KATHRINE THISTED PETERSEN

The Development of Complex Predicates from Old Danish to Modern Danish

A Diachronic Survey of the Connection between Case, Bare Nouns, and Stress Pattern

Petersen, K. Thisted, PhD, Assistant Professor, School of Communication and Culture, Scandinavian Studies, Aarhus University. "The Development of Complex Predicates from Old Danish to Modern Danish. A Diachronic Survey of the Connection between Case, Bare Nouns, and Stress Pattern". *ANF* 134 (2019), pp. 131–191.

Abstract: This study describes the development of complex predicates from Early Middle Danish (ca. 1100–ca. 1350) through Late Middle Danish (ca. 1350–ca. 1525) and Early Modern Danish (ca. 1525–ca. 1700) to Modern Danish (post-1700) as a change from an unmarked to a marked mode of expression. In Modern Danish, the characteristic features of complex predicates such as ˌbage ˈkage 'to bake a cake' are the unit accentuation between the unstressed verb and the stressed noun and the bare form of the noun, marking the combinations as lexically fixed expressions with non-referential complements. Since stress markers are absent from Old Danish (ca. 800–ca. 1525) texts, we are unable to tell whether unstressed verbs were also a clear characteristic of complex predicates during this period. However, topological factors make the usage of unit accentuation between verbs and non-referential complements in most of the period unlikely. Considering the fact that words in the final position of a syntactic accentual sequence are normally stressed to a greater or lesser extent (Rischel 1983; Jacobs 1999; Basbøll 2005; Grønnum 2009; Petersen 2010), the presence of OV word order in Old Danish texts with the complement in a preverbal position presumably rules out the usage of unit accentuation in spoken language. Furthermore, bare nouns, which are referentially marked in Modern Danish, making them compatible with complex predicates, were referentially unmarked in Early Middle Danish (Jensen 2007a). This means that the formal features of complex predicates in Modern Danish were absent from Old Danish. Therefore, the diachronic analysis in this study takes the functional features of complex predicates as its starting point. Based on an analysis of the case system in the Scanian dialect of Early Middle Danish, I formulate the hypothesis that, in Early Middle Danish, a bare noun with an underspecified case form was referentially unmarked and thereby compatible with complex predicates, whereas a noun with a specified case form was marked as a referential entity in the universe of discourse. By way of this, I assign new functional categories to hitherto unexplained changes in the case system. Since bare nouns in Late Middle Danish were only used non-referentially, particularly as complements in complex predicates, the markedness relation between determinate and bare nouns had been inverted by this point. In the subsequent statistical analysis of the development of word order in Early Modern Danish from the beginning of the 16th century to the beginning of the 18th century in texts written in both a controlled, revised language and a spontaneous, unrevised language, I delineate how the VO structure was gradually established in written language, thereby signalizing the potential presence of unit accentuation in spoken language. At this stage of the language change process, the unstressed verb, functioning as a desemanticized light verb, made complex predicates lexically marked. The fact that the VO structure was first fully developed in texts written in a spontaneous language and in complex predicates and periphrastic verb phrases in texts of both kinds and all registers indicates that unit accentuation was actualized in spoken language long before the standardization of VO word order in written language.

Keywords: complex predicates, diachronic survey, Early Middle Danish, Late Middle Danish, Early Modern Danish, case, bare nouns, unit accentuation, word order.

1 A Definition of Complex Predicates as a Starting Point for a Diachronic Survey

The overall subject of this study is complex predicates such as ˌbage 'kage 'to bake a cake' with unstressed verbs and stressed bare nouns. Unlike previous studies, based exclusively on synchronic observations from Modern Danish, this article aims to examine such complex predicates diachronically as a development from Old Danish to Modern Danish. By way of introduction, I will first list the formal and functional features of complex predicates in Modern Danish. The fact that the same formal features were absent from Old Danish gives rise to the question how complex predicates were expressed on older stages of Danish.[1]

1.1 Formal and Functional Features in Modern Danish

In Modern Danish, complex predicates consist of unstressed verbs in combination with stressed complements, typically without articles or other kinds of determiners. The following definition and interpretation of this phenomenon are based on Rischel (1980, 1983), Thomsen (1991), Scheuer (1995), Thomsen (2002a, 2002b), Herslund (2005), Pedersen (2007), Petersen (2010), Hansen and Heltoft (2011), and Petersen (2013). The combination of an unstressed word and a following stressed word is commonly termed unit accentuation. Without designating any referents in the universe of discourse, complex predicates express habitual or generic activities or states. Consider the following examples:

(1)   Vi ˌbager 'kage når   der   kommer gæster.
        'we bake   cake when there come   guests'
        We bake a cake when we have guests.

(2)   Direktøren ˌsidder ˌtil 'møde.
        'the.manager sits   at   meeting'
        The manager is at a meeting.

Complex predicates contrast with combinations of stressed verbs and referential complements with articles, as illustrated in the following examples:

(3)   I dag 'bager vi ˌen choko'ladekage.
        'today bake we a   chocolate.cake'
        Today we are baking a chocolate cake.

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[1] For a comprehensive investigation concerning further aspects of the development of complex predicates, see Petersen (2018) (in Danish).

(4)   I dag 'sidder direktøren ˌtil ˌet 'vigtigt   'møde.
        'today sits   the.manager at   an important meeting'
        Today the manager is at an important meeting.

Thus, the two characteristic features of complex predicates in Modern Danish are the unstressed pronunciation of the verb and the bare form of the noun. In languages outside Europe, the term incorporation refers to "the compounding of a noun stem and a verb (or adjective) to yield a complex form that serves as the predicate of a clause" (Gerdts 1998, 84). In the prototypical noun incorporation process, the stem of a noun is integrated into a verb, rendering a transitive verb intransitive. As early as 1911, Sapir (1911, 260) gives an example from the Native American language Nahuatl spoken in Mexico:

(5)   a. ni-c-qua in   nacatl.
           'I-it-eat the flesh'
           I eat the flesh.
        b. ni-nica-qua.
           'I-flesh-eat'
           I eat flesh.

In (5a), *c* 'it' is an incorporated pronominal element indicating that the independent noun phrase *in nacatl* 'the flesh' functions as an object. By integrating the noun stem *nica* 'flesh' into the verb *qua* 'eat' in (5b), the noun incorporation process removes the reference between the non-incorporated object *in nacatl* 'the flesh' in (5a) and an entity in the universe of discourse. Like Bach (2008), I define reference in opposition to denotation as the ability to designate a well-known entity in the universe of discourse: "So if we distinguish reference from denotation as two different species of what Kripke [(1980, 56–57)] calls 'designation,' then all expressions that (semantically) refer are rigid designators and all denoting expressions are non-rigid designators" (Bach 2008, 33). Since Modern Danish complements in combination with unstressed verbs share the characteristic non-referential feature of incorporated nouns, complex predicates in Modern Danish can be regarded as a syntactic version of incorporation (Thomsen 1991, 147–151; 2002a, 291–293; 2002b, 120–121). The term noun stripping is commonly used to describe the combination between verbs and non-referential complements appearing in the bare form without attached determiners, as opposed to referential determinate nouns (Gerdts 1998, 93–94; Gallmann 1999, 291–292). In this article, I distinguish between combinations with non-referential complements, i.e. complex predicates, and combinations with referential complements.

1.2　Formal Features of Complex Predicates Absent from Old Danish (ca. 800–ca. 1525)

This study adheres to the following delineation of periods in the history of the Danish language (cf. Brøndum-Nielsen 1950, 8–10; Skautrup 1944, 81–310; 1947; Jensen 2011, 96). The general term Old Danish encompasses Runic Danish from ca. 800 to ca. 1100, Early Middle Danish from ca. 1100 to ca. 1350, and Late Middle Danish from ca. 1350 to ca. 1525. Subsequently, the terms Early Modern Danish and Modern Danish cover the periods from ca. 1525 to ca. 1700 and ca. 1700 onwards respectively. Usually, Proto-Nordic or Ancient Nordic (Dan. *urnordisk*) denotes the old common Nordic language from the beginning of the 1st century to the end of the 8th century (Bandle et al. 2002, 692; Nedoma 2010, 19–23). Even though the development of regional varieties started to form the basis of a subdivision in East and West Nordic languages from ca. 800, the dialects were still mutually intelligible. Unfortunately, the East Nordic languages Danish and Swedish are only sporadically handed down from the time before 1100. Since the language in the oldest West Nordic manuscripts from ca. 1150 to ca. 1350, usually referred to as Old Norwegian-Icelandic (Dan. *norrønt*) (Bandle et al. 2002, 787; Noreen 1923, 8), is very conservative, it is used in my analysis to represent an original common Nordic language form. This procedure is common practice (Jensen 2011, 101–106).

In most of the Old Danish period, bare nouns were able to function both referentially and non-referentially. Thus, bare nouns have not always been a clear characteristic of non-referential complements in Danish. In the following example from 'Skånske Lov' (SkL) 'Scanian Law' in manuscript B 69,4o from ca. 1350[2], both *kunu* 'wife' and *barn* 'child' are bare nouns. The first noun *kunu* refers to an unidentifiable referential wife that is later repeated by the anaphor *hun* 'she', whereas *barn* is part of the complex predicate *far barn* 'has a child' without any reference to either an identifiable or unidentifiable child:

(6)　FAR. Man **kun-u**　　　　hoc dør han før æn hun far
　　　'gets　man　wife.F-OBL.SG.F and dies he　before　she　has

　　　barn-Ø (SkL 203,2)
　　　child.N-NOM.AKK.SG.N'
　　　If a man gets a wife and if he dies before she has a child

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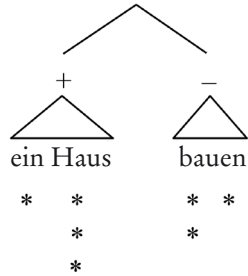2　This manuscript is currently housed in the National Library of Sweden.

Also, unit accentuation between unstressed verbs and stressed nouns seems to be a new phenomenon because of the possible OV word order in Old Danish. Consider the following example from 'Valdemars sjællandske Lov' (VL) 'Valdemar's Law of Zealand' in manuscript 455,12° from ca. 1300[3]:

(7)   Frændær **mughæ** ey børn   fran the|ræ mothær **takæ** (VL 321,13)
      'kinsmen may   not children from their   mother take'
      Relatives are not allowed to take the children from their mother

In Modern Danish, a syntactic accentual sequence is defined as a group of words in which the last word is stressed and the other words are unstressed (Grønnum 2009, 339). In order to explain why this stress pattern does not exist in an OV language like German, Jacobs (1993, 1999) refers to "the *difference between the stress patterns of head-final and non-head-final constructions or languages*, a difference that has been noted in the typological literature, but has not yet been explained" (Jacobs 1999, 62). Jacobs (1993, 71) makes the stress pattern depend on the possibility of semantically integrating a daughter constituent (X_1) into its sister (X_2). One of the overall conditions for an integration is that the two constituents are daughters of the same constituent Y. Another condition is that the relationship between the sisters is asymmetric in that X_2 forms the head of the phrase. This condition excludes coordination relations. Furthermore, X_1 has to be an argument of X_2. If the head assigns a semantic role to its sister, it has to be spatiotemporally limited. This implies that X_1 has to possess prototypical semantic object properties (Jacobs 1993, 76). Finally, the integrating constituent is always non-complex in that it consists of only one head and eventually functional elements such as conjugation or declension endings, articles, or auxiliaries. In other words, heads with integrated sister constituents are informationally non-autonomous, whereas heads with non-integrated sister constituents are informationally autonomous (Jacobs 1999, 56–58). By introducing this distinction, Jacobs shows how the two different kinds of heads may affect the stress pattern of a syntactic phrase: In OV and VO languages such as German and English respectively, informationally non-autonomous heads are less prominent than their sisters. In German, the informationally non-autonomous head *bauen* 'to build' in (8) is less prominent than the integrated sister *ein Haus* 'a house'. To reflect the difference in prominence, *ein Haus* is marked with a plus and *bauen* is marked with a minus in the metrical tree, making the first column higher than the second:
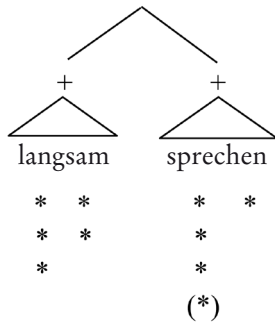
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[3] This manuscript is currently housed in the Royal Library of Denmark in Copenhagen.

