the 18th century will be distinguished in the following.

Apart from the behavior of objects, the *en(de)* construction seems to have stayed mostly stable during the period studied. This observation is based on the analyses of semantic and lexical variety of the second verb, especially with *zitten* and *liggen* (cf. sections 4.2.1. & 4.2.2.), and adverbial modification (cf. 4.4.1.–4.4.4.), which do not show much evidence of diachronic change. In particular, the stability of the *en(de)* construction in the earlier phases suggests that the development from coordination (Stage 1) to pseudo-coordination (Stage 2) is not reflected in the data (cf. (9) in 3.3.6.); rather, the *en(de)* construction seems to have been pseudo-coordinate throughout the period studied.

The proposal that the *en(de)* construction was pseudo-coordinate from the earlier periods is supported by further evidence from the analyses.

Indicators of early grammaticalization, such as objects of the second verb being placed before the connector, already appear in the 13th century. Additionally, as shown in 4.1, the early instances displaying the IPP effect (i.e. from the 14th and 15th centuries) also support the view that posture verbs were already (quasi-)auxiliaries in the 14th and 15th centuries.

The characterization of the *en(de)* construction as generally stable also entails that the construction did not develop into a monoclausal structure (cf. Stage 3). As concluded in the previous section, we may assume that the *en(de)* construction was fundamentally biclausal in structure, except for some occasional cases. Therefore, Stage 3 (a monoclausal construction with *en(de)*) should be abandoned. The stability of the *en(de)* construction could also support the view that it did not gradually develop into the *te* construction; that is, the *en(de)* and the *te* construction should be regarded as inherently independent constructions (cf. section 4.5.2.).

In summary, the results suggest that the period studied (13th–18th century) covers the time when the pseudo-coordinate *en(de)* construction was prevalent, and the time when the *en(de)* construction was replaced by the monoclausal *te* construction. Specifically, the Middle Dutch period (i.e. 13th–15th century) and the beginning of the Early Modern Dutch period (i.e. 16th century) correspond to the stage when the pseudo-coordinate *en(de)* construction was prevalent (i.e. Stage 2), while the 17th century corresponds to the transition from the *en(de)* construction to the *te* construction (i.e. Stage 4), and the 18th century corresponds to the dominance of the *te* construction (Stage 5). This proposal necessarily implies that Stage 1 (coordination) probably corresponds to the period before the 13th century and hence possibly to Old Dutch. These observations are summarized in Table 22, and example sentences corresponding to each stage are given below in (51–54).

Table 22. Development of the Dutch posture-verb progressive construction

Stage	Form/meaning
Stage 1 [pre-1200]	Biclausal/bipredicative or monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> (S) V ² _{fin}
Stage 2 [1200–1600]	Biclausal/monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> V ² _{fin}
Stage 3 [1600–1700]	Biclausal/monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> V ² _{fin} Monoclausal/monopredicative S PV _{fin} Adv _{loc} <i>te</i> V ² _{inf}
Stage 4 [1800–now]	Monoclausal/monopredicative S PV _{fin} Adv _{loc} <i>te</i> V ² _{inf}

(51) [Stage 1]

Si **saten ende** si **aten** [1127]

‘they sat, and they ate’ (= (22a))

(52) [Stage 2]

a. Ende doe si **saten ende aten**, seyde Ihesus (...) [1071]

‘and when they sat and ate, Jesus said (...)’

(53) [Stage 3]

a. s' Nachts als ick **lach en sliep** (...) [2202]

‘at night, when I lay and slept (...)’

b. PApa [*sic.*], Helena **stond** daar met een man **te praaten** [629]

‘papa, Helena was standing there talking with a man’

(54) [Stage 4]

zy **liggen** na het eeten **te rusten** [2220]

‘they are lying and resting after eating’

In the database for this research, the *en(de)* construction was mostly found between the 13th–17th century. The *te* construction, meanwhile, increased in frequency from the 17th century and became the only posture-verb construction in Modern Dutch. It is reasonable to assume that the characteristics of the *te* construction in the 18th century resemble those of the Modern Dutch construction; this view is supported by the comparable proportions of instances with locative and temporal modification and the

comparable variety of co-occurring verbs in the 18th and 21st centuries (cf. sections 4.2.1. & 4.4.6.). Stage 1 (coordination), meanwhile, does not seem to be clearly reflected in the data and remains a hypothetical stage, which possibly preceded the pseudo-coordinate stage of the construction.

Although two constructions are distinguished here, it is notable how strongly the postural meaning was retained throughout the period studied. Judging from the stability of the semantics of the second verb, there was no semantic bleaching of posture verbs, and thus there was always a requirement for the second verb to be semantically compatible with the posture verbs.

Comparing the summary table here (Table 22) with the initial version in section 3.3. (Table 1), one key difference is the removal of Stage 3 (monoclausal *en(de)* construction), since this stage was not supported by the data. Another difference is that locative modifiers now occur throughout the table (indicated by Adv_{loc}). As revealed in 4.4.3 (Hypothesis 12), locative modification occurs with more than half of the instances on average. Therefore, it could be argued that it remained part of the posture-verb construction over time. Another difference is the deletion of the sentence pattern [S PV_{fin} *en(de)* V_{inf}²]. As seen in 4.2.5., the structure with a finite posture verb and an infinitival second verb with the connector *en(de)*, while not entirely absent, is extremely infrequent in my database (six instances in total). This indicates that the phenomenon was not among the key developments of the construction.

The grammaticalization path proposed in Table 22 is a general summary of what is found in the analysis, and as such, omits a few of the findings. For example, it disregards the difference in word order and does not reflect the gradual replacement of the connector *ende* by *en*, as presented in 4.2.3. Overall, however, the table provides a clear and concise overview of how the Dutch posture-verb progressive constructions developed from the 13th to the 18th century, based on the analyses conducted in this chapter.

In the next chapter, the pseudo-coordinate posture-verb construction in Modern German is investigated to assess how grammaticalized it is relative to the Dutch *en(de)* construction. Finally, Chapter 6 provides a summary and discussion of the findings of the dissertation, in which the relationship between the *en(de)* construction and the *te* construction emerges as a competition that is ultimately won by the unambiguously progressive, and hence functionally superior *te* construction.

Chapter 5 The posture-verb construction in Modern German

5.1 Introduction

In Dutch, posture verbs have been used as progressive auxiliaries for several centuries, as demonstrated in the previous chapters. Contrary to Dutch, Modern German posture verbs are not grammaticalized, and they do not form a progressive construction. However, the language does have a formal equivalent of the Dutch *en(de)* construction (i.e. [PV *und* V²]), which seems to show properties of pseudo-coordination. As described in section 1.2.3., pseudo-coordination refers to the phenomenon that two verbs, typically in the same inflectional form, are linked by a coordinating conjunction, with no overt subject of the second verb. In pseudo-coordination, the verbal complex overlaps formally with regular coordination, but is monopredicative and typically shows some grammatical properties that can be linked to monoclausality, such as object extraction (cf. section 2.1.1.). Pseudo-coordination is not widely attested in German, but is it not entirely absent (cf. Van Pottelberge 2002: 146-150). For example, the pseudo-coordinate construction is common in Low German dialects and North High German varieties (Höder 2011, 2012); it is attested particularly with some aspect-like functions, involving the posture verbs *stehen* ‘to stand’ and *sitzen* ‘to sit’ (Proske 2017, 2019; see also section 1.2.3.).¹

Proske (2017, 2019) notes that the German pseudo-coordinate construction with *stehen* and *sitzen* is not clearly grammaticalized as it is in other Germanic languages, such as Swedish and Norwegian; however, she argues that it exists as a conventionalized construction and ‘aspectual and subjective meaning components are emerging’ (Proske 2019: 133). An example of pseudo-coordination with *sitzen* is given in (1).

- (1) weil ich halt da immer nur **sitze und** irgendwas **schreibe oder lerne**
‘because I always sit there and write or learn something’ / ‘because I am writing or learning all the time’ (= (4a) in Chapter 1)

¹ See the examples in (13) in section 1.2.3. for instances of pseudo-coordination with non-posture verbs.

[illegible]

Furthermore, Proske remarks that pseudo-coordination in (2b) indicates that both the action of standing and the action of blow-drying are in progress and unfinished. Thus, according to the author, the pseudo-coordinate structure of the construction serves as an indicator for the concurrence of the two temporally extended and uncompleted activities. In

² Detailed characteristics of the particle verbs *dastehen*, *dasitzen*, and *daliegen* can be found in 5.2.2.

light of these characteristics of pseudo-coordination with posture verbs, Proske interprets example (2b) as showing ‘the potential for progressive aspect to grammaticalize out of pseudo-coordinated uses’ (*ibid.*: 129).

Proske further analyzes her data with regard to two features: the co-occurrence of a locative modifier and the semantic class of the second verb. Concerning locative modification, she finds that all the instances in her dataset are modified for location, but almost half of them take a deictic adverb, such as *da* ‘there’ and *hier* ‘here’, or the particle *da-* as illustrated in (2) (*ibid.*: 126). As for the semantic class of the second verb, both the posture verbs *stehen* and *sitzen* occur mainly with activity verbs, particularly *warten* ‘to wait’. They also co-occur relatively frequently with verbs of thinking and perception (e.g. *(sich) denken* ‘to think’) but less frequently with verbs of communication (e.g. *sagen* ‘to say’).

In sum, it could be argued that there is a Modern German construction that is comparable with the Dutch posture-verb progressive construction in an earlier form, i.e. [PV *en(de)* V²]. The emergent status of the Modern German construction and its possible comparability with the earlier Dutch posture-verb construction with *en(de)* raises the question of whether the German construction may develop further. In other words, if the Modern German construction in question shows some commonalities with the Dutch posture-verb construction, these commonalities could predict further grammaticalization along the lines attested for Dutch. In this study, I therefore aim to establish the degree to which the German construction is grammaticalized compared to the Dutch posture-verb progressive construction, and to evaluate the potential of the German construction for further grammaticalization.

5.2 Methods

This chapter concerns Modern German, and as such, the investigation here has a synchronic character; that is, no temporal changes will be examined for the German construction in this chapter. Given that the posture-verb construction is still emergent in German, data from earlier periods is not expected to be informative as to how the construction has developed. The synchronic approach of this chapter differs from the investigation of the Dutch posture-verb progressive construction, which was diachronic in nature (not including the modern language).

Nevertheless, the method of analysis used for the Dutch data—that is, counting the number of relevant instances and calculating ratios—can also be adopted for the German data. This approach makes it possible to describe the contemporary German posture-verb construction from various perspectives that may shed light on the degree of grammaticalization. For the Dutch data, the grammaticalization of the posture-verb construction was hypothesized to be reflected in changes in the proportions of instances with a certain feature in the database (cf. section 3.4.). Since the German data are not diachronic in nature, the analysis in this chapter does not involve comparing proportions relative to an earlier baseline; rather, the analysis explores relative differences in proportion between verb types (e.g. *stehen* compared to *sitzen*). In addition, the results for the Dutch posture-verb construction are used as a tentative benchmark for comparison where needed. Considering all the differences between the Dutch and German data, including the difference in the period under study and the size of the dataset, it is not feasible to conduct a precise comparative analysis, such as one involving statistical tests; however, the comparison between the languages can yield a general picture of how grammaticalized the German posture-verb construction is relative to the Dutch construction.

Moreover, the German data may shed light on the gap in the Dutch grammaticalization path (cf. Table 22 in 4.5.3.) by supplying data for the transition from the first to the second stage (i.e. Stage 1, coordination, to Stage 2, pseudo-coordination). Therefore, the German data may complement the Dutch data by providing indications of how the Dutch construction may have looked at its initial stage.

One apparent difference between the languages should be noted: the existence of the particle verbs, or ‘*da*-verbs’, in German. As demonstrated in (2), the German posture verbs with the particle *da*- behave in a similar way to those without the particle, so that Proske (2019), for example, does not always distinguish between them. On the other hand, Dutch does not have analogous posture verbs with a particle. However, as noted above, the German posture verbs with *da*- also seem to participate in pseudo-coordination and, in some instances, show foregrounded temporal meaning and backgrounded postural meaning (cf. (2b)), which is considered an indication of further grammaticalization by Proske (2019). Therefore, *dastehen*, *dasitzen*, and *daliegen* are included in this study.³ This decision

³ There also exist other particle verbs with a posture verb as the base. Of these, the particle most similar to *da*- is *herum*- ‘around’. Such verbs are not included in this research, in order to maintain comparability with Proske’s studies.

inevitably means diminished comparability with the Dutch data, which only include data for posture verbs without a particle. Further characterization of the *da*-verbs, and a possible role of the *da*-particle in the grammaticalization of the German posture-verb construction, can be found in 5.2.2.

5.2.1 Data source and extraction methods

Since the aim is to relate the findings for German to those for Dutch, the datasets for the two languages should be comparable. Therefore, in selecting a corpus for the German data, one with literary texts is preferable (cf. section 2.1.2.). For this purpose, the *DWDS-Kernkorpus 21 (2000-2010)* was selected. The corpus includes 15,469,000 tokens from 12,184 texts and can be filtered according to four different text genres: *Belletristik* ‘belles-lettres’, *Wissenschaft* ‘science’, *Gebrauchsliteratur* ‘functional literature’, and *Zeitung* ‘newspaper’. Furthermore, the corpus is lemmatized and enriched with PoS tagging, enabling automated sentence extraction. Therefore, the literary *Belletristik* sub-corpus (3,477,000 tokens) is selected as a suitable data source which enables comparison with the Dutch data analyzed in previous chapters.

As described in the previous section, this investigation covers not only the three posture verbs (*stehen*, *sitzen*, *liegen*) but also the particle verbs with posture verbs as base (*dastehen*, *dasitzen*, *daliegen*), which is in line with Proske (2019). Since *da* can also be an adverb meaning ‘there’, it is not always obvious whether a combination of posture verb and *da* constitutes a particle verb or a simplex verb plus adverb. In speech, the two are differentiated by sentence stress patterns;⁴ however, in the written language (i.e. the form of data used in this study), there can be ambiguity. In this study, ambiguous cases were classified as particle verbs. Example (3a) shows a non-ambiguous case of a simplex verb (*stehen*) with adverb *da*, and (3b) shows an ambiguous case categorized as a particle verb (*dastehen*).

⁴ In speech, the separable particle (*da*-) of the particle verb is stressed (e.g. *dann steht er DA und wartet* ‘then he stands (there) and waits’, stress indicated by upper case) while the adverb *da* ‘there’ is not (e.g. *dann STEHT er da und wartet* ‘then he stands there and waits’; Duden 2016: 709).

- (3) a. Da **stand** er nun **und sah** mit seinen Augen, Augen grell vor
Angst, durch uns hindurch. [212]
'there he stands now and looked with his eyes, eyes glaring
with fear, through us'
- b. Malka **stand da und starrte** den Jungen **an**. [68]
'Malka stood there and stared at the boys'

Example (3a) includes *da* but it is placed in sentence-initial position, which is impossible for a separable prefix. *Da* in (3b), on the other hand, is ambiguous in terms of whether it is a particle or an adverb. Since the sentence lacks any clear indication that the verb should be construed as simplex, it is categorized as containing a particle verb.

