The historical development of the Dutch posture-verb progressive construction: including a comparison with German
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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 auxiliation 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)* V$^2_{inf}$] 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).

(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 century[1]
          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)).

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[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} *ende* (S) V^2_{fin}	Bipredicative or monopredicative
Stage 2	Bi-/monoclausal S PV_{fin} *en(de)* V^2_{fin}	Monopredicative
Stage 3	Monoclausal S PV_{fin} *en(de)* $V^2_{fin/inf}$	Monopredicative
Stage 4	Monoclausal S PV_{fin} *en(de)* $V^2_{fin/inf}$ S PV_{fin} *te* V^2_{inf}	Monopredicative
Stage 5	Monoclausal S PV_{fin} *te* 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)* V^2] 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

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[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) V$^2_{fin}$

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

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

and the second conjunct can be observed, for example, by comparing (4a) and (4b).

(4) a. Jan slaapt en Marie werkt.
          'Jan is sleeping and Marie is working'
      b. Jan slaapt en mijn band is lek.
          'Jan is sleeping and my tire has a puncture'

                                        (Broekhuis & Corver 2019: 40f.)

Broekhuis & Corver (2019: 39) point out that (4b) is less acceptable than (4a) 'because the addressee may construe the coordinands [i.e. conjuncts] in the former example as contrastive, while there is no obvious relation between the coordinands in the latter example'.[5]

In (4), the first and the second conjunct have different subject referents, i.e. *Jan* and *Marie* in (4a) and *Jan* and *mijn band* 'my tire' in (4b). In these cases, the event described by each conjunct is interpreted as independent. At the same time, it is also possible to have the same subject referent for both conjuncts, as shown in (5).

(5) a. **Jan** lag in bed en **hij** sliep rustig.
          'Jan was lying in bed and he was sleeping peacefully'
      b. **Jan** lag in bed en sliep rustig.
          'Jan was lying in bed and was sleeping peacefully'

In (5a), the subject of the first conjunct, *Jan,* is repeated in the second conjunct as a personal pronoun, *hij* 'he'. In (5b), meanwhile, the second subject is elided. Note that in (5), the verbs (*lag* 'lay' and *sliep* 'slept') agree in number and finiteness, which is what we typically expect for coordination of verb phrases with the same subject referent.

The consequence of eliding the coreferential subject for the second verb (as in example (5b)) is that the composite interpretation of the conjoined events is preferred. Compare (6a) which has a coreferential subject pronoun *hij* 'he' for the second verb with (6b) which has subject elision.

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[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)

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[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).

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[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 wa*s '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]

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[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.

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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)* V²_{fin}

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

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[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
forefield	*1st pole*	*middle field*	*2nd pole*	*final field*

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]

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[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

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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 nv* **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 *[d]e 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

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[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

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 V^2 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.

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[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_{fin} *en(de)* V^2_{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_{fin} *en(de)* V^2_{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)* V^2]). 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** <u>een boek</u>.
          'he sat on the beach and read a book'
    b. [monoclausal][16]
          *Hij **zat** <u>een boek</u> **en las/lezen**.
          'lit. he sat a book and read/read'

(14) [prepositional objects]
    a. [biclausal]
          Zij **stond** buiten **en luisterde** <u>naar zijn woorden</u>.
          'she stood outside and listened to his words'
    b. [monoclausal]
          *Zij **stond** <u>naar zijn woorden</u> **en luisterde/luisteren**.
          'lit. she stood to his words and listened/listen'
    c. [monoclausal]
          *Zij **stond en luisterde/luisteren** <u>naar zijn woorden</u>.
          '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).

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[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	
forefield	*1st pole*	*middle field*	*2nd pole*	*final field*

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]

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[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** <u>een boek</u> **las**
        'that he sat on the beach and read a book'
    b. [intermediate]
        *dat hij **zat** <u>een boek</u> **en las**
        'lit. that he sat a book and read'
    c. [monoclausal]
        *dat hij <u>een boek</u> **zat en las/lezen**
        'lit. that he a book and read/read'

(16) [prepositional objects]
    a. [biclausal]
        dat zij buiten **stond en** <u>naar zijn woorden</u> **luisterde**
        'that she stood outside and listened to his words'
    b. [biclausal]
        dat zij buiten **stond en luisterde** <u>naar zijn woorden</u>
        'that she stood outside and listened to his words'
    c. [intermediate]
        *dat zij **stond** <u>naar zijn woorden</u> **en luisterde**
        'lit. that she stood to his words and listened'
    d. [monoclausal]
        *dat zij <u>naar zijn woorden</u> **stond en luisterde/luisteren**
        'lit. that she to his words stood and listened/listen'
    e. [monoclausal]
        *dat zij **stond en luisterde/luisteren** <u>naar zijn woorden</u>
        '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 adverbials [18] 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** <u>rustig</u>.
    '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 <u>waar</u> zij **ligt te slapen*** 'in the garden where she lies sleeping'), since they have no freedom of placement.

b. [monoclausal]

*Zij **lag** <u>rustig</u> **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** <u>rustig</u> **sliep**

'that she lay on her belly and slept soundly'

b. [intermediate]

*dat zij **lag** <u>rustig</u> **en sliep**

'lit. that she lay soundly and slept'

    c. [monoclausal]

<p style="text-align:center">*dat zij <u>rustig</u> lag en sliep/slapen
'lit. that she soundly lay and slept/sleep'</p>

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.

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** <u>niet</u> **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** <u>niet</u> 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)* V^2_{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.

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.

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