(8)

```
              /\
             /  \
            +     −
           /\    /\
          /  \  /  \
       ein Haus  bauen
         *    *   *   *
              *   *
              *
```
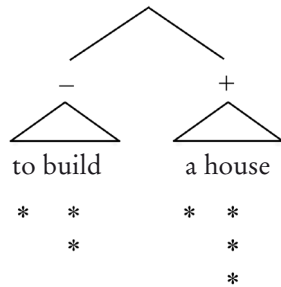
In contrast, the informationally autonomous head *sprechen* 'to speak' in (9) equals its sister *langsam* 'slowly' in prominence: "[T]hat is, they both get a plus in the metrical tree. This is reflected in the metrical grid by equally high columns under the strongest syllables of the two constituents. However, an optional operation can add an asterisk to the last of the highest columns in the grid" (Jacobs 1999, 58–59):
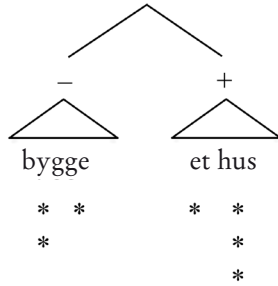
(9)

```
               /\
              /  \
             +     +
            /\    /\
           /  \  /  \
       langsam  sprechen
          *   *   *   *
          *   *   *
          *       *
                 (*)
```

In English and Danish, however, there is practically no difference between stress patterns of phrases with non-autonomous and autonomous heads:
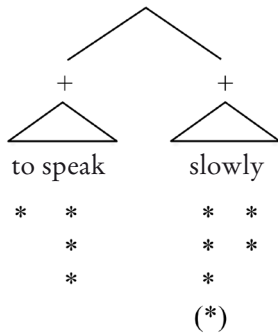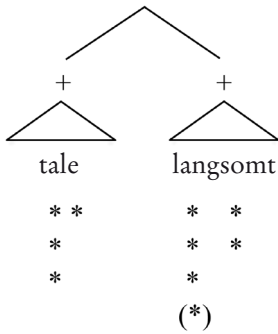
(10)

```
              /\
             /  \
            −     +
           /\    /\
          /  \  /  \
       to build  a house
         *    *   *   *
              *   *
                  *
```

(11)

```
              ╱╲
             ╱  ╲
            ╱    ╲
           ─      +
          ╱╲      ╱╲
         ╱  ╲    ╱  ╲
       bygge    et hus

        *   *    *   *
        *        *
                 *
```

(12)

```
             ╱╲
            ╱  ╲
           ╱    ╲
          +      +
         ╱╲      ╱╲
        ╱  ╲    ╱  ╲
     to speak   slowly

      *   *    *   *
          *    *   *
          *    *
              (*)
```

(13)

```
             ╱╲
            ╱  ╲
           ╱    ╲
          +      +
         ╱╲      ╱╲
        ╱  ╲    ╱  ╲
       tale    langsomt

        * *    *   *
        *      *   *
        *      *
              (*)
```

Although the above analysis shows an important difference between stress patterns in OV and VO languages, it does not account for the possibility of prosodically marking a complex predicate in Danish. Thus, the difference between stressed verbs with a referential object such as '*bygge ₒet* '*hus* 'to build a house' and unstressed verbs in a complex predicate such as ₒ*bygge* '*hus* 'to build a house' (literally: 'to build house') does not appear. The fact that a language like German does not feature this kind of unit accentuation in complex predicates is a result of the prototypical

distribution of stress in a syntactic accentual sequence. In languages with a prosodic structure based on stress, a syntactic accentual sequence is defined as a group of words including one main stress placed on the last word in the group (Grønnum 2009, 339). Only enclitic words such as pronouns can occur unstressed in the final position. As pointed out in Petersen (2010, 254–255), this statement can be supported by concrete examples. In (14) and (15), the fronted non-referential complements *fløjte* 'flute' and *dagbog* 'diary', governed by *spiller på* 'plays on' and *skriver* 'writes', involve a secondary stress on the verbs and the preposition:

(14)   'Fløjte ˌspiller ˌPoul 'ofte ˌpå.
        'flute   plays   Paul often on'
        Paul often plays the flute.

(15)   'Dagˌbog ˌskriver ˌPoul 'hver ˌdag.
        'diary   writes   Paul every day'
        Paul writes in his diary every day.

In Danish, the prosodic feature termed stød is associated with stress. Since only primarily or secondarily stressed words are able to carry stød (Basbøll 2005, 278), unstressed verbs and prepositions in complex predicates and prepositional phrases with unit accentuation are never stød-carrying. In Standard Danish, the preposition *på* 'on' and the verb *skriver* 'writes' in present tense are always stød-carrying when pronounced with primary or secondary stress. Thus, the presence of stød in the above examples implies the presence of stress. Without providing a detailed explanation, Rischel (1983, 85) also mentions the restoring of stress on verbs or prepositions in complex predicates or prepositional phrases with topicalized complements: "We see here that the application of UA [unit accentuation], combined with movement transformations, may cause a string of weakly stressed wordforms to occur in succession without any main stress following, and that in such cases there is a tendency to remedy the situation by restoring the main stress to a greater or lesser extent on one of the wordforms. What is at stake here is probably some *rhythmical* constraint, which of course deserves closer scrutiny in a comprehensive analysis of Danish accentuation". As a result of this analysis, a necessary condition for the existence of unit accentuation in complex predicates is that complements such as *kage* 'cake', *møde* 'meeting', *fløjte* 'flute', and *dagbog* 'diary' in (1), (2), (14), and (15) are always placed after the verb. This indicates that unit accentuation between unstressed verbs and stressed nouns in complex predicates is impossible in verb-final languages like German and Old Danish. Assuming that the same word

order was used in spoken Old Danish as in written Old Danish, the presence of OV word order presumably ruled out the usage of unit accentuation.

Another example illustrating the syntactic importance of different stress patterns in Modern Danish is presented below. The aspectual difference in Modern German between atelic and telic verbs in combination with prepositions that govern the dative and the accusative respectively is expressed by different stress patterns in Modern Danish:

(16) a. Jeg så ham da   han 'gik   ̥i 'vandet.
          'I saw him when he   walked in the.water'
          I saw him when he walked in the water.

      b. Ich sah ihn, als   er im   Wasser ging.
          'I saw him when he in:DEF.DAT water   walked'
          I saw him when he walked in the water.

(17) a. Jeg så ham da   han ̥gik   ̥i   'vandet.
          'I saw him when he   walked into the.water'
          I saw him when he went into the water.

      b. Ich sah ihn, als   er ins   Wasser ging.
          'I   saw him when he into:DEF.ACC water   walked'
          I saw him when he went into the water.

All of the facts presented above imply that the two formal features of complex predicates in Modern Danish, i.e. bare nouns and unit accentuation, were absent from Old Danish. As such, the aim of this article is to examine how complex predicates were expressed at older stages of Danish – a time when bare nouns were referentially ambiguous and unit accentuation did not exist.

1.3 Outline of the Article and Glossing Principles

In order to outline the theoretical foundation of this study, I define the notions of specification and markedness and the theory of grammaticalization in sections 2.1, 2.2, and 2.3 respectively. Based on a functional analysis of different kinds of texts, I then delineate the development of complex predicates from Early Middle Danish (ca. 1100–ca. 1350) through Late Middle Danish (ca. 1350–ca. 1525) and Early Modern Danish (ca. 1525–ca. 1700) to Modern Danish. First, I distinguish between specified and underspecified forms in the case system in Early Middle Danish in order to use this distinction as a notion of referentiality. Based on this, I formulate the hypothesis that a bare noun with an underspeci-

fied case form was referentially unmarked and thereby compatible with complex predicates, whereas a noun with a specified case form was marked as a referential entity in the universe of discourse. In Late Middle Danish when the case system eroded, the new article system gave rise to another way of marking the difference between complex predicates with non-referential complements and combinations with referential complements. From that time, bare nouns were confined to non-referential contexts, mainly as complements in complex predicates. Finally, the emergence of a consistent VO word order in Early Modern Danish facilitated the presence of unit accentuation as a new way of marking complex predicates. On the basis of this analysis, I suggest that the development of complex predicates can be regarded as a change from a case-conditioned mode of expression to an article- and a stress-conditioned mode of expression. Since the case system in the Jutland and Zealand dialects of Danish was already virtually eroded by 1100, in this study, the Early and Late Middle Danish periods are represented by texts written in the more conservative Scanian dialect. Before 1658, when Scania became a possession of the Swedish Crown, Scanian was a Danish dialect.

In the English translations of the examples from the source texts, parentheses are placed around extra information that explains the semantic or pragmatic meaning of specific words. Square brackets are placed around words that are necessary for the English translation yet absent in the original source. Square brackets around words in the examples are repeated from the original source. The glossing is based on the rules in Lehmann (2004). However, grammatical features are only mentioned if they are relevant in the specific context. Furthermore, case is only indicated if a certain form of a word is part of an inflectional paradigm with functionally distinguishable forms. If there is no inflectional variation, only the number SG or PL is indicated. Parallel to the specified case forms the nominative (NOM), the accusative (ACC), the genitive (GEN), and the dative (DAT), the abbreviation NGEN is used to indicate that something is not genitive. A morpheme boundary not shown in the source text is indicated by a colon.

2 Theoretical Foundation

The framework for the diachronic analysis of complex predicates in Danish includes the notions of specification and markedness and the theory of grammaticalization, which are elaborated below. In section 3.1, case

forms in Early Middle Danish are categorized as either specified or underspecified, with only the latter being compatible with complex predicates. The notion of markedness is used throughout the whole article to describe the development of complex predicates from an unmarked to a marked way of expression, and the theory of grammaticalization is relevant for the analysis of unstressed verbs in Early Modern Danish.

2.1 Specification

Dalrymple et al. (2009) define a form in a paradigm as underspecified if it is able to express more than one feature value at the same time. Thus, the declension paradigm of the Modern German masculine noun *Papagei* 'parrot' contains two underspecified forms and only one specified form:

Case	Singular	Plural
Nominative	*Papagei*	*Papageien*
Accusative	*Papagei*	*Papageien*
Genitive	*Papageis*	*Papageien*
Dative	*Papagei*	*Papageien*

Figure 1. Declension of the Modern German masculine noun *Papagei* 'parrot'.

Example (18a) shows that the plural form *Papageien* 'parrots' is the most underspecified form because of its ability to express the four cases nominative, accusative, genitive, and dative. The specified singular form *Papageis* 'parrot's', on the other hand, only functions as the genitive (Dalrymple et al. 2009, 45):

(18)   a.   Papageien: case {NOM | ACC | GEN | DAT} = +

       b.   Papageis: case {NOM | ACC | DAT} = −
                       case GEN = +

If no specified adjective or article precedes the underspecified noun *Papageien* 'parrots', it can be governed by both the verb *finden* 'to find', which requires the accusative, and the verb *helfen* 'to help', which requires the dative. The form specifies positive values for both the accusative and the dative simultaneously (Dalrymple et al. 2009, 35):

(19)   Er findet   und hilft   Papageien.
       'he finds (+ ACC) and helps (+ DAT) parrot.M:NOM.ACC.GEN.DAT.PL.M'
       He finds and helps parrots.

In (20) and (21), the modifying adjective *alte* 'old', which specifies the cases nominative and accusative, and the modifying adjective *alten* 'old', which specifies the dative, render the sentences ungrammatical because of the different case requirements of the two verbs *finden* 'to find' and *helfen* 'to help' (Dalrymple et al. 2009, 49):

(20)   *Er findet   und hilft   alte
        'he finds (+ ACC) and helps (+ DAT) old:NOM.ACC.PL.M

        Papageien.
        parrot.M:NOM.ACC.GEN.DAT.PL.M'
        He finds and helps old parrots.

(21)   *Er findet   und hilft   alten
        'he finds (+ ACC) and helps (+ DAT) old:DAT.PL.M

        Papageien.
        parrot.M:NOM.ACC.GEN.DAT.PL.M'
        He finds and helps old parrots.

In this article, the notion of case specification is relevant regarding the investigation of complex predicates in Early Middle Danish. During this period, new underspecified case forms were used alongside the traditional, specified forms. Thus, the underspecified form *fathær* (SG.M) 'father' was able to replace both the specified nominative form *fathir* (NOM.SG.M) and the specified oblique form *fathur* (OBL.SG.M). This statement is elaborated and exemplified in section 3.1. In the following section, the notion of specification is combined with the notion of markedness.

2.2 Markedness

With reference to Jakobson (1932), Andersen (2001, 40, 43–44) explains that the pair of terms *lion* and *lioness* is able to express both a contradictory opposition between a male term and a female term and a hyponymic relation between the hypernym *lion*, which denotes both male and female animals, and the hyponym *lioness*, which denotes only female animals. As illustrated in figure 2, the subsuming term *lion* is unmarked because of its ability to function as both the contradictory term to *lioness* and a hypernym, which includes the meaning of both terms:

lion = unmarked as either a term for male lions or a hypernym for male and female lions	
	lioness = marked as a term for female lions only

Figure 2. Markedness relation between *lion* and *lioness.*

Based on this theory, Jensen (2007a, 311–313) proposes that the marked-ness relation between nouns with and without articles in Old Danish was inverted in Modern Danish. Unlike bare nouns in Old Danish, which function both referentially and non-referentially, bare nouns in Modern Danish are marked as non-referential denotations:

Bare noun = referential or non-referential	
	Determinate noun = referential

Figure 3. Markedness relation between determinate and bare nouns in Old Danish (Jensen 2007a, 311–313).

Determinate noun = referential or non-referential	
	Bare noun = non-referential

Figure 4. Markedness relation between determinate and bare nouns in Modern Danish (Jensen 2007a, 311–313).

In addition to the synchronic perception of the markedness relation be-tween two parallel forms from the same period of a language, Andersen (2001) uses the terms marked and unmarked to describe the development of a single form from one stage of a process to another. This means that a single form can change from being unmarked at one point in time to be-ing marked at another (or vice versa). In order to explain the two differ-ent kinds of language change involving a development either from un-marked to marked environments or from marked to unmarked environ-ments, Andersen distinguishes between internally and externally moti-vated changes. Unlike internally motivated changes, i.e. innovations de-veloped within a single language district, externally motivated changes involve influence from other languages.

   Regarding internally motivated changes, a development from un-marked to marked environments is most plausible: "In the internally motivated, evolutive change, perhaps, the usage rules are gradually ad-justed to incorporate an innovation that is unmarked in relation to the productive rules of the core grammar, and which is first admitted to un-marked environments; only as the innovation loses its novelty does it spread from unmarked contexts to marked contexts" (Andersen 2001, 33–34). When a new form arises as a potential substitution of an old form, it must be able to express the content of both itself and the old form. In Early Middle Danish, the underspecified case form *fathær* (SG.M) 'father' was introduced as referentially unmarked, being able to denote both non-referential nouns in complex predicates and referential comple-

ments. In contrast, the specified case form *fathur* (OBL.SG.M) was used only referentially. The specified form was therefore marked compared with the underspecified form. After the erosion of the nominal case system in Late Middle Danish, however, bare nouns became marked as non-referential denotations (cf. figure 4 above).