This manner of categorization risks incorrectly classifying some cases of adverb *da* as particle *da-*; however, with this approach, no particle verbs are incorrectly classified as simplex verbs. This means that the dataset for simplex verbs is maximally comparable with the Dutch dataset, which only contains simplex verbs.

In studying the Dutch posture-verb progressive construction, three kinds of sentences were extracted from the corpora, as shown in (4) (cf. section 2.1.3.):

- (4) a. PV_{fin/inf} (word¹⁻⁵) *en(de)* (word¹⁻⁵) V²_{fin/inf}
b. PV_{fin/inf} (word¹⁻⁷) *te* (word¹) V²_{inf}
c. PV_{fin/inf} (word¹⁻³) V²_{inf}

For German, sentences with structure (4a) with the connector *und* were extracted (i.e. [PV¹_{fin/inf} (word¹⁻⁵) *und* (word¹⁻⁵) V²_{fin/inf}]), using the DDC query language.⁵ The extracted sentences were further assessed according to the following criteria, as was done for Dutch (cf. section 2.1.3.).

- (5) a. Both verbs have the same agent regardless of whether it is realized as an overt subject (e.g. *der Mann sitzt da und (er) schaut zu* 'the man sits there and (he) watches' is permitted but *der*

⁵ The DDC query language is comparable with the CQL (cf. section 2.3.1.). The queries used are: 'stehen #5 und #5 \$p=VV*' (1025 hits), 'dastehen #5 und #5 \$p=VV*' (26 hits), 'sitzen #5 und #5 \$p=VV*' (554 hits), 'dasitzen #5 und #5 \$p=VV*' (26 hits), 'liegen #5 und #5 \$p=VV*' (356 hits), and 'daliegen #5 und #5 \$p=VV*' (7 hits).

Mann sitzt da und die Frau schaut zu ‘the man sits there and the woman watches’ is excluded).

- b. The second verb is not an auxiliary (e.g. *steht und kann gehen* ‘stands and can go’ is excluded).
- c. The second verb is not in the past unless the posture verb is in the past (*sitze und aß* ‘sit and ate’ is excluded but *saß und aß* ‘sat and ate’ is permitted)
- d. The verbs may be modified by the same auxiliary (e.g. *will liegen und kann schlafen* ‘want to lie and can sleep’ is excluded but *will liegen und schlafen* ‘wants to lie and sleep’ is permitted).
- e. There is no indication of temporal sequence (e.g. *stand da und klopfte dann* ‘stood there and knocked then’ is excluded).
- f. The posture verb is not a part of a multiword expression with a noncompositional meaning (e.g. *jemandem auf der Pelle sitzen/liegen* lit. ‘sit/lie someone on the peel’, meaning ‘keep bothering somebody’, is excluded).

The sentences meeting these criteria were entered into the database of this study.⁶ The method used to annotate the sentences in the database is summarized in Appendix D. The statistical test used for the analysis is again Fisher’s exact test (see section 2.4. for more details), and this test was conducted using the programming language R, version 3.6.3 (R Core Team 2018).

5.2.2 Expectations

Based on Proske’s observation, the German pseudo-coordinate construction is emergent, meaning that it is possibly somewhere between Stage 1 (coordination) and Stage 2 (pseudo-coordination) of the grammaticalization path proposed for Dutch (cf. Table 22 in section 4.5.3.). Therefore, in the following I first outline the general characteristics of coordination in German, followed by the possible alternations from coordination to pseudo-coordination.

Similar to Dutch, coordination in German is typically understood as connecting two linguistic elements of the same sort (Sommerfeldt & Starke 1998: 230ff., Blühdorn 2008: 4f., Duden 2016: 908), as shown by example (6).

⁶ The database file (‘database_de.csv’) is available in the DataverseNL repository (Okabe 2022).

- (6) Die Pinguine waren braun-gelb **und** die Giraffen waren schwarz-weiß.
 'the penguins were yellow-brown, and the giraffes were black and white'
 (Blühdorn 2007: 70)

In this example, the coordinating conjunction *und* coordinates two clauses.

In some cases, the order of the conjuncts contributes to the semantics of the sentences. In the following examples from Blühdorn (2007), the author remarks that the most plausible readings are that 'the connected events are ordered in a temporal sequence' (*ibid.*: 70).

- (7) a. Maria ging in die Bibliothek **und** sie bekam Hunger.
 'Maria went to the library, and she began to feel hungry'
 b. Maria bekam Hunger **und** sie ging in die Bibliothek.
 'Mary began to feel hungry, and she went to the library'
 (Blühdorn 2007: 70)

In these examples, Maria first went to the library and then became hungry (7a), or vice versa (7b). The sequence can be further interpreted as two sub-events of a larger event (Reich 2008: 286-289). Therefore, some coordinated sentences can be seen as expressing two related events forming one composite interpretation.

When the coordinated conjuncts share one or more elements, the repeated element(s) may stay unrealized (Sommerfeldt & Starke 1998: 230, Duden 2016: 909-912). For example, in (8), the subject pronoun *er* 'he' for the second conjunct is elided.

- (8) Er geht jetzt in Buchhandlungen und liest Neuerscheinungen.
 'now, he goes in bookstores and reads new publications'
 (Reich 2008: 285)

In coordination, modifiers in the first conjunct may have scope not only over this conjunct but also over the second (Höhle 1983: 28f.), as shown by (9).

- (9) a. Karl fährt am Abend in Mainz los und kommt am Morgen in Bonn an.
 'Karl departs from Mainz in the evening and arrives in Bonn in the morning'
 (constructed based on Höhle (1983: 25); translation mine)

- b. Deine Freunde sind hoffentlich schon angekommen und verteilen Flugblätter.
 'your friends have hopefully already arrived and are distributing flyers' (*ibid.*: 28; translation mine)
- c. Karl ist nicht zurückgekommen und hat seine Sachen geholt (sondern das Zeug steht immer noch hier rum).
 'Karl has not returned and taken his things (rather the stuff is still standing around here)' (*ibid.*: 30; translation mine)

In (9a), each conjunct takes a locative and temporal adverbial (underlined in the example), which are incompatible with those in the other conjunct. This means that adverbials in each conjunct have scope over that conjunct only. *Hoffentlich* in (9b), on the other hand, has scope over both conjuncts, i.e. the speaker hopes that the friends have already arrived and started distributing flyers. This wide scope also applies to negation: the negator *nicht* 'not' in (9c) has scope over both the first and the second conjunct.

In sum, the general characteristics of coordination with *und* in German are comparable with Dutch in terms of juxtaposition of linguistic elements of the same sort, the possibility of receiving a one-event interpretation, and the possibility of eliding shared elements.

Additionally, German has one specific type of coordination that obligatorily requires a composite reading. This phenomenon is referred to as 'subject gap in finite clause coordination' (henceforth referred to as SLF coordination, after the German term *Subjektücke in finiten Sätzen*, Höhle 1983, Thiersch 1993: 145ff., Larson 2005: 215-267, Reich 2008, 2009, 2013, Bonitz & Holler 2011, Mayr & Schmitt 2017).⁷ Since this phenomenon could affect the structure and the interpretation of instances from the corpus, a detailed characterization is provided in the following.

SLF coordination can be characterized by (i) inversion in the first conjunct, (ii) subject gap in the second conjunct, and (iii) a finite verb placed in clause-initial position (i.e. directly after *und*) in the second conjunct, as illustrated in example (10).⁸

⁷ As pointed out by Larson (2005: 217), there is intense discussion about how the structure of the SLF coordination should be analyzed. It is beyond the scope of this research to examine the validity of the proposed theories. This research focuses on the apparent structure and behavior of SLF coordination, especially with respect to the comparability with [PV *und* V²] coordination.

⁸ SLF coordination is also observed in Dutch (Zwart 1991, 2011: 263ff.), but the structure seems to be less acceptable than the German one (?[n]a Zwolle rijdt deze trein verder als intercity naar Groningen en zal alleen stoppen te Assen 'after Zwolle this train

- (10) Da **stellt** sich jemand vor die Mikrofone **und tut** so, als könne er etwas erklären.
 ‘somebody stands there in front of the microphone, and pretends to be able to explain something’ (Reich 2008: 282)

In this example, the first conjunct contains the adverb *da*, followed by a verb in second position; the subject then appears in the position following the verb (a word order known as inversion). The second conjunct starts with a verb and contains no overtly realized subject. This yields a typical SLF coordination structure.

Structurally, SLF coordination has a fixed word order of [Adv V¹ ... S ... *und* V²], without allowing any intervening elements between *und* and the following verb (Larson 2005: 219f., Mayr & Schmitt 2017: 10f.). This is demonstrated by (11).

- (11) *Gestern musste der Hans morgens mit der Anna frühstücken und **heute** sollte abends mit der Maria ausgehen.
 ‘Yesterday, Hans had to have breakfast with Anna in the morning and today he should have gone out with Maria in the evening’
 (Mayr & Schmitt 2017: 11; translation mine)

In this example, the adverb *heute* ‘today’ is placed after *und* and before the second finite verb *sollte* ‘should’, which makes the sentence ungrammatical.⁹

With regard to semantics, it is known that SLF coordination has an obligatory one-event interpretation (Höhle 1983: 22, Reich 2008: 285).¹⁰ This

goes on as an intercity to Groningen and will only stop in Assen’; Zwart 1991: 1). Moreover, Larson (2005: 216, footnote 59) notes that “[s]ome Dutch speakers do not accept SLF constructions at all or accept some, but not the others. It is not clear what characteristic makes Dutch SLF examples unacceptable”. This vague characterization of SLF coordination in Modern Dutch makes it even more difficult to discuss this phenomenon in a historical context. Therefore, SLF coordination is not taken up in 3.1.1. as part of the discussion of coordination in Dutch. At the same time, note that German SLF coordination is also inconsistent and seems to be subject to some structural and regional differences (Bonitz & Holler 2011).

⁹ Note that the ungrammaticality of this example is *not* induced by the fact that the second conjunct takes an adverb (*heute* ‘today’) that is semantically contrastive with the adverb in the first conjunct (*gestern* ‘yesterday’). As can be seen in (9a), it is possible that each conjunct takes its own adverbial, but adverbials for the second conjunct need to be placed after the second verb.

can be understood in the sense that the first conjunct sets the scene, which is further extended by the event described in the second conjunct (cf. Reich 2008: 288).¹¹ Therefore, instances of SLF coordination are characterized by obligatory semantic cohesion.

A shift from coordination to pseudo-coordination is thought to include the following changes, based on cross-linguistic observations, as summarized in 3.3.6. and repeated here as (12).¹²

- (12) a. Less frequent overt realization of the subject of the second verb
- b. Locative modification occurs infrequently
- c. Temporal modification occurs frequently
- d. Semantic compatibility of the posture verb and the second verb is strictly required, limiting lexical variety of the second verb
- e. Negator negates the verb sequence, not just individual verbs
- f. Object extraction is possible (= (9) in section 3.3.6.)

A change from a coordinate to a pseudo-coordinate structure could generally be characterized as an increase of cohesion, both structurally and semantically. One of the expected consequences is that the subject of the second verb is realized less frequently (12a). With respect to adverbials, less frequent occurrence of locative modifiers and more frequent occurrence of durative temporal modifiers is hypothesized (12b & c); this is associated with backgrounding of the postural/locative semantics of posture verbs and corresponding foregrounding of their temporal meaning (cf. section 3.3.2.). Note that the Dutch data also indicate that the adverbial may frequently be

¹⁰ Höhle (1983: 22) remarks that the two predicates can be seen as directly and naturally related to each other (cf. 'einen unmittelbaren natürlichen Zusammenhang zwischen Prädikaten'), which could be understood on a par with natural coordination presented in 3.3.1. for Dutch coordination.

¹¹ Note that this one-event interpretation implies that the agent for the first and the second conjunct are the same (Höhle 1983: 12f., Reich 2013: 363f.). Therefore, in the case of (10), it is not possible to interpret the sentence as involving two agents (e.g. a person A stands in front of the microphone and a person B pretends to be able to explain).

¹² Recall that it was concluded that the transition from coordination to pseudo-coordination was absent in the Dutch data (cf. section 4.5.3.). Therefore, it is important to investigate not only the changes which were attested in the Dutch data, but also those that were originally proposed in Chapter 3 for the transition from coordination to pseudo-coordination, since these changes could nonetheless be attested in the German dataset (which is expected to reflect this transition).

placed before the connector in pseudo-coordination (cf. sections 4.4.1. & 4.4.2.); if this kind of adverbial placement is also observed in the synchronic German data, this may be taken as evidence for pseudo-coordination. Since pseudo-coordination involves a composite interpretation, it is also required that the events described by each conjunct are compatible (e.g. no lying and running), which possibly leads to a limited semantic and lexical variety of the second verb compared to the coordinated construction (12d). Furthermore, negation of individual conjuncts would also be unlikely (12e). The cohesion of the verb sequence may also lead to object extraction as in Swedish (cf. section 2.1.1.), which could in theory also be observed in German if the construction is pseudo-coordinate (12f). In addition to object extraction, the Dutch data suggest that pseudo-coordination allows the placement of the object of the second verb before the connector (cf. sections 4.3.4. & 4.5.2.); this phenomenon will also be investigated along with object extraction.

These expectations will be examined in terms of the verbal complex, the noun, and the modifier, as in Dutch. Table 1 summarizes the features to be assessed for each category, as well as the expectations regarding these features if the structure is pseudo-coordinate rather than coordinate.

Table 1. Summary of the expectations

Features to be assessed	Expected observations if structure is pseudo-coordinate
(13) Verb complex	
a. Hapax token ratio (= (12e))	lower (smaller lexical variety)
b. Semantic compatibility of V ² (= (12e))	more compatible
(14) Noun	
a. Overt subject of V ² (= (12a))	less frequent
b. Object extraction (= (12g))	more frequent
c. Object of V ² placed before <i>und</i>	more frequent
(15) Modifier	
a. Placement of adverbials of V ² before <i>und</i>	more frequent
b. Locative modifier (= (12c))	less frequent
c. Durative temporal modifier (= (12d))	more frequent
d. Negator for the whole verb complex (= (12f))	more frequent

These nine points presented in (13-15) will be investigated in the next sections (5.3.2.-5.3.4.).

Given that the data include verbs with and without the particle *da-*, there are a couple of additional points that need to be considered in the analysis. First, while the posture verbs without the particle typically require a locative modifier, the corresponding particle verbs do not. For example, when the first verb in (16) is interpreted as *daliegen* (and not as a posture verb co-occurring with an adverb *da*, which is also possible), it is perfectly acceptable without any extra modifiers.

- (16) Ich **lag da und sah fern**. [642¹³]
 'I lay there and watched TV'

Indeed, 33% of instances of the posture verbs with the particle in my database take no adverbials, resulting in a simple structure like (16) (14 of 50 instances for *dastehen*, 11 of 35 for *dasitzen*, and 9 of 18 for *daliegen*).¹⁴ Only a

¹³ The numbers in the square brackets correspond to the sentence numbers given in the database ('database_de.csv').

¹⁴ In contrast, only 1.9–2.8% of the instances with simplex verbs occur without

few instances take locative adverbials (0 of 50 instances for *stehen*, 4 of 35 for *sitzen*, and 0 of 18 for *liegen*).¹⁵

Second, *da-* can be interpreted as a locative modifier, but also as referring to a certain situation or state.¹⁶ For example, (16) does not necessarily indicate a specific place. *Da-* in *daliegen* instead seems to emphasize the aimlessness of the activity of the second verb (here, watching TV) without a specific endpoint, and hence the atelic aspect of the event (Jenny Audring, personal communication). In short, *da*-verbs seem to have the meaning of ‘hanging around without purpose’. This bleached locative meaning of *da*-verbs may serve as a good starting point for the grammaticalization of posture verbs as a progressive marker.

The characteristics of *da*-verbs mentioned above serve as a good reason to distinguish these verbs in the analysis, especially when analyzing locative modification (cf. (15b)). Therefore, in the analysis, the data for the verbs with the particle will be handled separately from that for the verbs without the particle.

In addition, SLF coordination also deserves attention. As outlined above, SLF coordination has a fixed structure with specific slots for the subject and adverbials (cf. (10)). This requirement would influence the rate of overtly realized subjects of the second verb (cf. (14a)) and the position of the adverbial (cf. (15a)). Additionally, this fixed structure with a compulsory one-event reading may be a good starting point for further grammaticalization. Therefore, the number of instances with SLF coordination should be taken into consideration in the analysis.

modifiers (5 of 262 instances for *stehen*, 8 of 286 for *sitzen*, 5 of 97 for *liegen*).

¹⁵ Note that this does not mean that the particle verbs cannot take extra modifiers. For example, it is possible to add an extra locative modifier to specify the location (e.g. *wenn sie im Bett daliegt und nachdenkt* lit. ‘when she in bed there-lies and thinks’).

There are also adverbials that indicate the manner of location (e.g. *Elinor saß kerzengerade da und starrte ihn an*. [464] ‘Elinor sat there bolt upright and stared at him’), which is also counted as a locative modifier in this research.

¹⁶ Cf. Duden Wörterbuch, headword *dastehen*: “sich in einer bestimmten Lage, Situation, Verfassung befinden” ‘find oneself in a certain location, situation, state’.

5.3 Results and analysis

5.3.1 Overview

Table 2 provides the numbers of instances extracted from the corpus as potential cases of the pseudo-coordinate construction. As presented in the previous section (5.2.2.), the data for *dastehen*, *dasitzen*, and *daliegen* are included but dealt with separately from the data for *stehen*, *sitzen*, and *liegen*.

Table 2. Absolute frequencies of the verbs

<i>(da)stehen</i>		<i>(da)sitzen</i>		<i>(da)liegen</i>	
<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
262	50	286	35	96	18

As can be seen in the table, *(da-)stehen* and *(da-)sitzen* have almost the same number of instances (312 and 321, respectively), while *liegen* has a considerably lower number of instances (114 cases). This unbalanced distribution aligns with the general frequency distribution of the posture-verb progressive construction in Dutch (cf. sections 1.2.2. & 4.1.). At the same time, the percentage of instances accounted for by *da*-verbs is similar for both *(da)liegen* and *(da)stehen* (around 16%), while *dasitzen* only accounts for about 10% of all instances of *(da)sitzen*.¹⁷

With regard to SLF coordination, 88 instances are found for *(da)stehen* (28.2%), 26 for *(da)sitzen* (8.1%), and 32 for *(da)liegen* (28.1%). Based on this finding, there appears to be a considerable difference in proportion between *(da)sitzen* (about 8%) and *(da)stehen* and *(da)liegen* (both about 28%). In terms of the distinction between posture verbs with and without the particle, *da*-verbs seem to show a higher proportion with SLF coordination (15 of 50 instances for *dastehen* (30%), 4 of 35 for *dasitzen* (8.6%), and 8 of 18 for *daliegen* (44%)).

In the following, the data will be analyzed in terms of the expected changes presented in the previous section and summarized in Table 1. Attention will be paid to the difference between the verbs, as in the analysis for Dutch.

¹⁷ Note that the overall frequency distribution in the corpus for each posture verb is as follows: 5,275 instances for *(da)stehen*, 2,310 for *(da)sitzen*, and 2,983 for *(da)liegen*. This means that 5.9% of all instances with *(da)stehen*, 13.9% of those with *(da)sitzen*, and 3.9% of those with *(da)liegen* have a pseudo-coordinate structure.

5.3.2 Verbal complex

In this section, the semantic cohesion of the verb sequence is examined from two perspectives. The first is the lexical diversity of the second verb and the second is the semantic compatibility between the posture verb and the second verb.

The lexical diversity of the second verb can be evaluated using hapax token ratios (henceforth HTR), as in Dutch (cf. section 4.2.1.). A low HTR can be associated with the pseudo-coordinate stage of the construction, since it is possible that the construction at this stage regularly occurs with a set of verbs that are semantically compatible with posture verbs (cf. section 3.3.2.). On the other hand, a high HTR could indicate that the construction is either non-grammaticalized or highly grammaticalized: in both situations, we would expect to see a diverse set of co-occurring verbs. In the case of the former, a standard coordinate structure can retain independence between the conjuncts and the semantic cohesion between the conjuncts is not always of great relevance. Meanwhile, the latter case concerns increasing collocate diversity, which may be expected for a grammaticalized construction (cf. section 1.3.1.). Since the German construction is not thought to be very grammaticalized, the latter situation can be ruled out. Thus, a high HTR would indicate that the construction has a more coordinate-like (that is, less grammaticalized) status (cf. (13a)).

Table 3 presents the numbers of types, tokens, hapaxes, and HTRs per verb type. To provide insight into the data, in what follows I compare the HTRs between the different verb types, and with those for the Dutch posture-verb construction.

Table 3. Total types, tokens, hapaxes, and HTRs per verb

	<i>(da)stehen</i>		<i>(da)sitzen</i>		<i>(da)liegen</i>	
	<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
type	161	36	153	28	66	16
token	262	50	286	35	96	18
hapax	116	28	114	25	56	14
HTR	0.44	0.56	0.4	0.71	0.59	0.78

As the table shows, the HTRs are all approximately 0.4 or higher; this is generally higher than the HTRs for the Dutch posture-verb construction (0.42 for *staan*, 0.27 for *zitten*, and 0.29 for *liggen* on average). Note, however, that the magnitude of this difference is difficult to evaluate and the

difference in the size of datasets should be taken into consideration.¹⁸ It can also be seen from the table that the *da*-verbs always show higher HTRs than their equivalents without *da*-, which means that *da*-verbs show a wider variety in terms of the verbs that co-occur with them.¹⁹

Table 4 provides the most frequent verbs found together with each posture verb, with the absolute frequencies given in parentheses.

Table 4. The most frequent co-occurring verbs per posture verb

(da)stehen		(da)sitzen		(da)liegen	
<i>stehen</i> (262)	<i>dastehen</i> (50)	<i>sitzen</i> (286)	<i>dasitzen</i> (35)	<i>liegen</i> (96)	<i>daliegen</i> (18)
<i>warten</i> (15)	<i>schauen</i> (6)	<i>warten</i> (19)	<i>warten</i> (6)	<i>schlafen</i> (15)	<i>starren</i> (2)
<i>halten</i> (10)	<i>anstarren</i> (3)	<i>lesen</i> (16)	<i>zuhören</i> (2)	<i>lesen</i> (5)	<i>warten</i> (2)
<i>sehen</i> (10)	<i>starren</i> (3)	<i>trinken</i> (12)	<i>ansehen</i> (2)	<i>starren</i> (5)	
<i>zuschauen</i> (9)		<i>essen</i> (11)		<i>denken</i> (3)	
<i>starren</i> (5)		<i>starren</i> (10)		<i>warten</i> (3)	

Based on the information presented in Tables 3 and 4, *(da)stehen* and *sitzen* have a set of verbs that they frequently co-occur with, while *liegen* shows a strong orientation toward one verb, namely, *schlafen* ‘to sleep’. Therefore, *liegen* could be seen as fossilizing in a specific combination, *liegen und schlafen* ‘lie and sleep’, as in Dutch (cf. section 4.5.2.). Moreover, *dasitzen* and *daliegen* seem to occur with various verbs with low frequencies, which leads to higher HTRs (0.71 for *dasitzen* and 0.78 for *daliegen*) than the other verbs, indicating a wider lexical variety.

There are two verbs that occur with almost all six verbs: *warten* ‘to wait’ (17a) and *starren* ‘to stare’ (17b).

- (17) a. Geduldig **stand** er vor der verschlossenen Tür **und wartete**, bis die Dame wiederkam (...). [184]
 ‘he stood patiently in front of the closed door and waited till the lady came again’

¹⁸ HTRs from datasets of different sizes are not necessarily comparable (cf. sections 3.4.1. & 4.2.2.). The dataset size for the HTR analysis in Dutch is approximately 4.4 million tokens, while the corpus size for German is about 3.4 million tokens. A larger text size is said to result in a lower HTR, since as a text gets longer, word frequencies increase in general, leading to a larger number of tokens and a lower number of hapaxes (Baayen 2008: 222-226). Therefore, the comparison between German and Dutch HTRs should be interpreted with caution.

¹⁹ The type-token ratios (cf. section 3.4.1.) are generally higher than the HTRs, but show a comparable pattern of higher and lower numbers between the verbs.

- b. Ich **lag da und starrte** auf den Wecker; (...). [656]
 'I lay there and stared at the alarm clock'

The frequent occurrence of *warten* aligns with the frequent occurrence of the Dutch verb *wachten* 'to wait' that we see with the Dutch posture-verb progressive construction (cf. sections 1.2.2. & 4.2.1.).²⁰ Perception verbs including not only *starren* but also *ansehen* 'to look at', *anstarren* 'to stare at', *schauen* 'to look', *sehen* 'to see', *zuhören* 'to listen to' and *zuschauen* 'to watch' occur with almost all the verbs. These trends coincide with the findings reported in Proske (2019: 127).

Considering other verbs that co-occur with specific posture verbs, we see that *stehen* frequently co-occurs with *halten* 'to hold', as in (18).

- (18) Phillip **steht** an der Wand **und hält** meine Sachen im Arm. [155]
 'Phillip stands at the wall and holds my stuff on his arm'

In this example, the verb is used to describe a person holding certain objects in his arm. Holding activities can be dynamic and atelic, which align well with the semantics of the posture verb.

Sitzen frequently co-occurs with *essen* 'to eat', *lesen* 'to read', and *trinken* 'to drink', as illustrated in (19).

- (19) a. Ein paar Primaner, die ich vom Sehen kannte, **saßen** an einem Tisch **und aßen** Pizza. [326]
 'a couple of sixth-formers, whom I knew by sight, sat at a table and ate pizza'
 b. Auf dem Sofa **saß** der Babysitter **und las**. [346]
 'the babysitter sat on the sofa and read'

The activities described by these verbs usually take place in a sitting posture, which can explain their high frequency with *sitzen*, which is comparable to the situation for the Dutch posture-verb construction with *zitten* (see (4) in section 4.2.1.).

For *dasitzen*, Proske (2019: 120) further observes that this verb more frequently co-occurs with 'mental, stative, and perception verbs' (e.g. (*sich*) *denken*) than *sitzen*. This is corroborated here by its co-occurrence with verbs

²⁰ Note that the co-occurrence of a posture verb with the verb for 'waiting' is also found in other Germanic languages, such as English (Newman & Rice 2004: 370) and some North Germanic languages (Kinn et al. 2018).

such as *ansehen*, *denken*, *schauen*, *sehen*, *starren*, and *zuhören*, as illustrated in (20), although each occurs only once or twice in the database for this research.

- (20) Bernadette **saß** zurückgelehnt **da und starrte** auf die Reste ihres Toastes. [557]
 ‘Bernadette sat there reclined and stared at the remainder of her toast’

Liegen also echoes the Dutch findings for *liggen*, in that it frequently co-occurs with *schlafen* (15 of 97 instances), as illustrated in (21).

- (21) Chris **liegt** noch im Bett **und schläft**. [690]
 ‘Chris is still lying in bed and sleeping’

In summary, the HTRs for the German pseudo-coordinate construction are roughly comparable but slightly higher than the Dutch HTRs, which could suggest somewhat more limited patterns of co-occurring verbs than observed for Dutch. Notably, the *da*-variants of the verbs are characterized by higher HTRs than the verbs without the particle, and hence by a wider lexical variety in the second verb. In terms of frequent co-occurring verbs, the verb types that often co-occur with each posture verb are comparable with the results of Proske (2019) and with the Dutch posture-verb progressive constructions (cf. section 4.2.1.).

Having considered the lexical diversity of the second verb, let us now turn to the semantic compatibility between the posture verb and the second verb. The cohesion of the verb sequence is evaluated by investigating the semantic features of the second verb (cf. (13b)). As outlined in 5.2.2., the second verb is expected to become semantically more compatible with the associated posture verb in the initial stage of grammaticalization. This means that the second verb is likely to be a dynamic, atelic verb, describing an event that can take place in the posture indicated by the posture verb and which typically does not include change of place from one place to another (cf. sections 3.3.2. & 3.4.1.). Accordingly, four semantic features (dynamicity, telicity, compatibility with the posture, movement) are individually investigated, as was done for Dutch. Table 5 presents the distribution of instances per semantic feature.

Table 5. The distribution of instances per semantic feature of the second verb

		<i>(da)stehen</i>		<i>(da)sitzen</i>		<i>(da)liegen</i>	
		<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
dynamic	+	253	49	279	35	92	17
	-	9	1	7	0	4	1
atelic	+	180	43	203	28	76	13
	-	82	7	83	7	20	5
postural compatibility	+	256	49	282	35	95	18
	-	6	1	4	0	1	0
no movement	+	253	47	281	35	96	18
	-	9	3	5	0	0	0

In general, the features which are semantically more compatible with posture verbs (indicated with '+' in the table) account for more than 94% of all cases regardless of the presence or absence of the particle. One exception for this is the semantic feature of telicity. For this feature, the atelic cases only represent 68–86%, meaning that there are a relatively higher number of cases with telic verbs, as illustrated in (22).

- (22) a. Ich sehe, wie Laura am CD-Spieler **steht und** die CD **einlegt** (...).
[141]
'I see how Laura stands at the CD player and inserts the CD'
b. Sie **liegt** im Sanatorium auf der Terrasse **und faßt** einen
Entschluß: [634]
'she lies in the sanatorium on the terrace and makes a decision'

In both examples in (22), the second verb describes an event with an implied endpoint, and hence both verbs are categorized as telic.

In addition, there appears to be a minor difference in terms of telicity between the *da*-verbs and the simple verbs. In most of the cases, there are no significant differences between particle verbs and simplex verbs, but with *(da)stehen*, the form without the particle (*stehen*) occurs more frequently with telic verbs compared to the one with *da-* (*dastehen*); this difference is statistically significant (Fisher's exact test, $p = 0.02$).

The high acceptability of telic verbs echoes the general compatibility of telic verbs with the posture-verb progressive construction in Modern Dutch. The results seem to indicate that telicity is less important in terms of semantic compatibility with posture verbs in German as well as Dutch. In

other words, the high acceptability of telic verbs suggests that the semantic feature of telicity is not a good indicator of grammaticalization.