Normally, the opposite development takes place when the change is externally motivated. Thus, a loanword is usually adopted to express a special, marked version of an existing phenomenon: "In the externally motivated change, by contrast, usage rules are presumably directly modified to conform to the external model; the innovation is pragmatically motivated and occurs first in the most salient, most monitored, marked environments, from which it may spread, as it loses its novelty, to less salient, unmarked environments" (Andersen 2001, 34). In agreement with this theory, the French loanwords *beef*, *veal*, *pork*, *mutton*, and *venison* are marked in relation to the native English words *ox*, *calf*, *pig*, *sheep*, and *deer* – the former group denoting the meat of the latter group (Andersen 2001, 34).

In order to describe the way of expressing complex predicates from Early Middle Danish to Modern Danish, in this study the notion of markedness is used both synchronically and diachronically regarding the presence of specified or underspecified case forms, articles, and unit accentuation.

2.3 Grammaticalization

The theory of grammaticalization describes how lexical or less grammatical expressions develop into more grammatical expressions over time. According to Heine (2005), this process typically involves four interrelated mechanisms concerned with semantics, pragmatics, morphosyntax, and phonetics respectively. After a semantic bleaching of the expression, which removes some of its meaning content, a pragmatic generalization makes the expression usable in new contexts. This usually implies a morphosyntactic change of the source form, including the loss of its independent word status. For example, an independent word can become a part of another word in the form of a clitic or an affix. This process typically finishes with a phonetic reduction of the source form. A prototypical example of this process is the development of the auxiliary *jesmĭ* 'am' in the perfect tense in Old Slavic in (22a) into the inflectional ending *-m* in (22b), expressing the preterite in Modern Polish (Heltoft et al. 2005, 10):

(22)   a.   Pisal-ŭ   jesmĭ.
           'written-SG.M am:1.SG'
           I have written.

       b.   Pisał-e-m.
           'wrote-M-1.SG'
           I wrote.

Through a desemanticization, which pragmatically generalized it, the Old Slavic auxiliary *jesmĭ* 'am' was cliticized to the main verb. It was then phonetically reduced to the inflectional ending *-m* in Modern Polish.

   In section 5.2.3.2, the theory of grammaticalization is used to describe the desemanticization of main verbs through their unstressed pronunciation making them compatible with complex predicates.

3   Complex Predicates in Early Middle Danish (ca. 1100–ca. 1350)

The following investigation of the development of complex predicates in Danish takes the Early Middle Danish period from ca. 1100 to ca. 1350 as its point of departure. First, I suggest a connection between underspecified, unmarked case forms and nouns in complex predicates. Subsequently, in section 3.2., I explain exceptions to this hypothesis as nouns in semantically fixed expressions.

3.1   Unmarked Case Forms

In Early Middle Danish, the case system was steadily eroding. However, in the Scanian dialect of Early Middle Danish, simplified versions of prior case paradigms were still preserved. As a part of her doctoral dissertation on the irregular usage of case forms that function as subjects or subject predicatives in manuscript B 69,4o of 'Skånske Lov' (SkL) 'Scanian Law' from ca. 1350[4], Jensen (2011) presents an overview of the case system in the Scanian dialect of Early Middle Danish. I will appeal to this case system to account for the usage of specified and underspecified case forms functioning as complements in the same manuscript. Until now, the underspecified case forms have been designated as irregular

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   [4] This manuscript is currently housed in the National Library of Sweden.

and incompatible with the noun declension of the time (Bjerrum 1966, 38–40). However, after presenting the noun declensions in manuscript B 69,4⁰ of 'Skånske Lov' (SkL), I ascribe underspecified case forms in Early Middle Danish to the ability to function non-referentially in complex predicates. In contrast, specified case forms only function as referential complements.

　As mentioned in section 1.2, the insufficient handing down of East Nordic manuscripts from the time before 1100 makes it impossible to identify the traditional noun declensions in Proto-Nordic/Ancient Nordic (Dan. *urnordisk*). Therefore, in accordance with Jensen (2011, 101–106), I will use the exceptionally conservative declensions in the oldest West Nordic manuscripts from ca. 1150 to ca. 1350, usually referred to as Old Norwegian-Icelandic (Dan. *norrønt*) (Bandle et al. 2002, 787; Noreen 1923, 8), to represent an original common Nordic language form. The following tables show how the strong and weak noun declensions changed from Proto-Nordic/Ancient Nordic, represented by Old Norwegian-Icelandic, to Early Middle Danish in manuscript B 69,4⁰ of 'Skånske Lov' (SkL):

Gender	Masculine				Feminine			Neuter
Stem	*a*	*i*	*u*	root	root	*ō*	*i*	*a*
Nominative	*-r*	*-r*	*-r*	*-r*	*-Ø*	*-Ø*	*-Ø*	*-Ø*
Accusative	*-Ø*	*-Ø*	*-Ø*	*-Ø*	*-Ø*	*-Ø*	*-Ø*	*-Ø*
Genitive	*-s*	*-s/-ar*	*-ar*	*-ar/-s*	*-r/-ar*	*-ar*	*-ar*	*-s*
Dative	*-i*	*-Ø*	*-i*	*-i*	*-Ø/-u*	*-u/-Ø*	*-Ø/-u*	*-i*
Nominative	*-ar*	*-ir*	*-ir*	*-r*	*-r*	*-ar*	*-ir*	*-Ø*
Accusative	*-a*	*-i*	*-u*	*-r*	*-r*	*-ar*	*-ir*	*-Ø*
Genitive	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*	*-a*
Dative	*-um*	*-um*	*-um*	*-um*	*-um*	*-um*	*-um*	*-um*

Figure 5. Strong noun declensions in Old Norwegian-Icelandic (Iversen 1973, 45–62, 67–69; Nedoma 2010, 51–59).

Gender	Masculine	Feminine	Neuter
Nominative/Accusative	*-Ø*	*-Ø*	*-Ø*
Genitive	*-s/-a*	*-a*	*-s*
Dative	*-i/-Ø*	*-Ø/-u*	*-i*
Nominative/Accusative	*-a/-(V)r*	*-a/-(V)r*	*-Ø*
Genitive	*-a*	*-a*	*-a*
Dative	*-um*	*-um*	*-um*

Figure 6. Strong noun declensions in the Early Middle Danish manuscript B 69,4⁰ of 'Skånske Lov' (SkL) (Jensen 2011, 117, 121).

Gender	Masculine		Feminine		Neuter
Stem	*nd*	*an*	*ōn*	*īn*	*an*
Nominative	*-i*	*-i*	*-a*	*-i*	*-a*
Accusative	*-a*	*-a*	*-u*	*-i*	*-a*
Genitive	*-a*	*-a*	*-u*	*-i*	*-a*
Dative	*-a*	*-a*	*-u*	*-i*	*-a*
Nominative	*-r*	*-ar*	*-ur*	*-i*	*-u*
Accusative	*-r*	*-a*	*-ur*	*-i*	*-u*
Genitive	*-a*	*-a*	*-na*	*-i*	*-na*
Dative	*-um*	*-um*	*-um*	*-i*	*-um*

Figure 7. Weak noun declensions in Old Norwegian-Icelandic (Iversen 1973, 62–66; Nedoma 2010, 59–62).

Gender	Masculine		Feminine		Neuter
Stem	*an*	*nd*	*ōn*	*īn*	*an*
Nominative	*-i*	*-i*	*-a*	*-i*	*-a*
Oblique	*-a*	*-a*	*-u*	*-i*	*-a*
Nominative/Accusative	*-a*	*-ær*	*-u/-ur*		
Genitive	*-a*	*-a*	*-na*		
Dative	*-um*	*-um*	*-um*?[5]		

Figure 8. Weak noun declensions in the Early Middle Danish manuscript B 69,4⁰ of 'Skånske Lov' (SkL) (Jensen 2011, 122, 128).

The masculine and feminine *r*-stems are presented exclusively on the basis of Old Norwegian-Icelandic and exemplified with the masculine noun *faðir* 'father':

Gender	Masculine/Feminine
Nominative	*faðir*
Accusative	*fǫður*
Genitive	*fǫður*
Dative	*feðr/fǫður*
Nominative/Accusative	*feðr*
Genitive	*feðra*
Dative	*feðrum*

Figure 9. Declension of masculine and feminine *r*-stems in Old Norwegian-Icelandic (Iversen 1973, 66–67; Nedoma 2010, 62–63).

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[5] The plural dative form of the feminine *ōn*-stems is absent from manuscript B 69,4⁰ (Jensen 2011, 128).

In both manuscript B 69,4º of 'Skånske Lov' (SkL) and Old Danish in general, it seems complicated to identify a paradigm for the masculine and feminine *r*-stems with functionally distinguishable forms (Jensen 2011, 122; Brøndum-Nielsen 1935, 175–182). For example, the forms *fathir*, *fathur*, and *fathær* 'father' function as subjects as well as objects. In this paper, I will argue that underspecified forms such as *fathir* and *fathær* are used for referential and non-referential complements, whereas specified forms such as *fathur* are used only for referential complements. Thus, with the following hypothesis, I give a functional explanation for the deviant and seemingly unsystematic use of case forms in manuscript B 69,4º of 'Skånske Lov' (SkL):

> A bare noun with an underspecified case form is referentially unmarked and thereby compatible with complex predicates, whereas a noun with a regular case form is marked as a referential entity in the universe of discourse.

In the Scanian dialect of Early Middle Danish, an underspecified inflectional ending can be expressed in three ways:

1) Any full vowel can be replaced by the vowel -*æ* corresponding to a schwa-like sound.
2) An oblique form can be replaced by a nominative form.
3) A genitive or a dative form can be replaced by a nominative or a nominative-accusative form.

In order to exemplify and support the hypothesis presented above, some of the case forms and their referential function are presented and explained below. In (23), the specified oblique *r*-stem *fathur* 'father' functions referentially marked as an anaphor for the referent *man* 'man' (SkL 203,2) from an earlier chapter:

(23) Sigir mothær oc hænna frændær ath barn war føth æftær
      'say mother and her   kinsmen that child was born after

fathur-Ø (SkL 203,10–11)
father.M-OBL.SG.M'
If the mother and her relatives say that a child was born after the
father's (death)

In (24), by contrast, the underspecified forms *gud fathær* 'godfather' and *gud mothær* 'godmother' are referentially unmarked because of their ability to function as non-referential complements in the complex predicate *hafwæ gud fathær oc gud mothær* 'have a godfather and a godmother':

(24) tha   scal   thæt hafwæ **gud fathær-Ø**   oc   **gud mothær-Ø**   at
'then has.to it   have   god father.M-SG.M and god mother.F-SG.F in

kyrki-u (SkL 203,17–18)
church.F-OBL.SG.F'

then it has to have a godfather and a godmother in church

The bare nouns *gud fathær* and *gud mothær* do not refer to identifiable entities but are rather denotations of a godfather and a godmother in a complex predicate expressing a generic state in the Christian society.

Likewise, the nouns *nagl* 'nail', *næsa* 'nose', *hud* 'skin', and *har* 'hair' in (25), which follow the preposition *mæth* 'with' that governs the dative, are all underspecified. Both the masculine root stem *nagl* and the neuter *a*-stem *har* without any endings are underspecified and thereby referentially unmarked nominative-accusative forms. The specified and thereby referentially marked dative forms would be *nagli* and *hare*. The nominative ending -*a* is the underspecified and unmarked form of the feminine *ōn*-stem *næsa*, whereas -*o* is the specified and marked oblique ending. The declension paradigm for the feminine *i*-stems only has one specified form, i.e. the genitive ending -*ar*. Thus, the syncretistic nominative-accusative-dative form *hud* without any ending functions as the underspecified and referentially unmarked form. Since these four underspecified nouns denote non-referential, universal properties of an infant, they support the hypothesis presented above:

(25) tha   scal   mothor   wæriænda witha mæth twiggia manna withni
'then has.to mother's guardian   prove with two   men's   testimony

oc   tolf   næfndum mannum i kyni   sinu ath barn war føth mæth
and twelve selected   men   in family his that child was born with

nagl-Ø   oc   mæth **næs-a**   mæth **hud-Ø**
nail.M-NOM.ACC.SG.M and with nose.F-NOM.SG.F with skin.F-NGEN.SG.F

oc   mæth **har-Ø** (SkL 203,11–14)
and with   hair.N-NOM.ACC.SG.N'

then the mother's guardian has to prove with the testimony of two men and with twelve men selected from his family that a child was born with nails and with nose, with skin and with hair

The following example illustrates the possibility of using underspecified case forms referentially. In (26), the bare noun *fathær* 'father' denotes a specific father functioning as the antecedent of the pronoun *hanum* 'him':

(26)   Callær>⁶ ænnar man <a **fathær** fore barns gærninga oc sigir ath barn
    '<sues> other man   father for child's acts   and says that child

    ær i   fælage   mæth **hanum** (SkL 206,25–26)
    retains undivided.estate with   him'
    If a man sues the father because of the child's behavior and says that the
    child retains the estate undivided with him

Interestingly, the above interpretations of the specified and underspecified nouns in the Early Middle Danish manuscript B 69,4º of 'Skånske Lov' (SkL) are supported by the article usage in the Late Middle Danish manuscript GKS 3125,4º of the same text from ca. 1550⁷. Thus, the specified noun *fathur* 'father' in (23) and the underspecified noun *fathær* 'father' in (26) correspond to the definite forms *faderens* 'the father's' resp. *faderenn* 'the father' in (27) and (30) from the equivalent Late Middle Danish passage, whereas the underspecified nouns in (24) and (25) are expressed by bare nouns in the equivalent Late Middle Danish examples in (28) and (29):

(27)   Siiger hustruenn och hendiis frender atth barnet   vaar fød   ephter
    'say   the.wife   and her   kinsmen that the.child was born after

    faderens   død (SkL 268,5–6)
    the.father's death'
    If the wife and her relatives say that a child was born after the father's death

(28)   da   schall thz haffue **gudfader** och **gudmoder** vdj kirckenn (SkL 269,3)
    then has.to it   have   godfather and godmother in   the.church'
    then it has to have a godfather and a godmother in the church

(29)   att   barnett   vor fød   med **negle** och **nese**, mz   **hud** och mz
    'that the.child was born with nails   and nose with skin and with

    haar (SkL 268,9–10)
    hair'
    that the child was born with nails and nose, with skin and with hair

(30)   Om nogen   taler> **faderenn** <tiill faar hans børns   gerninger, och
    'if   somebody <sues> the.father   for his   children's acts   and

    siiger att de   børnn siidde> mz   **faderenn** <vdj wschifft
    says   that these children retain   with the.father   undivided

    boo (SkL 278,17–279,1)
    estate'
    If somebody sues the father because of his children's behavior and says
    that these children retain the estate undivided with the father

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⁶ The inverted angled brackets indicate that the verb *Callær* and the preposition *a* are treated as a discontinuous compound corresponding to one morpheme in the gloss, i.e. the verb *sues*.

⁷ This manuscript is currently housed in the Royal Library of Denmark in Copenhagen.

The above examples indicate that the markedness relation between determinate and bare nouns had already been inverted in Late Middle Danish between 1350 and 1525, so that determinate nouns were now referentially unmarked and bare nouns were marked as non-referential denotations. Thus, as in Modern Danish, the determinate and bare complements in (27)–(30) can be interpreted as referential and non-referential forms respectively. In section 4, the situation in Late Middle Danish will be elaborated.

The distribution of the bare complements above confirms that specified case forms are marked as referential entities in the universe of discourse, whereas underspecified case forms are either referential or non-referential. In order to statistically support the hypothesis, figures A.1, A.2, and A.3 in appendix 1 show the case forms of the relevant bare complements in the Early Middle Danish manuscript B 69,4o of 'Skånske Lov' (SkL) that are governed by a verb or a preposition and display their referential function. The above examples are included in these figures.

On the basis of this analysis, the referentiality of the complements in manuscript B 69,4o of 'Skånske Lov' (SkL) depends partly on the determination and partly on the case form of the noun:

Bare complement = referential or non-referential	
	Determinate complement = referential

Figure 10. Markedness relation between determinate and bare complements in Early and Late Middle Danish ca. 1100–ca. 1425.

Bare complement with underspecified case form = referential or non-referential	
	Bare complement with specified case form = referential

Figure 11. Markedness relation between specified and underspecified case forms in Early and Late Middle Danish ca. 1200–ca. 1425.

Figure 11 illustrates that, in addition to presence vs. absence of articles, specification vs. underspecification of case has consequences for the difference between referential and non-referential complements during the period from ca. 1200 to ca. 1425.

3.2 Fixed Expressions in Early Middle Danish
   (ca. 1100–ca. 1350)

This section is dedicated a group of complements in manuscript B 69,4º of 'Skånske Lov' (SkL) that do not fit into the analysis presented above. In (31), (32), and (33), for example, the specified dative and genitive forms of the feminine *u*-stem *hand* 'hand' and the neuter *a*-stem *thing* 'court' are used in fixed expressions without referring to identifiable entities:

(31)   ath iorthen gange hanum af   **hænd-e** (SkL 222,12–13)
       'that the.earth slips   him   out.of hand.F-DAT.SG.F'
       that the earth slips out of his hand

(32)   oc   thæt lyusi   the a **thing-i** (SkL 211,20)
       'and that   must.register they in court.N-DAT.SG.N'
       and they must register that in court

(33)   wilia arfwa eig til **thing-s**   cumma (SkL 212,1–2)
       'will heirs   not to court.N-GEN.SG.N come'
       if the heirs will not appear in court

According to figure 11 above, specified case forms such as *hænde*, *thingi*, and *things* are marked as referential entities in the universe of discourse. In order to explain this irregularity, I formulate a second hypothesis concerning semantically fixed expressions in Early Middle Danish:

> The more semantically fixed and non-transparent a complex predicate is, the longer the specified case form of the noun is maintained in spite of its non-referentiality.

The fact that the expression *gå til tings* 'to appear in court' was still used in the beginning of the Modern Danish period (ODS, vol. 23, 1508–1509 s.v. II. *Ting* 1.3) and that both the expressions *gå af hænde* 'to slip out of hand' and *på tinge* 'in court' are still used in Modern Danish (DDO, vol. 2, 840 s.v. *hånd*; vol. 6, 111 s.v. *ting²*) emphasizes the fixed status of the case forms. Relics like these probably survive because they are connected to cultural and societal traditions that still exist today. The examples above illustrate that terms and phrases connected to the legal system and practice have a long tradition.

  However, in the Modern Danish fixed expressions *være med barn* 'to be pregnant' and *være i fællig med nogen* 'to retain the estate undivided with somebody', the dative endings of the neuter *a*-stems *barn* 'child' and *fællig* 'undivided estate' have been eroded. In the Early Middle Danish manuscript B 69,4º, the specified dative form *barne* 'child' was

still used, whereas the underspecified form *fælagh* 'undivided estate' was already common:

(34)   ath   hun ær mæth **barn-e** (SkL 203,3)
       'that she is with child.N-DAT.SG.N'
       that she is pregnant

(35)   at   barn ær i   **fælagh-Ø**
       'that child retains undivided.estate.N-NOM.ACC.SG.N

       mæþ hanum (SkL 12,2 var.)
       with him'
       that the child retains the estate undivided with him

In order to explain why the specified case endings are not preserved in the fixed combinations in (34) and (35), I refer to the importance of Early Middle Danish vowel harmony. After the closed vowels *i*, *y*, and *u* or the short open vowels *ĕ* and *ă*, the dative ending *-i* was preserved. On the other hand, stems containing the close-mid vowels *e*, *ø*, and *o* or the long open vowels *ǣ* and *ā* caused a replacement of the ending vowel *-i* with *-e* (Brøndum-Nielsen 1927–1928, 174). Through the replacement of *-i* with *-e*, the way was paved for an early schwa pronunciation and a subsequent erosion of the dative endings of the neuter *a*-stems *barne* 'child' and *fælage* 'undivided estate'. By contrast, the full vocalic dative ending of the form *thingi* 'court' was probably able to block an early change from *-e* to schwa and a subsequent erosion.

It appears as though fixed expressions in Modern Danish such as *gå fra borde* 'to go ashore', *gå af hænde* 'to slip out of hand', and *ad åre* 'some day' contradict the vowel harmony theory. Despite the change from *-i* to *-e*, which encourages schwa pronunciation and erosion, the dative endings have been preserved since Early Middle Danish. By introducing two additional conditions for assimilation and erosion, I propose that the *e*-endings are preserved when placed in a phonetic environment that disables assimilation. According to Brink and Lund (1974, 24; 1975, 206) and Brink et al. (1991, 1573), the likelihood of schwa assimilation in Modern Danish depends on the degree of sonority of the adjacent sound, ranging from the vowels as the most sonorous sounds to the vocoids [ɹ̯ ʊ̯ ð], the velar fricative [ɣ], the lateral approximant [l], the uvular fricative [ʁ], the palatal approximant [j], the nasals [m n ŋ], the labiodental fricative [v], and finally to unvoiced consonants such as [s f d̥]. However, this principle does not account for the difference between the pronunciation of *ramme* [ʁɑmm̩] 'frame' with schwa assimilation and the pronunciation of *salme* [sælmə] 'hymn' without schwa assimilation, despite the fact that schwa is preceded by the sonorous nasal [m] in both nouns. By

analyzing the conditions for schwa assimilation in a corpus of spontane-ous speech, Schachtenhaufen (2010) shows that schwa is assimilated only if a syllable boundary is located between the schwa and the preceding sonorous sound, as is the case in *ramme* but not in *salme*. On the basis of these results, the preserved endings in *gå af hænde* 'to slip out of hand' and *ad åre* 'some day' can be explained with reference to the voiceless pronunciation of *d* and *r* in Early Middle Danish in the nouns *hænde* and *åre* respectively as the alveolar plosive [d̥] (Hansen 1971, 243) and the alveolar trill [r] (Nielsen 1950; Hansen 1971, 442), rendering the schwa assimilation impossible. Although the *d* in the fixed expression *gå fra borde* 'to go ashore' was pronounced as the vocoid [ð] in Early Middle Danish, the schwa has not been assimilated because of the syllable bound-ary in front of the *d*.

4   Marked Bare Nouns in Late Middle Danish (ca. 1350–ca. 1525)

The Late Middle Danish period is represented by the Scanian version of the religious text 'Sjælens Trøst' (SjT) 'Comfort of the Soul' in manu-script C 529 from ca. 1425[8], which exemplifies the transition from a part-ly case-conditioned and partly article-conditioned to an exclusively arti-cle-conditioned language structure in terms of referentiality. Although some specified case forms are still used in this manuscript, the referential function of the nouns only depends on their determinacy. The following examples illustrate that reference to identifiable entities is expressed ex-clusively by the definite article *thæn/-in/-n/it*, whereas reference to not yet identifiable entities is expressed by the indefinite article *en*. The noun phrases in bold type exemplify three different kinds of definite reference:

(36)   thær til hiælpe os fadh*i*r oc son oc **thæn hælghe and** (SjT 9,11–12)
       'there- to may.help us Father and Son and the   Holy   Spirit'
       may the Father, the Son, and the Holy Spirit help us to reach this goal

(37)   Han lot læggia hænne pa ena rist   oc   lod sidhan giøra en stor eld
       'he let lay   her   on a grate and let then   make a big fire

       vnder hænne. æn **eldin**   ku*n*ne hæ*n*ne inkte skatha (SjT 16,28–30)
       under her   but the.fire could her   not harm'
       He laid her on a grate and then he made a big fire under her. But the fire could not harm her

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8 This manuscript is currently housed in Uppsala University Library.

(38)   Tha   tok   **ængillin** p**rophe***tan*   j   **haarit**   oc   førdhe honum til
‘then took the.angel the.prophet by the.hair and led   him   to

babylonia i   **divragardhin**   til danielem (SjT 15,18–19)
Babylonia into the.animal.farm to Daniel’

*Then the angel took the prophet by the hair and led him to Babylonia
into the animal farm to Daniel*

The following definitions of the different functions of the definite article
are based on Hawkins (1978, 106–130) and Hansen and Heltoft (2011,
468–470). In (36), the usage of the definite article in the noun phrase *thæn
hælghe and* ‘the Holy Spirit’ is conditioned by the fact that the writer and
the target group are situated in the same Christian setting. It is likely that
the bare nouns *fadhir* ‘Father’ and *son* ‘Son’ in the same example are in-
terpreted as proper names with inherent referential properties. In Mod-
ern Danish, the same referents are expressed by the definite noun phrases
Faderen and *Sønnen*. In (37) and (38), the reference is established contex-
tually and associatively respectively. The definite noun phrase *eldin* ‘the
fire’ in (37) is an anaphor that refers to the preceding indefinite noun
phrase *en stor eld* ‘a big fire’, whereas the noun phrase *haarit* ‘the hair’ in
(38) refers associatively to the prophet’s hair, which was not introduced
earlier in the text. The definite noun phrases *ængillin* ‘the angel’, *prophe-
tan* ‘the prophet’, and *divragardhin* ‘the animal farm’ refer contextually
to identifiable entities introduced earlier in the text.

   At the end of the Late Middle Danish period, non-referentiality was
expressed exclusively by bare nouns. Consequently, the specification of
case forms was no longer of any importance. Both the underspecified
forms *kors* ‘cross’ and *kiørkiø* ‘church’ in (39), *troskap* ‘loyalty’ in (40),
and *afwnd* ‘envy’ in (41) and the specified oblique forms *thiænisto* ‘ser-
vice’ in (40), *ilzko* ‘malice’ in (41), *lysta* ‘desire’ in (42), *redhwgha* ‘fear’
in (43), and *vilgha* ‘will’ in (44) are capable of functioning non-referen-
tially:

(39)   at   hænna husbonde giordhe aldrigh **kors** fore seek: oc gik
‘that her   husband did   never   cross for   himself and went

nødhoghir til **kiørkiø** (SjT 22,12–13)
reluctantly to church’

that her husband never crossed himself and went to church reluctantly

(40)   æn tha skal thw   laafva   honu*m* **troskap** oc **thiænist-o** (SjT 19,24)
‘but then must you.2.SG promise him   loyalty and service.M-OBL.SG.M’
but then you must promise him loyalty and service

(41)　Hær　omot　hafdhe hærrane **ilzk-o**　　　　　oc　**afwnd** til
　　　‘here- against　had　　the.lords malice.F-OBL.SG.F and envy　towards

　　　danielem (SjT 12,13–14)
　　　Daniel’

　　　By contrast, the lords hated and envied Daniel

(42)　Thær　vith afvndathis thæn gamble vvinnin diæfolin,　vptæ*n*dande en
　　　‘there- by　envied　　the　old　　enemy the.Devil filling　　　a

　　　vngan ma*n*　hærrans　thiænara, m*æth* **vlowligir lyst-a**
　　　young man the.lord’s servant　with　illegal　desire.M-OBL.SG.M

　　　til　hænne (SjT 20,24–26)
　　　for her’

　　　For that reason, the old enemy, the Devil, envied her to such an extent
　　　that he filled a young man, a servant of the lord, with illegal desire for her

(43)　af　**redhwgh-a**　　　hafdhe hon manga　vmskifteliga thanka (SjT 22,15–16)
　　　‘for fear.M-OBL.SG.M had　　she　many　changeable　thoughts’
　　　because of her fear, her thoughts often altered

(44)　Oc　for thy hafu*ir* jac **vilgh-a**　　　　til ena book sama*n* skrifva, vt af
　　　‘and for this have I　will.M-OBL.SG.M to a　book compile　　　from

　　　the　hælgho skrift (SjT 8,14–15)
　　　the　holy　　scripture’

　　　And therefore, I intend to compile a book from the Holy Scriptures

The statistical analysis below shows that the article usage in manuscript C 529 of ‘Sjælens Trøst’ (SjT) corresponds to the distribution in Modern Danish. The different kinds of referentiality and non-referentiality in figure 12 are defined as follows: As described in section 1.1, I distinguish reference from denotation. Noun phrases refer to either identifiable entities (definite reference), cf. *thæn hælghe and* ‘the Holy Spirit’, *eldin* ‘the fire’, *ængillin* ‘the angel’, *prophetan* ‘the prophet’, *haarit* ‘the hair’, and *divragardhin* ‘the animal farm’ in (36)–(38) above, or unidentifiable entities (indefinite reference), cf. *en stor eld* ‘a big fire’ in (37) above. Cultural definite reference requires that the writer and the target group are situated in the same cultural setting, cf. the Christian expression *thæn hælghe and* ‘the Holy Spirit’ in (36); ana- and cataphoric definite reference is established by repeating an already or subsequently introduced referent, cf. *eldin* ‘the fire’ in (37); associative definite reference creates an associative relation between semantically and pragmatically related referents, cf. *prophetan* ‘the prophet’ and *haarit* ‘the hair’ in (38). Proper names and direct addresses also refer to identifiable entities. Finally, two types of non-referentiality are included in the figure. In accordance with

Jensen (2007a), I interpret the generic function of a noun phrase as a special kind of non-referential denotation, which, in Modern Danish, is expressed by all three types of determinacy in the singular and by bare nouns in the plural:

(45)   **Blomkål**   er en korsblomstret grøntsag.
       'cauliflower is a cruciferous   vegetable'
       Cauliflower is a cruciferous vegetable.