In sum, the results reveal that the German posture-verb construction shows considerable semantic cohesion. This is mostly observed in the analysis of semantic features of the second verb, with high proportions of instances showing the semantically compatible features (cf. Table 5). This finding could also be supported by the HTRs for simplex posture verbs (i.e. *stehen*, *sitzen*, *liegen*): these are not much higher than those of the Dutch posture-verb progressive construction, which probably results from the existence of frequently recurring second verbs, such as *essen/lezen/trinken* with *sitzen* and *schlafen* with *liegen* (cf. Tables 3 & 4).

The analyses presented here thus seem to align more with pseudo-coordination than coordination, in line with expectations (cf. (13a & b)). It should be noted, however, that the semantic compatibility of the first and second verb in a verb sequence can be seen as a general characteristic of verbal coordination, especially when the structure has a one-event interpretation (cf. section 5.2.2.).

It is also important to consider the differences between the verbs. The results for the HTRs, for example, indicate that *da*-verbs accept a wider lexical variety in co-occurring verbs, which could be linked to a lower degree of grammaticalization (cf. (13b)). Further discussion of possible differences between verb types will follow in 5.4. taking the results for the noun and the modifier into consideration.

5.3.3 Noun

Three points are investigated for the noun: one relating to the subject and two relating to the object. The first concerns the realization of the subject of the second verb (cf. (14a)). The elision of the co-referential subject of the second verb is considered a premise for an unambiguously composite interpretation of the pseudo-coordinate construction (cf. section 3.3.2.), so if the German posture-verb construction is indeed developing into pseudo-coordination, this feature should be frequently seen.

Table 6 provides the distribution of instances with and without an overtly realized subject for the second verb.

Table 6. The distribution of instances with and without an overt subject of the second verb

	subject of the second verb					
	<i>(da)stehen</i>		<i>(da)sitzen</i>		<i>(da)liegen</i>	
	<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
with	1	0	2	2	0	0
without	261	50	284	33	96	18

It is evident from the table that the construction strongly prefers not to realize the subject of the second verb. The following examples show cases with and without an overt subject for the second verb.

- (23) a. (...) und er **saß** auf seinem Stuhl **und unterhielt** sich mit seinem Vater. [393]
 'and he sat on his chair and chatted with his father'
 b. Wie ein Schlafwandler **saß** ich **da**, **und** ich **hörte** das Krachen meines Gewehrs, (...). [473]
 'I sat there like a sleepwalker, and I heard the report of my gun'
 c. Eines Abends **lagen** wir im Bett **und sahen** uns den zweiten Teil von »Alien« **an**. [644]
 'one evening, we lay in bed and watched the second part of *Alien*'

Example (23a) demonstrates the most frequently observed pattern, with subject elision. Meanwhile, as can be seen in (23b), it is certainly not impossible to realize the subject of the second verb. The structure of (23c) coincides with SLF coordination, with inversion in the first conjunct and no overtly realized subject for the second verb. Instances like (23a & c) with no overtly realized subject of the second verb account for the majority of the data.

Regarding the behavior of the object, placing the object of the second verb before the connector *und* may be possible if the construction is a fully-qualified pseudo-coordinate construction, as in Swedish (Hilpert & Koops 2008, see also section 2.1.1.) and Dutch (cf. sections 4.3.2.–4.3.4.). However, no instances with object extraction or objects of the second verb appearing before *und* are found in the database for this research.

Based on the findings concerning the nouns in the construction, it could be argued that no obvious sign of pseudo-coordination has been observed here. The first argument for this is that no instances are found in the database where an object shows behavior associated with monoclausality of the structure. The non-existence of these cases means that there is hardly any

structural indicator of integrity of a single verbal phrase. Second, while the high frequencies of instances with an unrealized subject of the second verb *could* be linked to a higher degree of grammaticalization (cf. (14a)), this is not necessarily so (cf. (8)), especially when we consider SLF coordination as a kind of normal coordination (cf. section 5.2.2.). Therefore, the analyses of the nouns in the construction suggest that the German posture-verb construction does not have a typical pseudo-coordinate structure, which would normally be characterized by a coordinated clause displaying monoclausality in some respects (cf. section 1.2.3.).

5.3.4 Modifier

Four points are investigated with respect to the modifier. The first concerns the placement of adverbials other than the locative or durative type (15a). Similar to the preposing of the object, the adverbial belonging to the second verb may be placed before the connector *und* in a pseudo-coordinate structure (see 4.4.1. and 4.4.2. for examples in Dutch).

In ordinary coordination, the adverbial associated with the second verb is placed after the second verb in posture-verb non-clause-final word order, as in (24a), and after *und* and before the second verb in posture-verb clause-final word order, as in (24b).

- (24) a. Laura **sitzt** neben mir **und legt** plötzlich ihren Kopf auf meine Schulter. [429]
 ‘Laura sits next to me and suddenly puts her head on my shoulder’
 b. (...) daß Zelda immer noch bei ihm **stand** **und** den Teller ein zweites Mal **füllte**. [249]
 ‘that Zelda still stood by him and filled the plate a second time’

In (24a), the adverb *plötzlich* ‘suddenly’ is placed after the verb it modifies (i.e. *legt* ‘puts’). Meanwhile, (24b) is an example of a subordinate clause with the adverbial *ein zweites Mal* ‘a second time’ placed before the verb it modifies (i.e. *füllte* ‘filled’). The question is thus whether the adverbial of the second verb can be placed after the posture verb and before the connector in posture-verb non-clause-final word order (i.e. [PV Adv *und* V²]), and before the connector in posture-verb clause-final word order (either before or after the posture verb; i.e. [Adv PV *und* V²] or [PV Adv *und* V²]).

For the posture-verb non-clause-final word order, the numbers of instances with a relevant adverbial either after the second verb or between the posture and second verb are reported in Table 7.

Table 7. The distribution of non-locative adverbials in the posture-verb

	non-clause-final word order					
	<i>(da)stehen</i>		<i>(da)sitzen</i>		<i>(da)liegen</i>	
	<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
[PV <i>und</i> V ² Adv]	29	13	31	6	10	1
[PV Adv <i>und</i> V ²]	18	13	28	10	11	3

As the table shows, the instances are mostly evenly distributed between the two sentence patterns. Most of the adverbials that are placed between the posture verb and *und* (i.e. [PV Adv *und* V²]) are, however, interpretable as modifying just the first verb, as in (25a). Some adverbials may be semantically interpreted as modifying the whole verbal complex, as is the case for *jetzt wahrscheinlich* ‘now probably’ in (25b) (cf. (9b)).

- (25) a. Malka **lag steif und starr da und wusste** nicht, was sie machen sollte, (...). [666]
 ‘Malka lay there stiffly and rigidly and did not know what she should do’
 b. Sie **stand jetzt wahrscheinlich** oben in Ostberlin **und wartete** auf ihn, (...). [85]
 ‘she stood now probably up in East Berlin and waited for him’

No cases are found where the adverbial placed between the posture verb and *und* seems to be strongly associated with the second verb.

For the posture-verb clause-final word order, Table 8 shows the distribution of instances with an adverbial between *und* and the second verb ([PV *und* Adv V²]), between the posture verb and *und* ([PV Adv *und* V²]), and before the posture verb ([Adv PV *und* V²]).

Table 8. The distribution of non-locative adverbials in the posture-verb clause-final word order

	(da)stehen		(da)sitzen		(da)liegen	
	stehen	dastehen	sitzen	dasitzen	liegen	daliegen
[PV <i>und</i> Adv V ²]	18	0	10	1	3	0
[PV Adv <i>und</i> V ²]	0	0	0	0	0	0
[Adv PV <i>und</i> V ²]	20	0	31	3	10	0

It is notable that no instances are found in which the adverbial is placed between the posture verb and *und* (see the second row in the table). This gap can indicate that the posture verb always occupies the clause-final position in its own clause, as nothing except a prepositional phrase can follow a clause-final finite verb (Duden 2016: 897f.). Although the database does contain instances with a prepositional adverbial, no cases with an extraposed prepositional phrase are found.

Moreover, there are only four relevant instances that contain *da*-verbs, all of which involve *dasitzen*. This low number of data points probably relates to the generally low rate of adverbial modification with these verbs, as described in 5.2.2.

The two sentence patterns for which instances are found (i.e. [PV *und* Adv V²] and [Adv PV *und* V²]) are exemplified in (26).

- (26) a. (...) aber die Frau, die zwischen uns **stand und manchmal rief**, >
 es ist doch ähnliche, (...). [34]
 'but the woman, who stood between us and shouted sometimes,
 "but it is similar'
 b. Wenn wir später in der Kneipe **saßen und** über den Film
redeten, (...). [331]
 'when later we sat in the pub and talked about the film'

In example (26a), the adverb *manchmal* 'sometimes' appears between *und* and the second verb (*rief* 'shouted'). As seen in (24b), this is the typical word order for coordination. In (26b), meanwhile, the adverb *später* 'later' is placed before both of the verbs and can be semantically interpreted as modifying both the sitting and talking events. Most if not all of the adverbials placed before the posture verb can be interpreted in this way. There are no instances in my database where the adverbial in this position is strongly associated with the second verb.

To summarize the analyses of the placement of the adverbial, the results indicate that the German posture-verb construction has a coordinate

structure. No cases are found in which an adverbial associated only with the second verb is placed before *und*. In other words, all cases found in my database fall within the scope of adverbial modification of coordinated clauses, as described in 5.2.2.

Turning now to individual types of adverbials, let us first consider locative modification (cf. (15b)). This type of modification is expected to occur less frequently with increasing grammaticalization due to backgrounding of the spatial semantics of posture verbs, as has been proposed in the grammaticalization path for the Dutch posture-verb progressive construction (cf. section 3.3.2.). Table 9 provides the number of instances with and without locative modification. As explained in 5.2.2., *da*-verbs do not require locative modification, and while the particle *da* itself may have a locative function, this does not always seem to be the case. Therefore, the data presented in the table are restricted to the verbs without the particle (i.e. *stehen*, *sitzen*, and *liegen*).

Table 9. The distribution of instances with and without locative modification

	<i>stehen</i>	<i>sitzen</i>	<i>liegen</i>
with locative modification	249	276	93
without locative modification	13	10	3

According to the table, there do exist instances of each of the three posture verbs occurring without a locative modifier. Examples are given in (27).

- (27) a. Ich **stand und sah**; [213]
 'I stood and saw'
 b. So **saß ich und wartete**. [451]
 'so, I sat and waited'
 c. Ich werde **liegen und schlafen**, und es wird keinen Unterschied geben. [739]
 'I will lie and sleep, and there will be no difference'

However, the overall percentages of instances without locative modification are very low (5% for *stehen*, 3.5% for *sitzen*, and 3.1% for *liegen*). This finding is comparable with what Proske (2019) observes for the spoken language: all of the sentences in her data are modified for location.

One point to consider is the type of locative modification. Proske (2019: 126) points out that almost half of the locative modifiers in her data are realized as deictic adverbs, such as *hier* 'here' and *da* 'there' (note that the

latter includes the *da-* particle of *da-*verbs). Such adverbs are usually short and can be semantically light (see (28a)), compared to more elaborate locative modification like *auf einem wichtigen italienisch-österreichischen Grenzübergang* ‘at an important Italian-Austrian border crossing’ in (28b).

- (28) a. Statt dessen **stand** ich hier **und starrte** eine Fassade **an**. [26]
 ‘instead, I stood here and stared at a façade.’
 b. Dieser Pardell (...) **stand** auf einem wichtigen italienisch-österreichischen Grenzübergang **und schrie**: (...) [107]
 ‘this Pardell stood at an important Italian-Austrian border crossing and screamed: (...)’

The brevity of the deictic expressions may facilitate the placement of locative adverbials outside the verb sequence (e.g. [**Adv_{loc}** PV S C V²] or [S PV C V² **Adv_{loc}**] in main clauses; see also (3a)), which is hypothesized as one of the initial developments for the Dutch posture-verb construction (cf. section 3.3.2.). Furthermore, their semantic lightness may draw less attention to the locative information, which could eventually result in locative modifiers becoming omissible. Both relocation and omission of locative adverbials can be associated with the weakening of the link between posture verbs and locative modifiers and the backgrounding of the postural/locative meaning of posture verbs. Therefore, under this view, the frequent occurrence of deictic adverbs observed in Proske (2019) could be an indication of a situation conducive to the backgrounding of the locative dimension of posture verbs, and hence to grammaticalization.

To explore this point further, it is useful to look more closely at the proportion of instances in my database where locative modification is in the form of a deictic adverb. Table 10 presents the numbers of instances with a deictic modifier and a non-deictic modifier.

Table 10. The distribution of deictic and non-deictic locative modifiers

	<i>stehen</i>	<i>sitzen</i>	<i>liegen</i>
deictic	22	12	3
not deictic	227	264	90

Apparently, the deictic modifier is not as common here as in Proske’s data. This may suggest that the frequent occurrence of deictic adverbs in Proske’s research is affected by the nature of her data source, i.e. that her data is drawn from the spoken language.

In sum, more than 90% of the instances in my database are modified for location, indicating that locative modification is typical. Most of the modifiers are not deictic adverbs, a result which contradicts the findings of Proske (2019).

The second type of adverbial modification investigated is temporal modification (cf. (15c)). The grammaticalization of the posture-verb construction is expected to lead to the acquisition of progressive aspectual meaning, which could be reflected in the frequent co-occurrence of a temporal modifier expressing event duration (e.g. *die ganze Nacht* 'the whole night').

The numbers of instances with and without durative temporal modification are given in Table 11.

Table 11. The distribution of instances with and without durative temporal modification

	<i>(da)</i> stehen		<i>(da)</i> sitzen		<i>(da)</i> liegen	
	<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
with	26	12	15	4	12	1
without	236	38	271	31	84	17

As is evident from the table, most of the instances do not contain a durative temporal modifier. (29) provides examples of durative temporal modifiers occurring with the posture verbs *dastehen*, *dasitzen*, and *liegen*.

- (29) a. Lange **stand** sie **da und starzte** in den Schrank, (...). [65]
‘for a long time, she stood there and stared into the closet’
b. Du **sitzt** den ganzen Abend **da und schweigst** vor dich hin (...). [433]
‘you sit there the whole evening and do not say a word’
c. Du **liegst** den ganzen Tag im Bett **und säufst!** [678]
‘you lie in bed all day and drink!’

Example (29a) has the durative temporal adverbial *lange* ‘for a long time’, (29b) has *den ganzen Abend* ‘the whole evening’, and (29c) has *den ganzen Tag* ‘the whole day’, all of which highlight the temporal duration of the event.

The difference in proportion between verbs with and without the particle is statistically significant (Fisher's exact test, $p = 0.01$). Considering the per-verb frequencies presented in Table 11, some differences between the verbs can be noted. Firstly, it is notable that *dastehen* occurs with temporal

modification at a higher proportion than its simplex equivalent *stehen* (24% compared to 9.9%). Similarly, *dasitzen* is also accompanied by a temporal modifier more frequently than its simplex equivalent *sitzen* (11.4% compared to 5.2%). With *daliegen*, on the other hand, the trend is the other way around: *liegen* appears more frequently with temporal modification (12.4%) than *daliegen* (5.6%). Although there are some minor differences in ratio between the verbs, the overall picture is that the occurrence of one or more durative temporal modifiers is not typical of the posture-verb construction.