(46)   **En kat** er et rovdyr.
       'a   cat is a predator'
       A cat is a predator.

(47)   **Katten** er ikke et flokdyr.
       'the.cat is not a herd.animal'
       The cat is not a herd animal.

(48)   **Katte** er rovdyr.
       'cats   are predators'
       Cats are predators.

The other and more widespread kind of non-referentiality is found in complex predicates such as *giordhe aldrigh kors* 'never crossed' and *gik nødhoghir til kiørkiø* 'went to church reluctantly' in (39) above.

     The following figure illustrates how different kinds of referentiality in the Late Middle Danish manuscript C 529 of 'Sjælens Trøst' (SjT) are expressed by bare nouns, noun phrases with indefinite articles, or noun phrases with enclitic or preceding definite articles:

Referentiality	No article	Indefinite article	Enclitic/ preceding definite article
Cultural definite reference	0	0	52
Ana- and cataphoric definite reference	0	0	254
Associative definite reference	0	0	49
Indefinite reference	35 (1 SG/34 PL)	64	0
Generic non-referentiality	4	0	12
Non-referentiality	159	0	0
Proper names or direct address	80	0	0

Figure 12. Article distribution and referentiality in manuscript C 529 of 'Sjælens Trøst' (SjT).

As in Modern Danish, all four types of definite reference are expressed exclusively by noun phrases with the definite article, whereas reference to an unidentifiable entity is indicated by the indefinite article in the sin-

gular and a zero article in the plural. Only one bare noun phrase in the singular does not fit this pattern:

(49)   the   æra afgudha dyrkara,   oc faa   sialda*n* **godha**
        'they are idols'   worshippers and will.get seldom decent

       ændalikt (SjT 19,7–8)
       death'
       they are worshippers of idols and will seldom get a decent death

This exception may be due to the fact that the indefinite article was only introduced in the 13th century (Falk and Torp 1900, 73–74; Hansen 1927, 23–24, 171; Brøndum-Nielsen 1962, 168–175; Jensen 2007b, 149, 151) and was therefore a relatively new phenomenon. In contrast, the preceding definite article *den/det* 'the' arose from the demonstrative pronoun around 1000 (Falk and Torp 1900, 60–61; Hansen 1927, 33; Skautrup 1944, 138; Jensen 2007b, 147–149). According to the majority of previous research, the definite article originated from a cliticization of the demonstrative pronoun *hinn* 'that'. Thus, from *maðr hinn góði* 'that good man' or *maðrinn góði* 'that good man', the enclitic article *-inn* arose (Falk and Torp 1900, 61).

The statistical analysis above confirms that bare nouns at the end of the Late Middle Danish period are only used non-referentially, particularly as complements in complex predicates. Thus, the article distribution in figure 13 corresponds to the system in Modern Danish with the bare form of the noun functioning as the marked, non-referential member of the article paradigm:

Determinate noun = referential or non-referential	
	Bare noun = non-referential

Figure 13. Markedness relation between determinate and bare nouns from Late Middle Danish ca. 1425 onward.

Compared with the article distribution in Early Middle Danish, where bare nouns were usable in both referential and non-referential contexts and thereby referentially unmarked, cf. figure 3, the markedness relation has been inverted. Thus, non-referential complements in complex predicates have undergone a transition from being referentially unmarked by bare nouns and underspecified case forms in Early Middle Danish and the beginning of the Late Middle Danish period (ca. 1100–ca. 1425) to being referentially marked by bare nouns in Late Middle Danish (from ca. 1425). At this stage of the development, case no longer plays a role.

5 The Actualization of Unit Accentuation in Early Modern Danish (ca. 1525–ca. 1700)

In section 1.1, complex predicates in Modern Danish were defined as combinations of unstressed verbs and bare nouns that express generic or habitual states or activities. In section 1.2, however, I render probable that both features were absent from most of the Old Danish period (ca. 800–ca. 1525). First, I referred to two examples from Early Middle Danish that illustrate the ability of bare nouns to function both referentially and non-referentially and the presence of OV word order. Secondly, I referred to theories and reflections formulated by Rischel (1983), Jacobs (1999), Basbøll (2005), Grønnum (2009), and Petersen (2010), saying that verbs placed in the last position of an accentual sequence are never unstressed. Hence, unit accentuation in complex predicates is only possible when the verb precedes the complements. In section 4, I argued that the marked, non-referential function of bare nouns arose in Late Middle Danish as a clear characteristic of complex predicates. In order to approximately delimit the period in which a consistent VO structure facilitated the use of unit accentuation, the last section of this article is devoted to the investigation of the word order in Early Modern Danish. During this period, the word order developed from a mixed VO/OV structure, in which the complements were placed both after and before the verb, to a consistent VO structure. The earliest evidence of unit accentuation in complex predicates in Danish is found in Høysgaard's (1747) grammar, based on the phonetic and prosodic structure of the language in the 18th century. Without directly defining unit accentuation as a prosodic phenomenon, Høysgaard (1747, 149) describes the pronunciation of the verb *gå* 'to go/walk' as unstressed in combination with the stressed adverbs *ud* 'out' and *ind* 'in'. It was not until the beginning of the 20th century that combinations of unstressed verbs and stressed, bare nouns were defined as complex predicates with unit accentuation (Jespersen 1934, 133–138). By combining the presence of a consistent VO structure with the possibility of pronouncing verbs without stress, the following statistical analysis of the word order development in Early Modern Danish will render probable that unit accentuation was already actualized in the beginning of this period.

5.1 The Topological Structure of Early Middle Danish (ca. 1100–ca. 1350)

By way of introduction, I present an overview of the topological structure of Early Middle Danish. The examples below are taken from 'Skånske Lov' (SkL) in manuscript AM 28,8o from ca. 1300[9], 'Eriks sjællandske Lov' (EL) 'Erik's Law of Zealand' and 'Valdemars sjællandske Lov' (VL) 'Valdemar's Law of Zealand' in manuscript 455,12o from ca. 1300[10], the fragment 'Legende om Sancta Christina' (StChr) 'The Legend of Saint Christina' in manuscript Add. 3827,1 from ca. 1300[11], and 'Jyske Lov' (JL) 'The Law of Jutland' in manuscript C 39 from ca. 1300–1325[12].

In Early Middle Danish main clauses, the complements never preceded the finite verb, unless topicalized to the front position, c.f. *Þættæ* 'this' in (51), but were regularly placed in front of non-finite verbs (Diderichsen 1941, 38):

(50) Frændær **mughæ** ey børn   fran the|ræ mothær **takæ** (VL 321,13)
'kinsmen may   not children from their   mother take'
Relatives are not allowed to take the children from their mother

(51) Þættæ **uiliæ** summi mæn at lohum **hafæ** (SkL AM 28,8o 51,7–8)
'this   will   some   men in statute have'
Some men want to include this in the statute

Since the sentential negation was normally placed after the finite verb, the word order in both main clauses and embedded clauses follows a consistent V2 structure with the verb in second position (Diderichsen 1941, 38; Heltoft 2005, 151). However, in some types of embedded clauses in Early Middle Danish, the sentential negation or another word was sometimes stylistically fronted, just as in Modern Icelandic. With respect to Modern Icelandic, Maling (1980) has argued that words are only fronted in clauses that contain a subject gap. The following example from Modern Icelandic illustrates that the subject gap between *sem* 'who' and *hefur* 'has' is filled by the sentential negation *ekki* 'not'; for a more comprehensive description of different kinds of fronted elements, see Höskuldur Thráinsson (2007, 368–376):

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[9] This manuscript is currently housed in the Royal Library of Denmark in Copenhagen.
[10] This manuscript is currently housed in the Royal Library of Denmark in Copenhagen.
[11] This manuscript is currently housed in the Cambridge University Library.
[12] This manuscript is currently housed in the National Library of Sweden in Stockholm.

(52) Þetta er glæpamaðurinn, sem **ekki** hefur verið dæmdur.
      'this is the.criminal   who not has   been judged'
      This is the criminal who has not been judged.

In Modern Danish, the sentential negation or the sentential adverb normally precedes the finite verb in all types of embedded clauses regardless of whether they contain a subject. Consequently, the surface word order in (52) is identical to the surface word order in the following Modern Danish translation:

(53) Dette er forbryderen som **ikke** er blevet dømt.
      'this is the.criminal who not has been judged'
      This is the criminal who has not been judged.

As identified by Gunnar Hrafn Hrafnbjargarson (2004), the base-generated word orders in Modern Icelandic and Modern Danish are different. When the embedded clause contains a subject, the topological difference between Modern Icelandic in (54) and Modern Danish in (55) is distinct:

(54) Hann léti þá vita, að hann kæmi **ekki** heim.
      'he   let then know that he   came not home'
      Then he announced that he would not come home.

(55) Da   meddelte han at han **ikke** ville   komme hjem.
      'then announced he that he   not would come   home'
      Then he announced that he would not come home.

In Early Middle Danish, both heads such as the infinitive *skiutæ* 'shoot' in (56) and phrases such as the subject predicative *mansins arfuæ* 'the man's heir' in (57) can be fronted; see also Gunnar Hrafn Hrafnbjargarson (2004):

(56) en man thær **skiutæ** kan thær   mæth (JL 50,7–8)
      'a man who shoot   can there- with'
      a man who is able to shoot with them (*three dozen arrows*)

(57) hin   ær **mansins arfuæ** sculde wæræ (EL 5,8–9)
      'the.one who the.man's heir   should be'
      the one who was said to be the man's heir

In order to illustrate the consistent V2 word order of Early Middle Danish, the three embedded clauses above are placed in a sentence model below. After a subordinating conjunction (Conj.), the embedded clause was normally introduced by the subject (S) and the finite verb (v), perhaps followed by indirect or direct objects (O), subject or object predicatives (P), different types of adverbials (A), sentential adverbs (a), and non-finite verbs (V). When the subject did not occupy the first slot, stylistic fronting was possible:

Conj.	S		v	O/P/A	a	O/P/A	V	O/P/A
thær	skiutæ		kan					thær mæth
ær	mansins arfuæ		sculde				wæræ	

Figure 14. Stylistic fronting in Early Middle Danish embedded clauses with subject gap.

Around 1300, both the OV and the VO structure occur in embedded clauses. Consider the following examples:

(58)   thæt ac thic   **fød**[**dæ** oc th]u   minæ spænæ **dithæ** (StChr 4,26–27)
'that I   you.2.SG bore   and you.2.SG my   breasts sucked'
that I bore you and you sucked at my breasts

(59)   Fyr æn *sancta cristina*   **toc**   th[æt brøth] (StChr, 2,5)
'before Saint   Christina took   that   bread'
Before Saint Christina took that bread

Until then, as in Modern Danish, complements always followed the finite verb in embedded clauses containing a subject (Heltoft 2019, 136–138). Thus, embedded clauses follow a stricter word order in Modern Danish than in Early Middle Danish:

Conj.	S	a	v	V	IO	DO	MA	P	A
	der		kan	skyde					med dem
	der		skulle	være				mandens arving	

Figure 15. Word order in prototypical embedded clauses in Modern Danish.

Similarly, the word order in declarative main clauses was freer in Early Middle Danish than in Modern Danish:

Conj.	F	v	O/P/A	a	O/P/A	V	O/P/A
	Frændær	mughæ		ey	børn fran thelræ mothær	takæ	
	Þættæ	uiliæ	summi mæn		at lohum	hafæ	

Figure 16. Word order in declarative main clauses in Early Middle Danish.

Conj.	F	v	S	Light pronouns	a	V	IO	DO	MA	P	A
	Slægt-ninge	må			ikke	fjerne		børnene			fra deres mor
	Dette	vil	nogle mænd			have				til lov	

Figure 17. Word order in declarative main clauses in Modern Danish.

5.2 The Topological Development in Early Modern Danish (ca. 1525–ca. 1700)

In accordance with the theories and reflections in section 1.2, I assume that unit accentuation is conditioned by a consistent VO word order. Before accomplishing a statistical analysis of the word order development in Early Modern Danish, the possible word order variants need to be presented and explained. Furthermore, the texts used in the corpus will be presented and divided into two categories representing controlled and spontaneous language.