The final analysis concerns negation (cf. (15d)). As the verb phrase gains in cohesion, it may become uncommon to negate individual verbs in the sequence. In this scenario, negation of the posture verb would entail negation of the whole verb sequence, as in the Modern Dutch progressive construction (e.g. *ik sta niet te wachten* 'I am not standing and waiting'), and the negator for the second verb would thus become redundant. Given that the German construction is reported to be increasing in cohesion, we may expect that negators for the second verb will be infrequent in the data.

Table 12 presents the distribution of instances with a negator for the posture verb or for the second verb. Overall, there are not many instances in the database for this study that contain a negator, as can be seen from the table.

Table 12. The distribution of instances with a negator
for the posture verb (PV) or the second verb (V²)

	(da)stehen		(da)sitzen		(da)liegen	
	<i>stehen</i>	<i>dastehen</i>	<i>sitzen</i>	<i>dasitzen</i>	<i>liegen</i>	<i>daliegen</i>
for PV	0	0	0	0	0	0
for V ²	6	1	5	0	1	1

As the table shows, all the negators in my database relate to the second verb. Examples are given in (30).

- (30) a. Malka **stand** auf der Straße **und verstand nicht** gleich, was passiert war. [58]
'Malka stood at the street and did not immediately understand what happened.'
- b. Malka, Schlomo und Jossei **saßen** auf der Bank **und rührten sich nicht**. [377]
'Malka, Schlomo, and Jossei sat on the sofa and did not move.'

The negator *nicht* 'not' takes scope over the second verbs *verstehen* 'to understand' in (30a) and *sich rühren* 'to move' in (30b). This result aligns with the findings for Dutch (cf. section 4.4.5), in the sense that more instances are found of a negated second verb than a negated posture verb. There were no cases where the negator had scope over the posture verb or over both verbs. Therefore, the analysis of the negator does not yield any indications of integrity of the verb phrase.

To summarize the analyses of the placement of the adverbial, we have seen that all instances in the database can be interpreted as having a coordinate structure rather than a pseudo-coordinate structure. Furthermore, the analyses of the modifier revealed that locative modifiers are still highly preferred, while durative temporal modifiers occur infrequently. Therefore, there is no clear indication that the postural/locative meaning of posture verbs is becoming backgrounded or that the temporal semantics is becoming foregrounded. Recall, however, that postural/locative backgrounding and temporal foregrounding did not emerge as clear developments in the Dutch data either; this is in contrast to the Swedish data reported by Hilpert & Koops (2008: 253), who show that only about 30% of the instances of the Swedish pseudo-coordinate construction co-occur with a locative modifier. Therefore, if we assume that the German posture verbs are more comparable with posture verbs in Dutch than in Swedish, it is not surprising to find that the locative meaning of posture verbs is not significantly backgrounded. Nonetheless, the proportions of instances with locative modification are considerably higher in German (96% on average) than in Dutch (53.8% on average), which does seem to indicate a difference between these two languages in the requirement for locative modification. In short, there does seem to be some difference in modification rates between an established pseudo-coordinate construction (in Dutch) and a reportedly emergent pseudo-coordinate construction (in German).

The analysis with respect to negation only yielded 14 relevant instances, among which no cases were found where the posture verb is negated. This means that no indications of the integrated status of the verb phrase are found with respect to negation; however, given the low frequencies of relevant instances, this conclusion should be treated as provisional.

5.4 Summary and discussion

According to the findings reported in the previous sections (5.3.2.–5.3.4.), the German posture-verb construction seems to show semantic cohesion (cf. section 5.3.2.). The strong semantic compatibility may be linked to grammaticalization (cf. Table 1 in 5.2.2.), but it could also be part of the general characteristics of verbal coordination, especially for instances with a composite interpretation. The low rate of overt subjects of the second verb could also be seen as facilitating a one-event interpretation of the construction (cf. section 5.3.3.). Although a composite interpretation of the construction is in line with expectations for a grammaticalized structure, whether it can be a strong indication of grammaticalization by itself is questionable.

Moreover, the analyses of the object and the placement of the adverbial indicate that the posture-verb construction is not grammaticalized to a high degree. This means that the structure of the German posture-verb construction appears to be biclausal and not monoclausal (cf. sections 5.3.3. & 5.3.4.). The analysis of the negator does not indicate an integrated status of the verb phrase either, although the evidence here is limited (cf. section 5.3.4.).

With respect to the modifier, locative modification is observed to be very frequent. Although backgrounding of the postural/locative meaning of posture verbs is not a necessary condition for posture verbs to grammaticalize into aspectual markers, the relatively high rate of locative modification in German compared to Dutch (cf. section 5.3.4.) suggests that the postural/locative meaning remains salient. As for temporal modification, the occurrence of a durative temporal modifier in the construction is not frequently attested in my data. We may interpret this finding as evidence that there is no foregrounding of the temporal dimension of posture verbs in the German construction. However, it should also be noted that the co-occurrence of a durative temporal modifier is not particularly frequent even with a relatively grammaticalized posture-verb progressive construction, like that of Modern Dutch.²¹ Therefore, as Kuteva (1999: 209, 2001: 71) notes, the occurrence of temporal modifiers seems to be ‘redundant rather than necessary’ and does not serve as a good diagnostic for grammaticalization.

²¹ As described in 4.4.6., durative temporal modifiers occur in the posture-verb progressive construction in only 12.2% of cases (167 of 1369 instances) in Modern Dutch (Lemmens 2005: 210).

There are some further observations to be made regarding the differences between the verb types, and the possible distinction between the verbs with and without the particle *da-*. Firstly, there are some minor differences between *(da)stehen*, *(da)sitzen*, and *(da)liegen*, but none of these are particularly significant. The most notable distinction concerns the choice of second verbs. Since posture verbs still retain their postural meaning and the second verb typically describes an activity that can take place in that posture, the posture verbs differ in terms of which types of second verbs co-occur with them most frequently. For example, *sitzen* frequently co-occurs with *essen*, *lesen*, and *trinken*, which express activities that are usually performed in a sitting posture, whereas these verbs do not often appear with *(da)stehen* and *(da)liegen*. In general, however, *(da)stehen*, *(da)sitzen*, and *(da)liegen* do not differ from each other in a systematic way.

A more considerable distinction is observed between the verbs with and without the particle *da-*. As reported in 5.3.2., the analysis of HTRs invokes a possible distinction between the verbs without the particle *da-* (*stehen*, *sitzen*, *liegen*) and those with it, especially *dastehen* and *daliegen*: the HTRs for *da*-verbs are higher than the corresponding simplex verbs, indicating that *da*-verbs accept a wider lexical variety of second verbs and hence are possibly less grammaticalized (cf. (13a)). In particular, *dastehen* co-occurs more frequently with telic verbs compared to *stehen*; telic verbs are thought to be semantically less compatible with posture verbs. On the other hand, the analysis of durative temporal modifiers shows that *dastehen* and *dasitzen* take temporal adverbials more frequently than *stehen* and *sitzen*, while *(da)liegen* demonstrates the opposite pattern. In sum, the data for *da*-verbs present a mixed picture in terms of whether the verbs are more or less grammaticalized than their simplex counterparts.

To summarize the above discussion, the German posture-verb construction does not appear to be significantly grammaticalized. No particular cohesion of the construction can be established on the basis of my data, except for the semantic compatibility of the two verbs and the fact that the subject of the second verb is typically not overtly realized. Moreover, even these features can be accounted for in the context of ordinary verbal coordination. In addition, there are no indications of monoclausality or of backgrounded spatial semantics of the posture verbs. In short, the German posture-verb construction is in principle (still) coordinate, and not pseudo-coordinate.

At the same time, it is true that some instances can be found in the data that seem to indicate favorable conditions for grammaticalization, just as Proske (2019) points out. Two such instances are presented in (31).

- (31) a. (...) doch sie **steht** immer noch **und** **hört**, (...). [4]
 ‘yet, she still stands and listens’
 b. Eine schöne Zeit **lag** er **da** **und** **wartete**. [658]
 ‘for a good while, he lay there and waited’

Example (31a) lacks locative modification but contains a temporal adverbial *immer noch* ‘still’, thus arguably backgrounding the spatial semantics and foregrounding the temporal duration of the standing and listening activities. In other words, the sentence does not convey any spatial information, as would usually be expected for posture verbs in their locative use; instead, it describes an atelic activity of ‘listening in a standing posture’. In (31b), the particle *da-* can function as a locative modifier, but it does not indicate a specific location, it merely anchors the agent to the context in an atelic and aimless manner, which could be considered a typical semantic property of *da*-verbs (cf. section 5.2.2.). This atelic aspect of the sentence is further emphasized by the durative temporal adverbial *eine schöne Zeit* ‘for a good while’ and the omission of an overt endpoint for the activity *warten* ‘to wait’, which would normally be expressed by a prepositional phrase with *auf* ‘for (someone or something)’ or *bis* ‘until’. In short, the sentence (31b) is defined more by its atelic semantics than its locative semantics. Such shifts can possibly lead to further grammaticalization of the construction as an aspectual expression.

Before concluding, it is useful to revisit the status of *da*-verbs with respect to grammaticalization. It could be argued that the *da*-verbs are more likely to grammaticalize than their equivalents without the particle. *Da*-verbs, which are less likely to be modified by adverbials (cf. section 5.2.2.), frequently give rise to a simple structure that is comparable with a typical pseudo-coordinate structure (i.e. [PV *und* V²]), as illustrated in (32).

- (32) a. Luise **steht da** **und** **schaut** sie **an**. [164]
 ‘Luise stands there and stares at her/it.’
 b. Meggie **saß da** **und** **zitterte** am ganzen Leib. [466]
 ‘Meggie sat there and trembled with her whole body.’
 c. Ich **lag da** **und** **sah fern**. [642]
 ‘I lay there and watched TV.’

Furthermore, the *da-* particle itself does not necessarily refer to a specific location (cf. section 5.2.2.), which means that the locative meaning of the verb is already somewhat backgrounded. Instead, as seen in (16), *da-*

appears to emphasize the atelic aspect of the event, which could be linked to the relatively frequent co-occurrence of durative temporal adverbials observed particularly for *dastehen* (cf. Table 11). This function of *da-* could facilitate grammaticalization of the posture-verb construction, since the emphasized atelicity aligns well with a progressive aspectual meaning.

This view is supported by a number of further observations and considerations. First, instances with a *da*-verb can more often be interpreted as having an SLF coordination structure, where a composite interpretation is obligatory (cf. section 5.3.1.). Therefore, *da*-verbs seem to be a better candidate for further grammaticalization than their simplex counterparts. Additionally, the higher HTRs of *da*-verbs observed in 5.3.2. could be interpreted as an indication of a wider collocational variety and a more grammaticalized status compared to the simplex verbs. As described in 5.3.2., the initial assumption was that the German construction is not grammaticalized to a degree that it has gained collocate diversity. However, the situation may be different for *da*-verbs. The more frequent co-occurrences of *da*-verbs with telic verbs (cf. section 5.3.2.) point in the same direction (cf. section 3.3.3.) and hint at a more grammaticalized status of *da*-verbs.

To conclude, we may compare the findings for German with the grammaticalization path proposed for the Dutch posture-verb progressive construction (cf. Table 22 in section 4.5.3.). It could be argued that the German construction is still at Stage 1 (coordination), possibly moving toward Stage 2 (pseudo-coordination). This means that the German data complement the Dutch data in the sense that the former cover Stage 1 and the latter Stage 2 onward. As Proske (2019) argues, the current situation of the German posture-verb construction does not exclude the possibility that the construction will continue to develop into a full pseudo-coordinate construction, as has happened in some other Germanic languages (cf. section 1.2.3.). At the same time, considering that German is known for its systematic lack of linguistic forms expressing progressive aspect (cf. section 1.2.1.), the conditions do not appear conducive to further grammaticalization. In any case, for the construction in its present form, my data do not show any clear indications of systematic grammaticalization. In the final chapter, the results for the Dutch posture-verb construction and the German construction will be presented side by side, and the development of posture verbs as progressive auxiliaries will be discussed from a contrastive perspective.

Chapter 6 Summary and conclusion

6.1. Summary and discussion

6.1.1. Summary of the results

In Chapter 4, the development of the Dutch posture-verb progressive construction was analyzed in detail based on the corpus data. The results were summarized in Table 22 in Chapter 4, repeated here as Table 1.

Table 1. Development of the Dutch posture-verb progressive construction

Stage	Form/meaning
Stage 1 [pre-1200]	Biclausal/bipredicative or monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> (S) V ² _{fin}
Stage 2 [1200–1600]	Biclausal/monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> V ² _{fin}
Stage 3 [1600–1700]	Biclausal/monopredicative S PV _{fin} Adv _{loc} <i>en(de)</i> V ² _{fin}
	Monoclausal/monopredicative S PV _{fin} Adv _{loc} <i>te</i> V ² _{inf}
Stage 4 [1800–now]	Monoclausal/monopredicative S PV _{fin} Adv _{loc} <i>te</i> V ² _{inf}

As discussed in 4.5.2., the data are interpreted as indicating that one construction replaced another. These two constructions do not seem to be historically related. The older construction with *en(de)* as a connector was mostly attested in Middle Dutch (13th–16th century, cf. Stage 2 in Table 1). This construction was gradually superseded by the newer construction with *te* as a connector, which increased in frequency mostly in the 17th century (Stage 3 in Table 1). From around the 18th century, the *te* construction became the only posture-verb construction with a progressive meaning in the language (Stage 4 in Table 1). This situation seems to have remained stable to the present day: the proportions of locative and temporal modification and the most frequent types of second verb are comparable between the 18th century and Modern Dutch.

Despite the lack of historical continuity between the pseudo-coordinate *en(de)* construction and the unambiguously monoclausal *te* construction, the

two constructions share some commonalities. For example, both are strongly associated with a locative meaning, as reflected by the regular occurrence of locative modifiers. The stability of the two constructions in terms of their locative meaning can also be seen in the semantics of the second verb, such as the fact that the second verb must describe an activity compatible with the particular posture; that is, it appears that the stable and salient locative semantics of the posture verbs has prevented the second verb from becoming semantically more diverse. This semantic profile seems to be found with both the *en(de)* and the *te* construction, and it may have been precisely this overlap in semantic profile that made the two constructions competitors, with one of them eventually 'taking over'.

For German, Chapter 5 reports the current status of the posture-verb construction in the present-day language. According to the analyses (cf. section 5.3.), the construction seems to be mostly coordinate, although the data may also indicate an incipient stage of grammaticalization. The unrealized subject of the second verb and the strong semantic compatibility between the second verb and the posture verb could be regarded as indicators of beginning grammaticalization, although these features can also be explained as general characteristics of coordination with a one-event interpretation. Moreover, judging from the placement of the noun and the adverbial, the two-verb sequence is not strongly bound together in a structural sense. Furthermore, backgrounding of the postural/locative meaning cannot be confirmed, since, on average, 96% of instances are modified for location, in contrast to 53.8% in Dutch. The Modern German construction, therefore, cannot be characterized as a grammaticalized progressive construction; however, it may yet grammaticalize, like its Dutch equivalent, particularly with *dastehen*, *dasitzen*, and *daliegen*. This prediction is mainly based on the nature of the particle *da-*, which serves to de-emphasize the locative nature of the posture verb and emphasize the aimlessness and atelicity of the activity described by the second verb.

Since the data for Dutch seem to primarily reflect Stage 2 onward and the data for German seem to reflect Stage 1 (cf. Table 1), it could be argued that the German data supplement the Dutch, by indicating what the Dutch *en(de)* construction would have looked like at Stage 1. Under this view, the Dutch posture-verb construction at Stage 1 would be characterized by the absence of preposed objects or adverbials of the second verb, as well as a high proportion of instances modified for location. Elision of the subject of the second verb and strong semantic compatibility between the second verb and posture verb is observed not only at Stage 1 with German, but also at later stages with Dutch, which suggests that these characteristics are

inherited from coordination. At the same time, however, it should be noted that the Dutch and German data are not entirely comparable due to the presence of the *da*-verbs in German (i.e. *dastehen*, *dasitzen*, and *daliegen*; see also 5.2.1.). Since there are no comparable verbs in Dutch, some language-specific factors need to be taken into account.

In summary, the development of the posture-verb construction in Dutch includes the replacement of the pseudo-coordinate *en(de)* construction by the monoclausal *te* construction. The development from the former to the latter is not understood as a process of grammaticalization, but as replacement of one construction by another. In addition, the German data seem to complement those for Dutch, in the sense that the latter illustrate the development from Stage 2 onward and the former the situation at Stage 1. This also means that some of the differences between the Dutch and the German data could therefore be attributed to the changes from Stage 1 to 2. These include the possibility of preposing the elements belonging to the second verb, which could be linked to pseudo-coordination, and a decrease in locative modification, which may suggest backgrounding of the spatial semantics of posture verbs.

6.1.2. Discussion

The data for the Dutch posture-verb construction do not indicate that the older pseudo-coordinate construction with *en(de)* gradually developed into the newer monoclausal construction with *te*; rather, it appears that the latter supplanted the former. The basis for distinguishing the two constructions as separate is the observation that the *en(de)* construction does not appear to have developed from pseudo-coordinate to monoclausal. As described in 4.5.2., the *en(de)* construction rarely occurred with an infinitival second verb and a preposed object of the second verb, indicating that its structure should be treated as biclausal. Furthermore, the construction remained diachronically stable in many important respects. It is true that some instances exist that seem to indicate an underlying monoclausal structure, but as a whole, the evidence does not point to a clear development towards monoclausality during the period investigated.

As the *te* construction is not considered to have developed from the *en(de)* construction, the two constructions are therefore viewed as independent of one another. This observation aligns with the proposal of Van den Toorn (1975) and Van der Horst (2008). As presented in 1.3.3., these

authors have suggested that [PV *te* V²], originally used with a purpose meaning, was reinterpreted and grew semantically closer to the pseudo-coordinate posture-verb construction with progressive meaning, which eventually resulted in the replacement of the *en(de)* construction by the *te* construction. My results are in line with this proposal.

The observation that the old construction is replaced by a new, synonymous one is a good illustration of the *competitive exclusion principle* or *isomorphism principle* in language change (Gause 1934, Landsbergen 2009: 47f.). This principle states that ‘different forms with the same meaning (synonyms) or different meanings with the same form (homonyms) can be said to “compete” with each other for the same resource’ (Landsbergen 2009: 47). Competition leads either to one eventually taking over the resource completely, or to some sort of differentiation or specialization (cf. De Smet et al. 2018: 198-201). In the case of the Dutch posture-verb construction, it appears that the two synonymous constructions with different connectors competed, resulting in the survival of the *te* construction at the cost of the *en(de)* construction.

The current data do not provide clear, let alone conclusive evidence for the cause of the disappearance of the old pseudo-coordinate posture-verb construction in Dutch. At the same time, it is possible to speculate as to why this might have occurred. When the expression of purpose was taken over by the [*om te* V_{inf}] construction (Van den Toorn 1975: 261ff., Van Pottelberge 2002: 163; cf. section 1.2.3.), the *te* construction became unambiguously progressive (cf. section 4.5.2.). The *en(de)* construction, on the other hand, was ambiguous between a progressive construction and a coordinate sentence without progressive meaning (cf. section 4.5.2.). In other words, the *te* construction was functionally superior to the *en(de)* construction, since it is a specialized and thus more effective progressive construction. This characteristic of the *te* construction could have given it an advantage over the *en(de)* construction, eventually resulting in it usurping the role of posture-verb progressive construction. The general lack of a pseudo-coordinate structure in Modern Dutch, as pointed out by Zwart (2011: 121), could also indicate that pseudo-coordination is more characteristic of Middle Dutch than of Modern Dutch.

Another point for discussion is the development from coordination to pseudo-coordination. As the German posture-verb construction does not show any monoclausal-like behaviors, the only criteria that allow us to judge whether the construction qualifies as pseudo-coordinate are semantic in nature. Semantic cohesion between the posture verb and the second verb is one such criterion; it is certainly a sufficient condition for pseudo-

coordination, but it is not distinctive since it is present in both Dutch (Stage 2 onward) and German (Stage 1) regardless of the degree of grammaticalization. This raises the question of how pseudo-coordination and coordination can be meaningfully distinguished, when monoclausality cannot be determined on the basis of structural features.

In the case of the Dutch and German posture-verb constructions, backgrounding of the postural/locative meaning of posture verbs could play an important role in this respect. The level of backgrounding is reflected in the extent to which instances of these constructions are modified for location. Under this view, the Dutch posture-verb construction is more pseudo-coordinate than the German one, since the former are less frequently modified for location. On the other hand, foregrounding of atelic aspect, which is thought to proceed hand-in-hand with backgrounding of the spatial semantics of posture verbs, is not observable in the data. The occurrence of durative temporal adverbials, for example, seems to be optional and redundant, which makes it a poor diagnostic for evaluating the temporal profile of the posture-verb construction. Moreover, the fact that posture verbs as lexical verbs already have the power to impose a temporally unbounded timeframe on the composite event (cf. section 3.2.1.) could also explain why the construction does not show any obvious development in this respect. In other words, atelicity is present all the time, regardless of the extent to which posture verbs are auxiliaryized. This characterization of posture verbs certainly contributes to the consistent semantic profile of the Dutch posture-verb construction across the centuries.

On the other hand, the German [PV *und* V²] phrase is almost always modified for location, and all the other features of this phrase—such as the omission of the subject of the second verb and a one-event interpretation of the coordinated clauses—can be observed with ordinary coordination. This raises the question of whether the German [PV *und* V²] structure can indeed be considered a pseudo-coordinate ‘construction’. From the perspective of Construction Grammar, ‘constructions are defined as form-meaning pairings—symbolic units that pair linguistic form with conceptual meaning’ (Hilpert 2021: 6). However, based on the observations discussed in the present study, there seems to be no fixed form-meaning pair in German, but rather a bundle of characteristics that may or may not reflect pseudo-coordination. Therefore, under the constructionalist view, the German [PV *und* V²] phrase cannot be labeled as a ‘construction’. Instead, it should be viewed as a composite ‘pattern’ consisting of a combination of elements, which is not directly licensed as a whole.

Various proposals have been made about how a pattern can be defined and how it differs from a construction (Möhlig-Falke & Busse 2019, Petré 2019: 159-164, Traugott 2019: 125ff.). In the context of diachronic construction grammar, Traugott (2019: 127) has proposed the definition that 'a pattern is a replicated sequence that is associated with a recurring (but underspecified) meaning and that has combinatoric potential' (cf. Fried 2009: 276). This means that when one-off sequences are frequently replicated, some of them develop into patterns and become chunked as single units. When these chunked units are further entrenched in the language community, constructionalization (i.e. the emergence of a new form-meaning pairing, as defined in Traugott & Trousdale (2013: 22)) can be said to have occurred (*ibid.*: 149). Petré (2019) specifically focuses on the pre-construction stage of constructionalization, i.e. the process of how a pattern develops into a construction. Based on an analysis of the English *be going to* construction between the 15th and the 17th century, he argues that certain patterns that background certain lexical aspects of the sequence (e.g. intentionality and directed motion) have paved the way for constructionalization (*ibid.*: 159, cf. Hilpert & Koops 2008). According to his analysis, these patterns first underwent a frequency change and a semantic change, leading up to a new global cognitive schema. After the entrenchment of this schema had reached a certain threshold, a formal change took place, which resulted in the emergence of a new form-meaning pairing, i.e., the *be going to* construction (*ibid.*: 187). Returning to German pseudo-coordination, it seems that some patterns that appear to background the postural/locative meaning of posture verbs are observed (cf. (32) in 5.4.), which could, according to Petré's theory, lead to further development. At the same time, these patterns do not seem to be entrenched to the degree that they constitute a single construction. In sum, the German pseudo-coordination can be characterized as a pattern, a recurrently observed sequence, and is not as entrenched as the Dutch posture-verb construction.

In short, despite being so closely related, Dutch and German apparently do not align with each other in how far the posture verbs are grammaticalized and whether a construction can be formed with posture verbs. This observation certainly aligns with how Hopper & Traugott (2003: 39) characterize the grammaticalization process: '[p]articulate changes do not have to occur, nor do they have to go through to completion' (cf. Traugott 2010: 275). It is even possible that a construction stays in a stable state for centuries, as observed for the Dutch *en(de)* construction during the Middle Dutch period.

Why certain changes never happen or stall after initiation is a question ‘that has not yet satisfyingly been answered’ (Bouzouita et al. 2019: 1). Hintz (2011: 201-207), for example, proposes that there are not only *propelling forces* and *attracting forces* that drive or motivate linguistic items to grammaticalize (further), but also *obstructing forces*, i.e., functional pressures that impede this development. An obstructing force could consist, for example, in ‘the absence of a paradigm into which a potential new grammatical marker could fit’ (Nicolle 2012: 389). Another possible obstructing force is a high functional load on a given linguistic item. A linguistic item with a high functional load could be deeply integrated into the language and become resistant to grammaticalization. Apart from functional reasons, Bouzouita et al. (2019: 8) argue that ‘the determinants of diachronic stability are first and foremost to be sought in the mechanisms of language acquisition’. In general, although some proposals have been made, the nature and interaction of causal factors involved in diachronic (in)stability largely remain an open question. This thesis does not explore such questions further, but the analyses provided may be informative for research into the role of such hypothesized obstructing forces, providing both an opportunity to explain the observed stability, and a testing ground for the theoretical proposals.

Under the contrastive view, Dutch and German also provide empirical evidence relevant to Kuteva’s proposal (1999, 2001) that the use of posture verbs as canonical spatial verbs is a prerequisite for the verbs to develop into TAM markers (cf. section 1.3.2.). Posture verbs in Dutch, which are frequently used as locative verbs (Van Staden et al. 2007, Lemmens 2002), are indeed a good instantiation of Kuteva’s theory, since the verbs function as progressive markers. As for German on the other hand, *stehen* and *liegen* belong to the set of basic locative verbs, but *sitzen* does not (Kutscher & Schultze-Berndt 2007). At the same time, in terms of forming potentially pseudo-coordinate patterns, *sitzen* behaves like *stehen* and *liegen*. Therefore, although German posture verbs cannot be regarded as aspectual markers at present, the existence of potential pseudo-coordinate structures involving *sitzen* as well as *stehen* and *liegen* indicates that basic locative use may not be a necessary prerequisite for aspectual use.

In summary, the development of the Dutch posture-verb construction could be characterized as a competition between two types of progressive construction. The *te* construction, which is unambiguously progressive, wins the competition as the functionally superior variant, leading to the loss of the pseudo-coordinate posture-verb construction. In this respect, Modern Dutch and Modern German are comparable, in the sense that neither language has an established pseudo-coordinate construction with posture

verbs, in contrast to other Germanic languages (cf. Höder 2011: 176f.; see also section 1.2.3.). Diachronic studies, such as the present research on Dutch, can provide a more nuanced view on this synchronic comparability. From a contrastive viewpoint, the present research substantiates the observation that even closely related languages may differ in how far a certain linguistic element is grammaticalized.

6.2. General conclusion

This dissertation has described the development of the Dutch posture-verb progressive construction from the 13th to 18th century, and the current status of the Modern German [PV *und* V²] phrase, based on data extracted from corpora. The development of the Dutch constructions is summarized as a replacement of the pseudo-coordinate construction with the connector *en(de)* by a monoclausal construction with the infinitive verb introducer *te*. At the same time, the constructions did not develop significantly in terms of their semantics, as can be observed from the consistent degree of lexical and semantic variety in the second verb and the stable rate of locative modification during the whole period under investigation. The German [PV *und* V²] structure is characterized as a coordination of clauses, with occasional instances showing pseudo-coordinate-like, temporally unbounded semantics. The *da*-verbs could facilitate further grammaticalization by means of the particle *da*- emphasizing the atelic, aimless aspect of the activity described by the second verb.

The comparison of the Dutch and the German constructions sheds light on how the continuum between coordination and pseudo-coordination could be characterized. For example, semantic cohesion between the posture verb and the second verb is a feature shared by both coordination and pseudo-coordination. On the other hand, backgrounding of the spatial semantics of posture verbs seems to be characteristic of pseudo-coordination. Structural features, such as preposing of objects and adverbials belonging to the second verb, could also be associated with pseudo-coordination. From a more global perspective, the present contrastive research also sheds light on the (im)possibility of forming pseudo-coordinate structures in Germanic languages, and the degree to which the posture verbs are grammaticalized as aspectual markers.

With this study, I hope to have demonstrated the importance of exploring corpus data in depth and detail before drawing conclusions about

the historical development of a given construction. Looking at the Middle Dutch pseudo-coordinate construction and the Modern Dutch monoclausal progressive, it may be tempting to think that a single progressive construction has grammaticalized from biclausal to monoclausal. Close inspection of the data, however, has revealed that what we see is probably a replacement of one construction by another. Both constructions remain stable for centuries without significant grammaticalization. This research has also shown that not all the features attributed to the pseudo-coordinate construction in Dutch are frequently attested; some may even be considered marginal. Although the pseudo-coordinate construction with posture verbs is a well-known phenomenon in Middle Dutch, mentioned in various grammar books, its actual characteristics seem to deviate from the common conception of the construction. Therefore, a thorough investigation of the historical data is crucial for gaining an accurate understanding of the language, and an objective inspection of the corpus data enables this.

For future research, it could be useful to understand the posture-verb construction in a broader context, for example, in relation to other constructions. The relationship of the posture-verb construction with the [*om te* V_{inf}] construction and other progressive constructions in Dutch could shed some light on why the *en(de)* construction was replaced by the *te* construction.

Appendix A Annotation and possible values per parameter for the Dutch database

This appendix describes the annotation of the Dutch data extracted from the corpora. The data are annotated in the database (cf. Okabe 2022) in terms of the data source (see (1) below), the inflection of the posture verb (2), the form of the connector (3), the syntactic and semantic features of the second verb (4), some features of the subject (5), the placement and some features of the object, if present (6), the presence/absence and the placement of the modifier (8), structural information (9), and other characteristics (10). Note that not all the information coded in the database is systematically discussed in the text, e.g. person and mood specification on the verb.