5.2.1 Possible Word Order Variants in Early Modern Danish

Figure 18 lists the possible word order variants in Early Modern Danish that can be assigned to either VO or OV. The abbreviations Vf, Vi, and Comp correspond to a finite verb, one or more non-finite verb(s), and one or more complement(s) respectively:

Possible variants of the VO structure		Possible variants of the OV structure	
Main clauses	Embedded clauses	Main clauses	Embedded clauses
a. Vf Vi Comp	a. Vf Comp	a. Vf Comp Vi	a. Comp Vf
b. Vi Comp	b. Vf Vi Comp	b. Comp Vi	b. Comp Vi Vf
	c. Vf Vi		c. Comp Vf Vi
	d. Vi Comp		d. Vf Comp Vi
			e. Vi Vf
			f. Comp Vi

Figure 18. Possible word order variants in Early Modern Danish.

In the clauses containing a finite verb, a subject is implied. All types of complements governed by a verb, sometimes in combination with a preposition, are included in the statistics, i.e. direct and indirect objects,

predicatives, and some adverbials of place, direction, and manner. Objects can consist of determined and bare nouns, nominalized adjectives, and pronouns. Since negated objects still precede the verb in Modern Danish, they are excluded from the study. Due to the fact that Early Modern Danish phrasal verbs were sometimes written as one word and sometimes as two separate words, verb particles are irrelevant to the study. Non-finite sentences, corresponding to the structures Vi Comp and Comp Vi in both main and embedded clauses, encompass independent infinitive or participial phrases without attached finite auxiliaries. Independent infinitives typically combine with *at* 'to':

(60)   Det ehr got   at **uerre** fogit (Visit 44,1)
        'it   is   nice to be   bailiff'
        It is nice to be a bailiff

(61)   Hun sagde, i   Dronningens liden Køcken att **tienne** (JaMin 22,20)
        'she said   in the.Queen's   little   kitchen to   serve'
        She said that she served in the Queen's little kitchen

Independent participles are either absolute participle constructions such as (62) or free predicatives such as (63):

(62)   h*er*   m*et* teg   gvd almegestæ **befald** (AB 4,20)
        'here- by   you.2.sg God almightiest handed.over'
        you are hereby to be handed over to the Almighty God

(63)   Niels, **tienindis** Hans Lauridtzsen i   Orderup (Sokke 226,24–25)
        'Niels serving   Hans Lauridtzsen in Ordrup'
        Niels, who serves Hans Lauridtzsen in Ordrup

Finally, it should be noted that the combination Vi Comp Vf is absent from all the texts included in this study. Notably, this word order variant is also absent from two corpus-based investigations of Early and Late Old Swedish from ca. 1200 to ca. 1850 (Magnusson Petzell 2011, 155) and Middle Low German from ca. 1200 to ca. 1600 (Mähl 2014, 93). In two other similar investigations of Middle High German and Old English texts, Prell (2001, 80) and Pintzuk (2005, 119–120) respectively identify only a few examples of this combination.

5.2.2 *A Corpus of Published and Unpublished Texts*

The corpus for the statistical analysis is compiled from both published and unpublished texts of different genres and registers from the beginning of the 16th century to the beginning of the 18th century. By dividing the texts into two overall categories that represent controlled and spon-

taneous language respectively, I intend to isolate topological tendencies in written language from topological tendencies in spoken language. In the Early Modern Danish period, strict censorship meant that a book was always reviewed and revised in terms of both content and language before publication. Because of this strict censorship, I distinguish between published, revised texts on the one hand and unpublished, unrevised texts on the other hand, representing controlled and spontaneous language respectively. I also categorize published texts written on the basis of spoken language, such as plays or trials, as texts that represent spontaneous language. Conversely, I categorize unpublished texts that have been revised by the author in preparation for publication as texts that represent controlled language. This division corresponds to Labov's distinction between controlled interviews with informed informants on the one hand and observations of spontaneous speech of uninformed informants on the other hand: "Another way is to observe the public use of language in everyday life apart from any interview situation – to see how people use language in context when there is no explicit observation" (Labov 1972b, 43). By working with uninformed informants, it is possible to overcome the observer's paradox: "*To obtain the data most important for linguistic theory, we have to observe how people speak when they are not being observed*" (Labov 1972a, 113).

The texts representing controlled language include two publications by Poul Helgesen: a devotional book for Christians (Crist) from 1526 and a sociopolitical paper about the treatment of the sick, unwell, wounded, miserable, and poor (Kranck) from 1528. 'Den Danske Kirkeordinans' (KO) 'The Danish Church Ordinance' from 1539 was published in 1542 with the title 'Den rette Ordinants', which is a revised version of the translation of the Latin text from 1537. Although the two religious papers by Peder Palladius about murderers (Mandrab) and the possessed (Beset) from 1542 and 1547 respectively are both unpublished, in this study they are regarded as representations of controlled language since they were written on the basis of the revised and published church ordinance. The last two published texts from the 16th century are the memorial tribute to Frederick II by Peder Palladius (Trøst) from 1559 and the prayer book by Hans Christensen Sthen (Sthen) from 1578.

In the 17th century, controlled language is represented by the narrative 'Huus-Kaars' (Kaars) 'A Vixen' about a witch trial in the city of Køge written by Anna Hans Bartskær ca. 1625 and published in 1674 with an introduction by Johan Brunsmand (Brun), a cosmography by Hans Nansen (Cosmo), and a medical book by Niels Mikkelsen Aalborg

(Med), both published in 1633. Despite its unpublished status, Leonora Christina Ulfeldt's memoir 'Jammers Minde' (JaMin) 'A Memory of Lament', which describes her own fate as a prisoner in Blåtårn 'Blue Tower' at Copenhagen Castle, is also categorized as representing controlled language because of the revisions made by the author both during the writing process and 10 to 15 years later. Finally, the history of Denmark from 1732 by Ludvig Holberg (DanHist) instantiates the established VO structure in the beginning of the 18th century.

Spontaneous, unrevised language is represented mostly by private letters written by noblewomen and noblemen (AB, MG, Rose) from the 16th and 17th centuries. The notes by Peder Palladius (Visit) from ca. 1543, which are based on his Lutheran visitations in various Danish churches, and the records of the Sokkelund district court (Sokke) from 1634 to 1636 are also unpublished, unrevised texts. In the 18th century, this text category is represented by Ludvig Holberg's play 'Erasmus Montanus Eller Rasmus Berg' (ErMont) 'Erasmus Montanus or Rasmus Mountain' from 1731.

For further details about the titles, the manuscripts, and the relevant pages used in the statistical analysis, see appendix 2.

5.2.3 Statistical Analysis

The following statistical analysis of the word order development in Early Modern Danish will make possible to approximately date the actualization of unit accentuation in complex predicates. Initially, I outline the overall word order development in texts representing both controlled, revised language and spontaneous, unrevised language. Subsequently, by conducting three separate analyses of the word order in combinations with referential complements, complex predicates with non-referential complements, and periphrastic verb phrases, I find a significant connection between the VO structure and combinations expressed with unit accentuation in Modern Danish on the one hand and the OV structure and combinations expressed without unit accentuation in Modern Danish on the other hand.

5.2.3.1 The Overall Development of the Word Order
           from ca. 1500 to ca. 1750

The following figure shows the frequency of the OV structure from the beginning of the 16th century to the beginning of the 18th century:
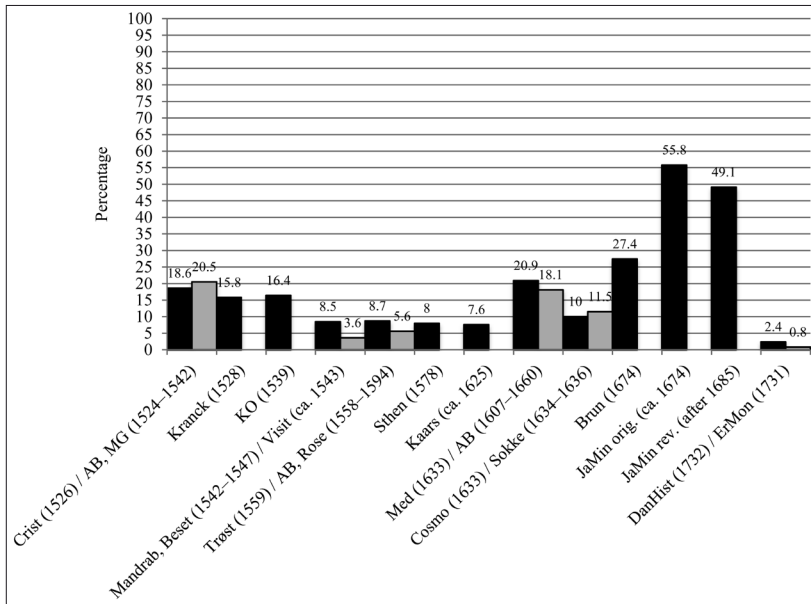
Figure 19. The frequency of the OV structure from ca. 1500 to ca. 1750.
■ = Controlled, revised language　　▨ = Spontaneous, unrevised language

A comparison between the two categories of texts in the beginning of the 16th century does not show any significant topological differences. However, from around 1540, the OV frequency decreases, particularly in the unrevised texts representing spontaneous language. This results in a significant difference between the texts representing controlled and spontaneous language respectively. The OV frequency in the church ordinance (KO) from 1539, Peder Palladius's two religious papers (Mandrab, Beset) from 1542 and 1547 respectively, Peder Palladius's memorial tribute to Frederick II (Trøst) from 1559, and Hans Christensen Sthen's prayer book (Sthen) from 1578 is significantly higher than the OV frequency in the unrevised visitation notes (Visit) by Peder Palladius from ca. 1543 and the private letters (AB, Rose) from the period between 1558 and 1594. The decreasing OV frequency presumably reflects the increasing quantity of publications written in Danish as opposed to Latin in connection with the Reformation in 1536 (Horstbøll 1999, 260). Until the Reformation, writing and reading skills were reserved for scholars using Latin as a model language, but with the Reformation came the attempt to enlighten the lower classes through texts written in Danish. The increase in reading proficiency among the lower social classes made it possible to

reach out to a wider audience (Appel 2001, vol. 1, 80–90), which most likely prompted the authors to use a language closer to the general people. Both the topological divergence between revised and unrevised texts and the overall decreasing OV frequency combined with the fact that more texts were written in Danish make it unlikely that the word order of written language strictly followed the word order of spoken language. This supports the hypothesis that the OV structure in the 16th century was identified primarily with written language rather than spoken language.

In the 17th century, on the other hand, the OV frequency generally increased together with an equalization of the topological difference between the texts. The extraordinarily high OV frequency in some texts in this period reflects the author's intention to express a high style. The distinction between a low VO style and a high OV style finds expression in a comparison between different texts as well as different passages within the same text. Instead of representing either controlled or spontaneous language, the word order was identified with either a high or a low level of style representing the higher and lower social classes respectively. For instance, the narrative 'Huus-Kaars' (Kaars) 'A Vixen', with an OV frequency of only 7.6 %, was written by the middle class woman Anna Hans Bartskær. By contrast, the introduction (Brun), with an OV frequency of 27.4 %, was written by the clergyman Johan Brunsmand (Kaars vs. Brun = $p < 0.000$[13]). As already argued by Glismann (1997, 57–58), a similar topological difference stands out in Leonora Christina Ulfeldt's memoir (JaMin). In both the original version, which contains minor revisions made during the writing process, and the thoroughly revised version, which was completed 10 to 15 years later, the author used the high OV frequency in her own quoted speech to indicate her royal status in opposition to the low OV frequency in the quoted speech of the servants. A similar significant or marginally significant difference is noticeable between the cosmography (Cosmo) by Hans Nansen and the medical book (Med) by Niels Mikkelsen Aalborg (Cosmo vs. Med: $p = 0.001$), both representing controlled language, as well as between the noble letters (AB) and the records of the Sokkelund district court (Sokke) (AB vs. Sokke: $p = 0.051$), both representing spontaneous language. By contrast, the small topological differences between the cosmography (Cosmo) and the district court records (Sokke) and between the medical book (Med) and the noble letters (AB) are not statistically significant

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[13]   The symbol p refers to the p-value in statistical hypothesis testing.

(Cosmo vs. Sokke: p = 0.589; Med vs. AB: p = 0.490). According to these results, the OV frequency in the noble letters (AB) and the medical book (Med) is significantly higher than the OV frequency in the cosmography (Cosmo) and the district court records (Sokke) respectively (AB vs. Cosmo: p = 0.025; Med vs. Sokke: p = 0.001). In order to explain these significant differences, I refer to the social and educational differences between the writers. Niels Mikkelsen Aalborg acquired a classical academic degree in medicine and theology (DBL, vol. 16, 233–234 s.v. *Niels Mikkelsen Aalborg*), whereas Hans Nansen gained language and trading experiences on expeditions to Russia and Iceland (DBL, vol. 10, 313–315 s.v. *Hans Nansen*). Because of his academic background, it is likely that Niels Mikkelsen Aalborg employed a language influenced by the scientific Latin tradition. Thus, when he described how to use a specific herb as medicine, he typically used a fixed participial phrase with OV structure. Consider the following example:

(64)   Vild Krusemynt eller Aggermon i Vin **saaden** oc **drucken**/
       'wild curled.mint or agrimony in wine fried   and drunk

       styrcker   Maffven (Med 174,21–22)
       strengthens the.stomach'

       Wild curled mint or agrimony that is fried in wine and drunk strengthens
       the stomach

Independent participial phrases such as the one above can be traced back to Pliny the Elder's scientific work 'Naturalis Historia' from ca. 77–79 AD:

(65)   Chrysermus et   parotidas   in vino **decocta** radice
       'Chrysermus also parotid.abscesses in wine boiled   root:ABL.SG.F

       curavit (Plin 342,14–15)
       treats'

       Chrysermus also treats parotid abscesses with a decoction of the root in
       wine

The fact that the rest of Niels Mikkelsen Aalborg's medical book is dominated by VO structure indicates that the OV structure was used primarily in fixed technical expressions.