The specification of the data source includes the following four kinds of information:

- (1) a. Name of the corpus: Corpus Gysseling,
Corpus Middelnederlands,
Corpus literair Nieuwnederlands
- b. Name of the document: derived from the corpus
- c. Publication year (in centuries): 13, 14, 15, 16, 17, and 18
- d. Text type: prose, verse, and prose and verse for Middle Dutch;
prose, drama, non-fiction for Early Modern Dutch

Parameter (1a) has three options, as described in Chapter 2: ‘Corpus Gysseling’, ‘Corpus Middelnederlands’, and ‘Corpus literair Nieuwnederlands’. Parameter (1b) provides the name of the document from which each instance is extracted (this information is derived from the corpora). The publication year is also taken from the corpora and classified per century, i.e. 13th, 14th, 15th, 16th, 17th, and 18th century. This means, for example, that the publication years 1234, 1250, and 1289 would all be annotated as ‘13’ in the database. The text type (1d) also reflects the information given in the corpora. As illustrated in Chapter 2, the two Middle Dutch corpora are principally based on the binary classification of prose vs. verse, although there are two texts in the *Corpus Middelnederlands* which are marked as ‘prose and verse’. For the *Corpus literair Nieuwnederlands*, three categories are distinguished: prose, drama, and non-fiction. Hence, for both Middle Dutch and Early Modern Dutch, three values are available for the text type parameter.

The information regarding the posture verb is annotated in the following way:

- (2) a. Posture verb: staan, zitten, liggen
- b. Person: 1st, 2nd, 3rd, na
- c. Number: singular, plural, na
- d. Tense/mood/finiteness: present, past, imperative, infinitive, subjunctive

Posture verb type (2a) has three options corresponding to the kind of posture verb in question: 'staan', which covers both the Middle Dutch form *staen* and the (Early) Modern Dutch form *staan*; 'zitten', which covers Middle Dutch *sitten* and (Early) Modern Dutch *zitten*; and 'liggen' for *liggen*. The inflection of the posture verb—that is, its person (2b), number (2c), and tense, mood, and finiteness (2d)—is annotated to enable the assessment of distributional deviations. For cases where person and number are not relevant, for example when the verb is in the infinitive, the instance is marked as 'na' (which stands for 'not applicable') in the database.

The connector type is annotated in terms of the observed form of the connector, as in (3).

- (3) Connector: en, ende, te, none

The syntactic and semantic features of the second verb are the most extensively annotated elements in the database, as summarized in (4).

- (4) a. Verb number: 2, 3, 4, 5
- b. Verb type: dictionary form of the second verb
- c. Conjugation: ++, +-, --
- d. Dynamic: +, -
- e. Atelic: +, -
- f. Compatible with the posture: +, -
- g. No movement: +, -

First, the sequential number of each verb in the construction is annotated. In most cases, the verb is marked as '2', meaning that the verb in question is the first verb following the posture verb in the construction. In some cases, the instance has three or more verbs in close vicinity, e.g. *?hij zat en at en drank* 'he sat and ate and drank'. In this case, two entries are created: one for the verb pair *zitten* and *eten*, where *eten* is annotated as '2', and the other for

zitten and *drinken*, where *drinken* is annotated as '3'. Verb type (4b) provides the dictionary form of the second verb. The dictionaries consulted are the *Middelnederlandsch Woordenboek* for the instances extracted from the Middle Dutch corpora and the *Woordenboek der Nederlandsche Taal* for the instances from the Early Modern Dutch corpus. Some of the verbs are additionally marked with '/' (e.g. */wachten*) to exclude them from the analysis of the HTR of the second verb (cf. Appendix B). Conjugation (4c) reflects whether the posture and the second verb are conjugated or not. When a verb is conjugated, it is annotated as '+', otherwise as '-'. Since there are two verbs and two options for each verb, four possibilities exist: '++', '+-', '-+', and '--'. Note, however, that cases where the posture verb is not conjugated while the second verb is conjugated (i.e. '-+') are not included in the database (cf. section 2.2.3.). Features (4d-g) are associated with the semantic features of the second verb (cf. section 3.4.1.); whether each semantic feature is observed or not is marked as '+' or '-', respectively.

The characteristics of the nouns in the construction are annotated as shown in (5) and (6).

- (5) Presence of the subject for the second verb: +, -
- (6) a. Presence of the object: +, -
 b. Position of the object: 1, 2, 3, 4
 c. Extracted/preposed object: e, p, or none

The presence/absence of the subject and the object for the second verb is annotated as '+' (present) or '-' (absent) (5 & 6a). The position of the object (6b) is annotated by distinguishing four locations: before the posture verb [1], between the posture verb and the connector [2], between the connector and the second verb [3], and after the second verb [4]. This is shown schematically in (7).

- (7) [1] PV [2] C [3] V² [4]

As shown in (6c), instances with extracted and preposed objects are annotated as 'e' and 'p', respectively, and those with neither are marked by an empty cell.

The annotations related to the modifiers are summarized in (8).

- (8) a. Position of the adverbial before the posture verb [1]: +, none

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- b. Position of the adverbial between the posture verb and the connector [2]: +, none
- c. Position of the adverbial between the connector and the second verb [3]: +, none
- d. Position of the adverbial after the second verb [4]: +, none
- e. Presence of the locative modifier: +, -
- f. Presence of the temporal modifier: +, -
- g. Negator for the posture verb: +, none
- h. Negator for the second verb: +, none

First, the position of the adverbial is marked (from 8a to 8d) using the same schema as presented in (7). Second, the presence/absence of two types of modifiers, i.e. locative and durative temporal adverbials, is marked (8e & f). Third, the presence/absence of a negator is annotated (8g & h). When the negator is in the position to negate either a posture verb or second verb, it is marked as '+’.

The word order is annotated according to the position of the posture verb, as shown by (9).

- (9) Location of the posture verb: nf, f

In this research, I distinguish instances where the posture verb is located in clause-non-final position and where it is located in the clause-final verbal complex (cf. section 3.4.). The former is annotated as 'nf' and the latter as 'f'.

Finally, three types of additional information are annotated in the column named 'Others', where applicable. First, when a sentence shows the IPP effect (see section 1.2.2. for an explanation of the IPP effect), it is marked as 'ipp'. Second, when the posture verb is used with a non-literal meaning (e.g. using *liggen* to mean 'to stay'; cf. section 4.2.1.), the instance is annotated as 'nl'. Lastly, when the posture verb and the second verb can be interpreted as disagreeing in number (cf. section 1.3.3. and 4.2.4.), it is marked as 'nd', which stands for 'number disagreement'.

- (10) Others: ipp, nl, nd

Appendix B Dataset for the analysis of the hapax-token ratio

This appendix describes how the datasets were prepared for the analysis of the hapax-token ratio (HTR). In preparing the datasets, recurring Bible translations are first removed. The resulting dataset for the 13th and 14th centuries includes about 4.4 million tokens, that for the 15th and 16th centuries about 5.6 million tokens, and that for the 17th and 18th centuries around 6.5 million tokens. Subsequently, the datasets for the 15th and 16th centuries and the 17th and 18th centuries are reduced in size, so that all the datasets are comparable. The reduction is made by excluding some texts from the dataset. The texts to exclude are randomly chosen from each text genre per century in turn. A total of 39 texts are removed from the dataset for the 15th and 16th centuries and 65 texts from the dataset for the 17th and 18th centuries. The resulting datasets each consist of about 4.4 million tokens, as shown by Table 1.

Table 1. Size (in number of words) of datasets per two centuries

13 th & 14 th	15 th & 16 th	17 th & 18 th
4,413,251	4,419,612	4,428,357

In the database, when the second verb (annotated as in (4b)) derives from the excluded texts, it is marked with '/' (e.g. /eten) so that it can be distinguished and excluded from the HTR analysis.

Appendix C Dataset for the diachronic development of the coordinating conjunction

This appendix describes how the data were prepared for the analysis of the coordinating conjunction. As outlined in 4.2.4., the analysis concerning the replacement of the connector *ende* by *en* (cf. Hypothesis 4) includes an investigation of the alternation of the coordinating conjunction between the forms *ende* and *en*. The development of the coordinating conjunction is examined by extracting data from randomly selected texts, which are evenly distributed across centuries and text genres. The names of the texts used are listed below in (1).

- (1) a. *Spiegel historiael (eerste partie/derde partie/vierde partie)* for the early 14th century
- b. *Stuttgartse leven van Jezus* for the early 14th century
- c. *Roman van Walewein* for 1350 for the late 14th century
- d. *Nieuwe Testament (Nndl. vert.)* for the late 14th century
- e. *Brabantsche yeeften (boek 6)* for the early 15th century
- f. *Historie van den grale* for the early 15th century
- g. *Karel ende Elegast* for the late 15th century
- h. *Historie van Reynaert die vos, Proza-Reinaert* for the late 15th century
- i. *Devoot ende profitelyck boecxken, Liedboek van 1539* for the early 16th century
- j. *Historie vanden vier heemskinderen* for the early 16th century
- k. *Antwerps liedboek* for the late 16th century
- l. *Historie van Malegijs* for the late 16th century
- m. *Nederlandsche Historien (boek 1-8)* for the early 17th century
- n. *Beschrijvinge der stad Leyden (fragment)* for the early 17th century
- o. *Palamedes oft Vermoorde onnooselheyd* for the early 17th century
- p. *Het leven van Joost van den Vondel* for the late 17th century
- q. *Den vermakelyken avanturier (behalve laatste boek)* for the late 17th century
- r. *Haagsche broeder-moord of dolle blydschap* for the late 17th century
- s. *Vaderlandsche historie (t.e.m. boek 8 XIX)* for the early 18th century
- t. *De Rotterdamsche Hermes* for the early 18th century
- u. *Het wederzyds huwelijksbedrog* for the early 18th century
- v. *Het onscheidbaar drietal redenwezens verlichting, deugd en tijd* for the late 18th century
- w. *De vrouwelijke Cartouche* for the late 18th century
- x. *De patriotten* for the late 18th century

The frequencies of the coordinating conjunction in the form of *ende* or *en* extracted from these texts are reported in 4.2.3.

Appendix D Annotation and possible values per parameter for the German database

This appendix describes the annotation of the German data extracted from the corpus (cf. Okabe 2022). The German data are annotated largely in the same manner as the Dutch instances, as described in Appendix A. First, the name of the document and the publication year of the source document are specified in the following way:

- (1) a. Name of the document: as given in the corpus
- b. Publication year: 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010

For posture verbs, the annotations cover the type of verb, the conjugation of the verb, and its person, number, and tense and mood, as shown in (2).

- (2) a. Posture verb: *stehen*, *dastehen*, *sitzen*, *dasitzen*, *liegen*, *daliegen*
- b. Conjugation: +, -
- c. Person: 1st, 2nd, 3rd, na
- d. Number: singular, plural, na
- e. Tense/mood/finiteness: present, past, perfective, infinitive, subjunctive

Each instance in the database is marked in terms of what type of posture verb it includes (2a). As shown in Chapter 5, posture verbs with the particle *da-*, i.e. *dastehen*, *dasitzen* and *daliegen*, are analyzed separately from the verbs without the particle. For both the posture verb and the second verb, the presence or absence of conjugation is annotated as '+' or '-' respectively, in (2b). The annotation here is simpler than in Dutch, as inflectional mismatches between the verbs do not occur. Therefore, the '+' or '-' reflects whether or not both the posture verb and second verb are conjugated. The number and the tense/mood/finiteness are annotated in the same way as with the Dutch data (see Appendix A).

The syntactic and semantic features of the second verb are annotated with the parameters shown in (3).

- (3) a. Verb number: 2, 3, 4

- b. Verb type: dictionary form of the second verb
- c. Dynamic: +, -
- d. Atelic: +, -
- e. Compatible with the posture: +, -
- f. No movement: +, -

All the features are annotated in the same way as for the Dutch data (see Appendix A). The form of the connector is not annotated, since German only has one form: *und*.

As for the noun, the annotation covers the presence or absence of the subject for the second verb, the presence or absence of an object, and the presence of an extracted or preposed object.

- (4) a. Presence of the subject for the second verb: +,-
- b. Presence of the object: +, -
- c. Extracted/preposed object: e, p, or none

Parameters (4a-c) are annotated in the same manner as for Dutch (cf. Appendix A).

For the modifier, the annotation covers the position of the adverbials (if any), the presence or absence of certain types of modifiers, and the modification relation of the negator.

- (5) a. Position of the adverbial before the posture verb [1]: +, none
- b. Position of the adverbial between the posture verb and the connector [2]: +, none
- c. Position of the adverbial between the connector and the second verb [3]: +, none
- d. Position of the adverbial after the second verb [4]: +, none
- e. Presence of the locative modifier: +, ++, -, na
- f. Presence of the temporal modifier: +, -
- g. Negator for the posture verb: +, none
- h. Negator for the second verb: +, none

All the points except for (5e) are annotated in the same way as in Dutch (see Appendix A). With regard to (5e), when an instance has one or more locative modifiers, it is marked as either '+' or '++'. The difference between '+' and '++' is that the latter denotes deictic locative adverbs (e.g. *da* 'there', *hier* 'here') and the former covers the rest (cf. section 5.3.4.). The label 'na' is given when

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the instance includes one of the *da*-verbs, i.e. *dastehen*, *dasitzen*, or *daliegen*, and is not further modified for location.

The position of the posture verb is annotated by distinguishing cases where the posture verb is found in clause-non-final position versus clause-final position; these situations are annotated as 'nf' and 'f', respectively.

(6) Location of the posture verb: nf, f

Finally, cases of 'subject lacking in finite clauses' (SLF coordination, cf. 5.2.2.) are marked as 'slf' in the column 'Others'.

(7) Others: slf, none

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English Summary

This dissertation investigates the grammaticalization of posture verbs in Dutch and German. Posture verbs are verbs that typically refer to a standing, sitting, or lying posture of a human being. Cross-linguistically, such verbs are typically polysemous, and regularly function as tense/aspect/modality markers. This latter property also applies, to some extent, to Dutch and German. Dutch posture verbs have been used as progressive markers from Middle Dutch up until the present. In the modern language, they take a complement verb introduced by the infinitive marker *te* (e.g. *hij staat te wachten* ‘he is (standing and) waiting’). In Middle Dutch, however, the verbs are linked with another verb by the coordinating conjunction *ende* (or its reduced form *en*). The resulting structure is comparable to verbal coordination, but, as noted in the literature, it also forms a progressive construction which behaves as a monoclausal structure in some respects. This Middle Dutch progressive construction has a parallel in Modern German, namely a pseudo-coordinate construction with posture verbs. The Modern German construction is thought to be in the early stages of grammaticalization, in the sense that it occasionally hints at temporal aspect.