The topological distinction between a technical and a more general language is also evident in the district court records. Because of its origin in trials in court, this text contains a significant amount of quoted speech. Interestingly, a clear distinction can be drawn between the quoted speech and the background text, which primarily consists of fixed technical expressions. Unlike the complements in fixed legal expressions such as *warsell giffue* 'to give notice' and *winde paahøre* 'to listen to testimony'

in (66) and *till dombs optage* 'to bring to court for judgement' in (67), which precede the verbs, the complements in quoted speech always follow the verbs, as illustrated in (68):

(66)   at   de   **haffuer** louglig warsell **giffuedt** Peder Oelsen i   Husume
       'that they have   legally notice given   Peder Oelsen in Husum

       till   i dag at møde   och winde   at **paahøre** (Sokke 8,27–28)
       in.order today to appear and testimony to listen.to'

       that they have legally summoned Peder Oelsen in Husum to appear in court today in order to listen to the testimony

(67)   huorfore at   sagen   i dag iche till dombs   **kunde optagis** (Sokke 9,14)
       'why   that the.case today not for judgement could be.brought.to.court'
       why the case could not be brought to court for judgement today

(68)   Da   sagde Kirstine Tomesis till Jehanne, **Schulle** wi nu   **gaa** ret   till
       'then said   Kirstine Tomesis to Jehanne should we now call legally to

       regenschaff med huerandre, da   **schulle** eller **kunde** du   iche **faa**
       account   with each.other then should or   could you.2.SG not get

       en schilling aff disße penge, for   nu   **haffuer** ieg **kiøp** [!] kleder
       a penny   of this money because now have   I   bought clothes

       till dig   i Kiøbenhauffn och andenstedt, och min mand   **har**
       for you.2.SG in Copenhagen   and elsewhere   and my husband has

       kiøpt   dend kiiste till dig   i Landtzkrone (Sokke 98,36–99,2)
       bought that   chest for you.2.SG in Landskrona'

       Then Kirstine Tomesis said to Jehanne: "If we were to call each other to account, you would not get a penny of this money, because I bought clothes for you in Copenhagen and elsewhere, and my husband bought that chest for you in Landskrona"

Based on the above-mentioned topological divergences in the 16th and 17th centuries, I suggest that the OV structure was far more common in written than spoken language and that a consequent VO structure was actualized in spoken language long before the standardization of VO word order in written language.

   In the beginning of the 16th century, shortly after the introduction of the printing technique, only an elite group of the population could read and write. Because of the Latin writing tradition, Danish authors were influenced by the high frequency of OV structure in Latin. The relatively high OV frequency in all kinds of texts from the beginning of the 16th century indicates that written language per se was an exalted mode of communication. It was not until more people learned to read and more publications were written in Danish that significant topological differ-

ences between the two categories of text emerged. The considerable variation in written language led the Danish theologian Christiern Pedersen (among others) to argue for a standardization of Danish orthography. As a consequence of the introduction of religious censorship, both the orthography and the word order were controlled before the texts were published, which created a significant topological difference between published and unpublished texts.

In the 17th century, the general low OV frequency increased in all kinds of texts. As we might assume, a high OV frequency in this period reflected an educated written language influenced by High German, which was the official written language in communication between the Royal Danish Chancellery and the other members of the Hanseatic League after the move from Low German between 1540 and 1560 (Winge 1992, 25; 2000, 42). However, Low German was still used as a spoken language. It is therefore reasonable to assume that the written language of the educated and higher social classes was influenced by the consistent OV structure in High German, which was established around 1600 (Reichmann and Wegera 1993, 438). An equivalent topological variation between various Swedish texts from the same period supports this hypothesis (Delsing 1999, 216; Magnusson 2007, 173; Magnusson Petzell 2011, 169–170).

Based on the above analysis of the overall word order development from ca. 1500 to ca. 1750, I draw the preliminary conclusion that the OV structure was dominant in either published texts representing a controlled language or texts written with a high level of style. This indicates that the more prevalent VO structure in either unpublished texts representing a spontaneous language or texts written with a low level of style was presumably affected by the word order in spoken language. Presupposing that unit accentuation requires a consequent VO structure (cf. section 1.2 above), it is likely that unit accentuation in complex predicates was actualized in spoken language before the establishment of a consequent VO structure in written language. In the following section, this hypothesis will be subject to a thorough investigation.

5.2.3.2 The Actualization of Unit Accentuation

In order to investigate the probability of the usage of unit accentuation in Early Modern Danish, I have conducted three separate statistical analyses of the word order in combinations with referential complements, complex predicates with non-referential complements, and periphrastic verb phrases. Only the two last categories are pronounced with unit ac-

centuation in spoken Modern Danish, which requires a consequent VO structure. In complex predicates, an unstressed verb precedes a stressed noun; in periphrastic verb phrases, an unstressed auxiliary precedes a stressed main verb. Referential complements, on the other hand, are governed by a stressed verb. Hence, a significantly higher percentage of VO structure in complex predicates and periphrastic verb phrases compared with combinations with referential complements might indicate that the word order in written Early Modern Danish was affected by the presence of unit accentuation in spoken Early Modern Danish.

In combinations with referential complements, the OV structure is relatively frequent throughout most of the period from ca. 1500 to ca. 1700. To take some examples, the pronouns *det* 'it' and *teg* 'you' in (69) and (70), the proper name *gudh* 'God' in (70), and the determinate noun *K. M. Naadigste begering* 'the gracious request of His Royal Majesty' in (71) precede the governing verb:

(69)   naar   ui   **det** jorde (Visit 45,25–26)
       'when we it   inter'
       when we inter it (*a dead body*)

(70)   Oc   viil   **teg**   h*er*   m*et* **gudh** befalle (AB 5,31)
       'and will you.2.sɢ here- by   God   entrust.to'
       And hereby, [*I*] *will entrust you to God*

(71)   attu   icke **K.   M.   Naadigste begering** vdslaer (AB 8,30)
       'that.you.2.sɢ not   Royal Majesty's gracious   request   refuse'
       that you do not refuse the gracious request of His Royal Majesty

The fact that both the verb and the referential complement are pronounced with initial stress in Modern Danish implies that the pronunciation is not contingent on a consequent VO structure. Figure 20 shows that a relatively high OV frequency is found in combinations with referential complements in both categories of text, presumably because of the possibility of stressing both the verb and the complement irrespective of the word order structure.

By contrast, in most of the texts, approximately 10 % or less of the non-referential complements in complex predicates precede the verb. It is only in the noble letters from the beginning of the 16th century (AB, MG) and in Leonora Christina Ulfeldt's memoir (JaMin) that the OV frequency in complex predicates exceeds this limit, see figure 21.

In the beginning of the 16th century, combinations with referential complements were associated with a significantly higher frequency of the OV structure than non-referential complements in complex predi-
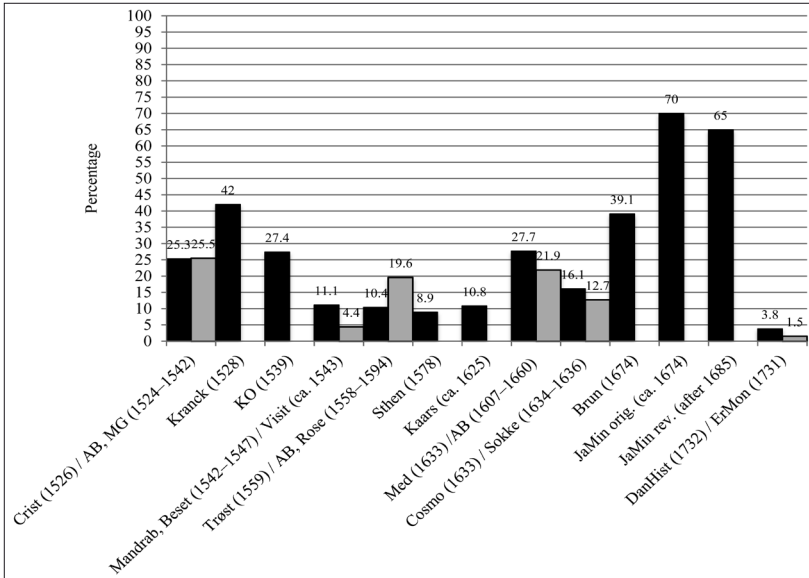
Figure 20. The frequency of the OV structure in combinations with referential complements from ca. 1500 to ca. 1750.

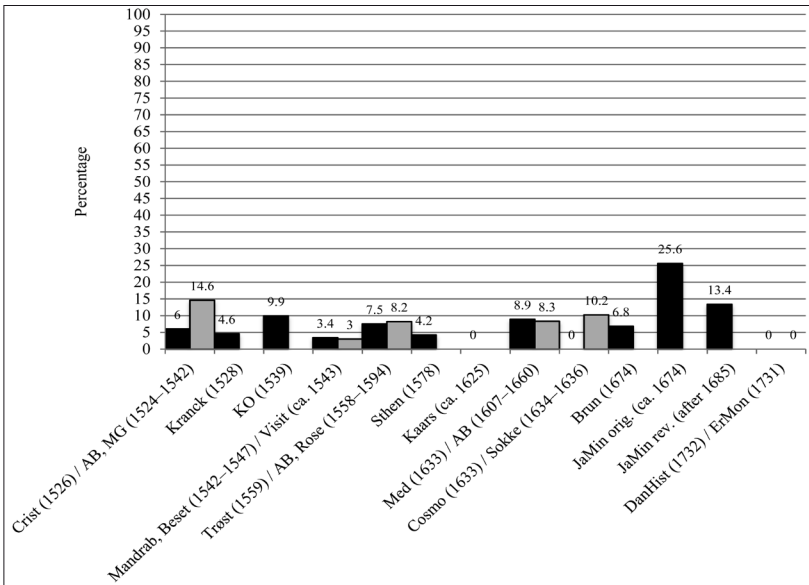■ = Controlled, revised language   ▨ = Spontaneous, unrevised language

Figure 21. The frequency of the OV structure in complex predicates from ca. 1500 to ca. 1750.

■ = Controlled, revised language   ▨ = Spontaneous, unrevised language

cates. However, in the second half of the century, the significant topological difference between the non-referential and the referential complements disappeared. Thus, the VO frequency in combinations with referential complements increased by 19.1 percentage points from an average of 70 % to an average of 89.1 %, whereas the VO frequency in complex predicates increased by only 3.5 percentage points from an average of 91.2 % to an average of 94.7 %. As pointed out in section 1.2, unit accentuation is only compatible with a consequent VO structure. Presumably, the high VO frequency primarily in complex predicates indicates that unit accentuation was already common in spoken language and thus able to influence the topology in written language irrespective of the category of text.

Just like verbs in complex predicates, auxiliaries in combination with main verbs are unstressed in Modern Danish. The statistics in figure 22 illustrate a constantly high VO frequency in periphrastic verb phrases, supporting the hypothesis of a connection between unit accentuation and VO structure on the one hand and the presence of unit accentuation in Early Modern Danish on the other hand:
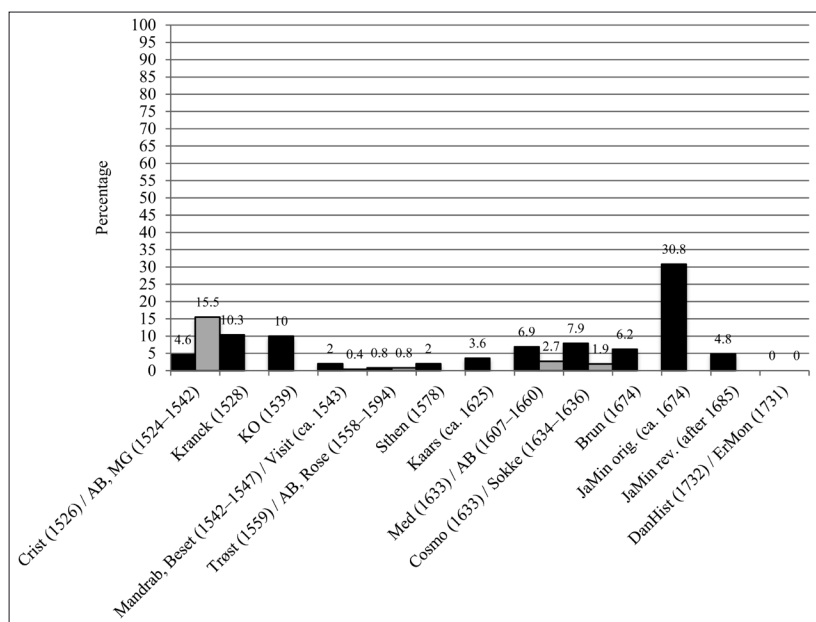

Figure 22. The frequency of the OV structure in periphrastic verb phrases from ca. 1500 to ca. 1750.