This dissertation investigates the properties of these three constructions in Dutch and German. The research on both Dutch and Modern German is based on corpus data and is quantitative, including analysis of frequencies using statistical methods. For Dutch, the development of the posture-verb progressive construction(s) is examined from its assumed emergence in Middle Dutch till the 18th century, which is the period when the construction seems to have attained its modern form. Based on the literature, a stepwise grammaticalization path is hypothesized; this proposed path is then evaluated and updated based on the analysis of corpus data. While the Dutch posture-verb construction is investigated diachronically, the German posture-verb construction is described from a present-day, synchronic perspective. This description makes it possible to evaluate the extent to which the construction is grammaticalized, particularly in comparison with the corresponding Dutch construction.

Chapter 1 introduces the topic of this dissertation, namely the posture-verb constructions in Dutch and German, and provides an overview of the relevant literature. The Modern Dutch construction takes an infinitival clause and is considered unambiguously monoclausal in terms of its structure; meanwhile, the construction in Middle and Early Modern Dutch can be considered pseudo-coordinate, in the sense that it is formally

biclausal while showing some monoclausal behavior. The older posture-verb construction in Dutch is thus comparable with the Modern German posture-verb construction, since both are pseudo-coordinate. This chapter also formulates the research objectives of this study and provides a brief overview of each chapter.

Chapter 2 presents the methodology used to study the Dutch posture-verb construction and outlines the characteristics of the three corpora used: the *Corpus Gysseling*, the *Corpus Middelnederlands*, and the *Corpus literair Nieuwnederlands*. The first two corpora mostly cover the Middle Dutch period (13th–16th century) and the third covers the beginning of the Modern Dutch period (17th and 18th centuries). The way in which the relevant data were extracted from each corpus is explained, as well as the statistical methods used. Although the posture-verb construction as a progressive construction is a well-known linguistic phenomenon in the history of Dutch, it has only recently become possible to conduct such a large-scale quantitative investigation of the Middle and Early Modern Dutch period, thanks to recent developments in the field of corpus linguistics. This dissertation benefits from these innovations.

Chapter 3 summarizes the likely stages of historical development of the Dutch posture-verb progressive construction, and derives a set of hypotheses to be evaluated on the basis of corpus data. Following a review of the major changes proposed in the literature, a provisional description of the development of the posture-verb construction over time is given. Furthermore, some typological observations on pseudo-coordination with posture verbs are presented, which may be relevant to the historical development of the Dutch construction. The relevant expected changes are summarized as a hypothetical five-stage grammaticalization path. Grammaticalization is known to proceed in a step-by-step manner, and the proposed grammaticalization path puts the expected changes in a historical order, outlining what took place at which stage. In order to be able to evaluate this proposed path on the basis of corpus data, fourteen hypotheses are formulated regarding diachronic changes in the frequency of certain features of the construction.

Chapter 4 reports the analyses of the corpus data. Overall, the results indicate that the older pseudo-coordinate construction and the new infinitival construction are independent of each other; that is, the former construction did not evolve into the new construction in a process of (further) grammaticalization. It appears that the older construction was widespread in Middle Dutch and began to be replaced by the monoclausal construction with an infinitival clause in the 17th century. The corpus data

clearly show that the old construction was still more frequent than the new one in the 17th century, but the latter supplanted the former in the course of the 18th century. Despite this replacement, both constructions seem to have remained largely stable during the period under study (13th–18th century). If the constructions were grammaticalizing during this period, one would expect to see an increase in the backgrounding of postural/locative semantics and foregrounding of temporal aspect; however, such a development is not attested for either construction. Rather, the constructions seem to have had stable semantics over time. In view of these results, it is proposed that the posture verbs were already available as progressive markers from the beginning of the Middle Dutch period (i.e. the 13th century) in the pseudo-coordinate construction, which was later replaced by the monoclausal construction in the Early Modern Dutch period. Based on the analyses in this chapter, the grammaticalization path proposed in Chapter 3 is modified in order to reflect the actual changes observed in the data.

Chapter 5 concerns the posture-verb construction in Modern German. The current characteristics of the construction are described on the basis of the data extracted from the *DWDS-Kernkorpus*, to evaluate the degree of grammaticalization and the potential of the construction to grammaticalize further. Based on the analyses, the posture-verb construction in Modern German does not seem to display the semantic and syntactic properties that should be observed for pseudo-coordination according to the typological literature. Nonetheless, as pointed out in the literature, some instances with backgrounded postural/locative semantics and foregrounded temporal meaning are attested, which may indicate the potential for German posture verbs to develop further into aspectual markers (as in Dutch). In particular, posture verbs with the particle *da-* could facilitate grammaticalization of the construction, since their emphasized atelicity aligns well with a progressive aspectual meaning. Since the German data seem to correspond to the initial coordinate stage of the posture-verb progressive grammaticalization path, they can be regarded as complementing the Dutch data, which do not appear to cover this stage of development.

Chapter 6 summarizes the findings reported in Chapters 4 and 5. The replacement of the older construction in Dutch can be characterized as a competitive process, resulting in the survival of the functionally superior *te* construction at the cost of the older *en(de)* construction. The status of German pseudo-coordination as a construction is questionable from a constructionalist perspective, since there seems to be no fixed pairing of form and meaning. The comparison of the Dutch pseudo-coordinate construction with the German coordinate construction provides insight into

the continuum between coordination and pseudo-coordination. The contrastive perspective also sheds light on the (im)possibility of forming pseudo-coordinate structures in the Germanic languages, and the ease with which posture verbs may grammaticalize into aspectual markers.

Nederlandse Samenvatting

In dit proefschrift wordt de grammaticalisatie van positiewerkwoorden in het Nederlands en het Duits onderzocht. Gewoonlijk beschrijven positiewerkwoorden een staande, zittende, of liggende houding van mensen. In diverse talen hebben deze werkwoorden een aantal additionele betekenissen, waaronder de functie van markeerders van tempus/aspect/modaliteit. Dit geldt ook voor het Nederlands en—in mindere mate—het Duits. In het Nederlands worden deze positiewerkwoorden sinds de periode van het Middelnederlands tot aan de huidige tijd gebruikt als progressieve markeerders. In het moderne Nederlands komen de werkwoorden voor met een infinitief voorafgegaan door *te*, terwijl ze in het Middelnederlands gekoppeld zijn aan een ander werkwoord met het nevenschikkende voegwoord *ende*, of de gereduceerde vorm *en*. De moderne constructie heeft de structuur van een enkelvoudige zin met een hoofd- en een hulpwerkwoord, terwijl de structuur in het Middelnederlands in principe vergelijkbaar is met werkwoordelijke nevenschikking. Toch zegt de literatuur dat deze structuur met een positiewerkwoord, *en(de)*, en een erop volgend werkwoord in sommige opzichten fungeert als een progressieve constructie met een enkelvoudig karakter. Deze Middelnederlandse constructie kent een analogie in het Duits, namelijk de pseudo-coördinerende constructie met positiewerkwoorden. Omdat gevallen van deze constructie in het moderne Duits af en toe een aspectuele betekenis vertonen, wordt hij wel als een ‘progressieve constructie in opkomst’ gezien. Het belangrijkste doel van dit proefschrift is deze drie constructies in het moderne Nederlands, het Middelnederlands, en het moderne Duits in detail te onderzoeken. Zo kunnen we onderzoeken of in de geschiedenis van het Nederlands de constructie met *te* is voortgekomen uit die met *en(de)* of zich zelfstandig ontwikkeld heeft, en in welke mate de hedendaagse ontwikkeling in het Duits hetzelfde is als die in het oudere Nederlands.

Voor het Nederlands wordt de ontwikkeling van de progressieve constructie(s) met positiewerkwoorden nagegaan vanaf de vermoedelijke opkomst ervan in het Middelnederlands tot aan de 18^{de} eeuw, de periode waarin de constructie die vergelijkbaar is met de moderne situatie, dominant wordt. Op basis van corpusdata wordt de diachrone ontwikkeling van de constructie(s) uitvoerig beschreven. De eigenschappen van de constructie(s) in elk stadium worden gebruikt om een hypothetisch stapsgewijs proces van grammaticalisatie te toetsen. Terwijl de Nederlandse constructies diachroon

onderzocht worden, wordt de Duitse constructie synchroon bestudeerd. De beschrijving van het huidige profiel van de constructie met positiewerkwoorden in het Duits is eveneens gebaseerd op corpusdata en moet uitwijzen in hoeverre de constructie grammaticalisatie ondergaan heeft, met name in vergelijking tot het Nederlands. Zowel de Nederlandse als de Duitse data worden kwantitatief onderzocht, onder meer door middel van frequentieanalyses met gebruik van statistische methodes.

Hoofdstuk 1 introduceert het onderwerp van het proefschrift, namelijk de Nederlandse en Duitse constructies met positiewerkwoorden, en vat de relevante literatuur samen. De constructie in het moderne Nederlands bevat een infinitief met *te* en wordt algemeen beschouwd als een enkelvoudige structuur, terwijl de Middelnederlandse en Vroegnieuw nederlandse constructie kan worden gezien als een pseudo-coördinerende constructie, in de zin dat hij formeel een combinatie van twee gelijksoortige leden is, die zich in enkele opzichten als een enkelvoudige structuur gedraagt. De oude Nederlandse constructie is zo dus vergelijkbaar met de constructie in het moderne Duits omdat beide pseudo-coördinerend zijn. Dit hoofdstuk formuleert ook de onderzoeksdoelen en geeft een korte vooruitblik op de volgende hoofdstukken.

Hoofdstuk 2 beschrijft de methodologie van het onderzoek en legt de kenmerken van drie gebruikte corpora uit: het *Corpus Gysseling*, het *Corpus Middelnederlands*, en het *Corpus literair Nieuwnederlands*. De eerste twee corpora bestrijken voornamelijk de Middelnederlandse periode (13^{de} eeuw tot 16^{de} eeuw) en het laatste de beginperiode van het Nieuwnederlands (17^{de} en 18^{de} eeuw). Er wordt ook beschreven op welke manier de relevante gegevens uit de desbetreffende corpora gehaald worden en welke statistische methodes gehanteerd worden in de analyse. De progressieve constructie met positiewerkwoorden is een bekend fenomeen in de taalgeschiedenis van het Nederlands, maar de recente ontwikkelingen in de corpuslinguïstiek maken het mogelijk om dit fenomeen kwantitatief te onderzoeken, op een grootschaligere manier dan voordien mogelijk was. Dit proefschrift profiteert van deze innovaties door gebruik te maken van de bovengenoemde corpora.

Hoofdstuk 3 formuleert op basis van de typologische en neerlandistische literatuur een vijftal verwachte ontwikkelingsstappen van de Nederlandse constructie. Deze stappen worden vertaald in 14 hypothesen die elk betrekking hebben op een bepaald verschijnsel in de taalstructuur. Met behulp van corpusdata wordt de frequentieontwikkeling van deze structuren geanalyseerd, waarmee de hypothesen en daarmee de

veronderstelde grammaticalisatiestappen bevestigd of bijgesteld kunnen worden.

Hoofdstuk 4 laat de resultaten van de geanalyseerde corpusdata zien. In het algemeen tonen de resultaten uit de corpora aan dat de oude pseudo-coördinerende constructie en de nieuwe constructie met een infinitief onafhankelijk van elkaar zijn. Dit betekent dat de oude constructie zich niet geleidelijk door (verdere) grammaticalisatie uit de oude heeft ontwikkeld. De oude constructie was wijdverspreid in het Middelnederlands en werd in de 17^{de} eeuw geleidelijk vervangen door de enkelvoudige constructie met infinitief. De corpusdata laat duidelijk zien dat in de 17^{de} eeuw de oude constructie nog vaker gebruikt wordt dan de nieuwe, terwijl vanaf de 18^{de} eeuw de nieuwe vaker voorkomt. Ondanks deze vervanging lijken de beide constructies tijdens de onderzoeksperiode (13^{de} tot 18^{de} eeuw) formeel en semantisch grotendeels stabiel. Er zijn geen duidelijke aanwijzingen te vinden dat de positionele betekenis afneemt en de locatieve of aspectuele betekenis toeneemt. Deze resultaten laten zien dat positiewerkwoorden vanaf de beginperiode van het Middelnederlands (dus vanaf de 13^{de} eeuw) als progressieve markeerders gebruikt konden worden. Door het analyseren van corpusdata worden de in hoofdstuk 3 voorgestelde ontwikkelingsstappen bijgewerkt, zodat ze de feitelijke taalveranderingen die in de data te observeren zijn, weerspiegelen.

De nadruk van hoofdstuk 5 ligt op de Duitse constructie met positiewerkwoorden. Het profiel van de constructie wordt op basis van de data uit het *DWDS-Kernkorpus* beschreven om de graad van grammaticalisatie te evalueren en het potentieel van de constructie om verder te grammaticaliseren, te toetsen. Gebaseerd op de analyses lijkt de Duitse constructie geen duidelijke aanwijzingen van semantische of syntactische kenmerken te vertonen die gekoppeld kunnen worden aan pseudo-coördinatie. Tegelijkertijd zijn er individuele gevallen te vinden die, zoals in de literatuur beschreven, een aspectuele interpretatie kunnen hebben. Deze kunnen aantonen dat de Duitse positiewerkwoorden de mogelijkheid in zich dragen om verder tot aspectuele markeerders te grammaticaliseren, zoals in het Nederlands is gebeurd. Vooral de partikelwerkwoorden met *da-* als partikel en een positiewerkwoord als basis zouden de grammaticalisatie van de constructie kunnen bevorderen, omdat hun duidelijk atelische betekenis goed aansluit bij progressief aspect. Aangezien de Duitse data de nevenschikkende beginfase van de mogelijk opkomende grammaticalisatie weerspiegelen, zouden de data gezien kunnen worden als een aanvulling op de Nederlandse data, die geen

ontwikkeling van de constructie van coördinatie tot pseudo-coördinatie lijken te tonen, wellicht omdat deze fase te ver terug ligt in de tijd.

Hoofdstuk 6 geeft een samenvatting van de voornaamste bevindingen die gerapporteerd zijn in hoofdstuk 4 en 5. In het Nederlands kan de vervanging van een constructie door een andere gezien worden als competitie, waarbij de nieuwe constructie met een infinitief een functioneel superieure progressiefconstructie bleek te zijn ten opzichte van de oude pseudo-coördinerende constructie. De huidige status van de Duitse constructie als een progressieve constructie is twijfelachtig vanuit het oogpunt van de Constructiegrammatica, omdat er geen vaste vorm-betekenisrelatie te zien is. De vergelijking van de Nederlandse pseudo-coördinerende constructie met de Duitse nevenschikkende constructie geeft inzicht in het continuüm tussen coördinatie en pseudo-coördinatie. Het contrastieve perspectief werpt verder licht op verschillen in de pseudo-coördinerende structuren in Germaanse talen en in de mate waarin positiewerkwoorden gegrammaticaliseerd worden tot aspectuele markeerders.

Curriculum Vitae

Ami Okabe (岡部 亜美) was born in Tokyo, Japan in 1990. After graduating from Joshigakuin High School in 2009, she obtained her BA in German Linguistics from Tokyo University of Foreign Studies in 2013 and her MA in Germanic Linguistics from Kyoto University in 2015. In the same year, she started her PhD at Kyoto University. In September 2018, she was granted a scholarship offered by the Honjo International Scholarship Foundation and continued her PhD research at Leiden University Centre for Linguistics. This dissertation is the main result of Ami's PhD research.