■ = Controlled, revised language   ▨ = Spontaneous, unrevised language

The statistics include periphrastic verb phrases of tense, mood, or voice such as *haffuer giortt* 'has done' in (72), *skal forfaris* 'shall be lost' in (73), and *er bleffuen vdtskreffuen* 'has been executed' in (74):

(72)   som   hand **haffuer giortt** skadhe (Mandrab 376,9)
       'who he   has   done harm'
       who he has harmed

(73)   at   huo   som tror ‖ paa hannem/ **skal** icke **forfaris**/ men
       'so.that everyone who trusts in   him   shall not be.lost   but

       haffue det Euige   liff (Trøst 311,23–24)
       have   the eternal life'

       so that everyone who trusts in him shall not be lost, but have eternal life

(74)   att   then tractat […] **er** teg   vbevist   **bleffuen** aff en Caluinist
       'that that treaty […] has you.2.SG unconscious been   by a Calvinist

       vdtskreffuen (Rose 143,31–33)
       executed'

       that that treaty […] has been executed by a Calvinist without you knowing it

During the 16th century, the usage of the VO structure in periphrastic verb phrases was almost fully established, increasing from an average of 89.9 % to an average of 98.8 %. This very early development in favor of a consistent VO structure in periphrastic verb phrases compared with complex predicates indicates that a stress-conditioned form of expression was not as important in complex predicates as in periphrastic verb phrases. Already since the conversion of the markedness relation between bare and determinate nouns in Late Middle Danish, the distinction between non-referential and referential complements had been clear. As in Modern Danish, determinate complements were now used both referentially and non-referentially, whereas bare complements were used only non-referentially in complex predicates or as generic denotations. By contrast, periphrastic verb phrases in Modern Danish are expressed exclusively by the distinction between unstressed auxiliaries and stressed main verbs. For example, the verbs *være* 'to be' and *kunne* 'can' are stressed when used as main verbs and unstressed when used as auxiliaries, expressing tense and mood respectively. According to the grammaticalization theory, the phonetic reduction from a stressed to an unstressed pronunciation of a verb can be described as a development involving a semantic bleaching, which renders the verb usable in new contexts and more frequent. Furthermore, unstressed auxiliaries or verbs in complex predicates require more specific syntactic, semantic, and

pragmatic circumstances than stressed main verbs. Thus, the stressed version of a verb combines with a large number of different complements, whereas the usage of the equivalent unstressed verb is restricted to a much smaller number of combination possibilities conditioned by stricter semantic and pragmatic circumstances. For instance, the unstressed verb *gå* 'to go/walk' and the bare noun *skole* 'school' can only combine with the preposition *i* 'to/at/in' in order to express a complex predicate. The examples below illustrate the different meanings of the combination *gå i skole* 'to go/walk/be to/at/in school' with either an unstressed or a stressed pronunciation of the verb. In the complex predicates in (75), (76), and (77), the unstressed and semantic bleached verb governs a non-referential complement functioning as an adverbial of direction, an adverbial of location, and a subject predicative respectively. The stressed main verb in (78), however, only has one meaning, that is *to walk* in contrastive focus as opposed to *to go by bike/car, etc.*:

(75) Børnene   ˳går ˳i 'skole hver morgen kl. 7.30. = Børnene
      'the.children go   to school every morning at.7.30.a.m. = the.children

      går   hen til skolen   hver   morgen kl. 7.30.
      walk to   the.school every morning at.7.30.a.m.'

      The children go to school every morning at 7.30 a.m. = The children
      walk to school every morning at 7.30 a.m.

(76) Børnene   ˳går ˳i 'skole hver dag fra   kl. 8.00 til 14.00. =
      'the.children are   at school every day from 8.a.m.   to 2.p.m. =

      Børnene   bliver undervist henne i skolen   hver dag mellem
      the.children are   taught   at   the.school every day between

      kl. 8.00 og 14.00.
      8.a.m.   and 2.p.m.'

      The children are at school every day from 8 a.m. to 2 p.m. = The children
      are taught at school every day between 8 a.m. and 2 p.m.

(77) Børnene   ˳går ˳i 'skole. = Børnene   er skolegængere.
      'the.children are   in school = the.children are schoolchildren'
      The children are in school = The children are schoolchildren.

(78) Børnene   'går ˳i 'skole hver morgen kl. 7.30.   = Børnene
      'the.children walk to school every morning at.7.30.a.m. = the.children

      går   hen til skolen   hver   morgen kl. 7.30.
      walk to   the.school every morning at.7.30.a.m.'

      The children walk (contrastive focus) *to school every morning at 7.30*
      a.m.

Thus, the stress pattern contributes to making clear the difference between main verbs and grammaticalized, desemanticized light verbs.

During the period from ca. 1300 to ca. 1650, the subjunctive mood of the verb gradually disappeared. The mood system was replaced by periphrastic constructions with modal auxiliaries (Heltoft 2019, 212). The following parallel examples from 'Skånske Lov' (SkL) in manuscripts B 69,4o from ca. 1350 and GKS 3125,4o from ca. 1550 illustrate that periphrastic verb phrases such as *schal fare* 'has to go', *schal liuße* 'has to register', and *schal skøde* 'has to convey' take over the function of the verbs in the subjunctive mood *fari* 'has to go', *liusi* 'has to register', and *scøte* 'has to convey':

(79) tha **fari** han a thing oc **liusi** thæt oc **scøte**
      'then has.to.go he to court and has.to.register it and has.to.convey

      them (SkL 216,25–26)
      them'

      then he has to go to the court in order to register it and to convey it to
      them

(80) da **schal** han **fare** tiil tings, och **liuße** dett der faar tingmendene,
      'then has.to he go to court and register it there for the.thingmen

      och **skøde** dem der, huad han viill giiffue dem (SkL 308,16–18)
      and convey them there what he wants.to give them'

      then he has to go to the court in order to register it there and to convey to
      them everything that he wants to give them

The gradual shift from the subjunctive mood to periphrastic verb phrases entails that modal auxiliaries were used more frequently than earlier. It therefore became increasingly important to indicate verbs used as auxiliaries.

From the high VO frequency in both complex predicates and periphrastic verb phrases (cf. figures 21 and 22), I deduce that unit accentuation was introduced in Early Modern Danish as a way of distinguishing light verbs from main verbs. This implies that Early Modern Danish writers were most likely topologically influenced by the prosody in spoken language, irrespective of their high intentions in terms of style.

5.2.3.3 Marked Unstressed Verbs in Complex Predicates

By investigating the usage of the main verb *have* 'to have' in terms of information structure, Jensen (2012) shows that an unstressed pronunciation marks the verb as background information. In relation to the unstressed pronunciation, the stressed pronunciation of the same verb is

unmarked because of its ability to function as both background and fo-
cus information. In line with this analysis, I propose a new markedness
relation between unstressed and stressed verbs. The unstressed pronun-
ciation marks the verbs as light verbs, which provide only background
information in lexically more fixed combinations such as periphrastic
verb phrases or complex predicates. The stressed pronunciation, on the
other hand, is lexically unmarked because it enables the verbs to act
either as main verbs with background or focus information or as light
verbs with focus information in complex predicates or periphrastic verb
phrases:

Stressed pronunciation = main verb with background or focus information or light verb with focus information	
	Unstressed pronunciation = light verb with background information

Figure 23. Markedness relation between stressed and unstressed verbs from Ear-
ly Modern Danish ca. 1525 onward.

Thus, with the actualization of unit accentuation, complex predicates
were pragmatically marked as combinations of desemanticized light
verbs with background information and bare, non-referential comple-
ments. By means of the unstressed pronunciation of the verb, complex
predicates in Modern Danish are not only marked as combinations with
non-referential complements; they are also lexically marked as more
fixed combinations with a narrower area of usage than combinations
consisting of stressed verbs and referential complements. As shown
above, the introduction of this markedness relation in Early Modern
Danish was particularly important for the indication of auxiliaries in
periphrastic verb phrases.

6 Concluding Remarks on the Development from Unmarked to Marked Complex Predicates

On the basis of the above analysis of texts from Early and Late Middle
Danish (represented by the Scanian dialect) and Early Modern Danish,
the development of complex predicates from Old Danish to Modern
Danish can be regarded as a markedness process from an unmarked to a
marked way of expression. As shown in figure 24, the bare form of the

noun was referentially unmarked from ca. 1100 to ca. 1425 and thereby able to function as non-referential complements in complex predicates:

Bare noun = referential or non-referential (form used in complex predicates)	
	Determinate noun = referential

Figure 24. Markedness relation in Early and Late Middle Danish ca. 1100–ca. 1425.

During the Early Middle Danish period, the traditional, specified case forms increasingly disappeared, resulting in new underspecified, ambiguous case forms. When the case system began to disintegrate, the bare form of the noun divided into a new markedness relation. Since the new, underspecified forms took over the content of the specified forms and also expressed their own non-specific content, they performed a naturally motivated unmarked function. In manuscript B 69,4º of 'Skånske Lov' (SkL) from ca. 1350, the traditional, specified case forms were marked as referential complements, whereas the new, underspecified case forms were unmarked as either referential complements or non-referential complements in complex predicates. Thus, in Early Middle Danish and in the beginning of the Late Middle Danish period, complements in complex predicates were referentially unmarked:

Bare complement with underspecified case form = referential or non-referential (form used in complex predicates)	
	Bare complement with specified case form = referential

Figure 25. Markedness relation in Early and Late Middle Danish ca. 1200–ca. 1425.

After the disappearance of the specified case forms during the Late Middle Danish period, the markedness relation was inverted so that the bare form became marked as a non-referential complement. The new markedness relation manifests itself in the religious text 'Sjælens Trøst' (SjT) in manuscript C 529 from ca. 1425:

Determinate noun = referential or non-referential	
	Bare noun = non-referential (form used in complex predicates)

Figure 26. Markedness relation from Late Middle Danish ca. 1425 onward.

In the final topological analysis of different texts from ca. 1500 to ca. 1750, representing both controlled, revised language and spontaneous, unrevised language, I combined the frequency of the VO structure in written language and the circumstances under which it occurred with the possibility of the presence of unit accentuation in spoken language. The hypothesis of a possible correlation between VO structure and unit accentuation was motivated by phonetic analyses stating that final elements in accentual sequences are never unstressed (cf. Rischel 1983; Jacobs 1999; Basbøll 2005; Grønnum 2009; Petersen 2010). The fact that the largely consistent VO structure first occurred in texts representing spontaneous, unrevised language and in complex predicates and periphrastic verb phrases in texts of both categories indicates that unit accentuation was actualized in spoken language long before the standardization of the VO structure in written language. It is likely that, already in Early Modern Danish, the unstressed pronunciation made verbs lexically marked as light verbs with background information, combining with either non-referential complements in complex predicates or main verbs in periphrastic verb phrases. Thus, at the final stage of their development, complex predicates were both referentially marked by the bare noun and lexically marked by the unstressed verb; this mode of expression is still used in Modern Danish:

Stressed pronunciation = main verb with background or focus information or light verb (form used in complex predicates) with focus information	
	Unstressed pronunciation = light verb (form used in complex predicates) with background information

Figure 27. Markedness relation from Early Modern Danish ca. 1525 onward.

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Appendix 1

The following figures show the case forms of the relevant bare comple-
ments in the Early Middle Danish manuscript B 69,4° of 'Skånske Lov'
(SkL) that are governed by a verb or a preposition and display their ref-
erential function:

	Verbal or prepositional government				
	Referential complements		Non-referential complements		
Case forms	Accusative	Dative	Accusative	Genitive	Dative
barn (*a*-stem NOM.ACC.SG.N)	5 (210,8; 216,15; 216,20; 216,32; 235,31)		1 (203,2)		
børn (*a*-stem NOM.ACC.PL.N)	8 (215,9; 215,20×2; 216,6; 216,24; 216,27; 216,29; 238,34)		7 (204,8; 204,15; 204,21; 205,10; 210,14×2; 236,29)		
bo (*a*-stem NGEN.SG.N)	1 (204,7)	1 (204,13)			
har (*a*-stem NOM.ACC.SG.N)					1 (203,14)
hirtha (*an*-stem OBL.SG.M)		1 (244,25)			
hud (*i*-stem NGEN.SG.F)					1 (203,14)
hund (*a*-stem NOM.ACC.SG.M)					1 (244,25)
iorth (*ō*-stem NOM.ACC.SG.F)	13 (206,32×2; 208,4; 210,24; 213,26; 213,31; 214,19; 215,23; 219,28; 222,29; 223,15; 223,29; 223,31)		12 (205,7×2; 205, 12; 205,15; 206,2; 207,21; 208,12; 209,3; 209,9; 210, 26; 221,25; 221,27)	1 (208,31)	
iorthu/*iortho* (*ō*-stem DAT.SG.F)		7 (204,10; 207,26; 211, 12; 222,17; 252,10; 262, 5; 262,28)			
nagl (root stem NOM.ACC.SG.M)					1 (203,13)
skifti (*ia*-stem NGEN.SG.N)				1 (214,14)	
synir (*u*-stem NOM.ACC.PL.M)	1 (207,27)				
synær (*u*-stem NOM.ACC.PL.M)	1 (207,17)				

Figure A.1. The referential function of bare strong nouns in manuscript B 69,4° of 'Skånske
Lov' (SkL).

Case forms	Verbal or prepositional government		
	Referential complements		Non-referential complements
	Accusative	Dative	Dative
næsa (ōn-stem NOM.SG.F)			1 (203,14)
stæfnæ (iōn-stem SG.F)		1 (248,12)	
stæfnu (iōn-stem OBL.SG.F)	5 (223,31; 224,7; 249,17; 255,14; 260,8)	4 (223,26×2; 241,26×2)	

Figure A.2. The referential function of bare weak nouns in manuscript B 69,4º of 'Skånske Lov' (SkL).

Case forms	Verbal or prepositional government			
	Referential complements		Non-referential complements	
	Accusative	Dative	Accusative	Dative
brothor (OBL.SG.M)	4 (210,15; 256,25×2; 256,26)			
døtær (NOM.ACC.PL.F)	2 (207,17; 207,28)			
fathir (NOM.SG.M)			1 (209,28)	
fathur (OBL.SG.M)	4 (203,11; 204,2; 210,15; 216,10)			
fathær (SG.M)	2 (206,25; 210,11)		1 (203,17)	1 (207,9)
mothor (OBL.SG.F)	2 (210,15; 216,12)	1 (215,16)		
mothær (SG.F)	2 (204,2; 210,11)		2 (203,18; 209,28)	1 (207,9)
systur (OBL.SG.F)	1 (210,16)			

Figure A.3. The referential function of bare *r*-stems in manuscript B 69,4º of 'Skånske Lov' (SkL).

Appendix 2

The corpus for the statistical analysis of word order variation from ca. 1525 to ca. 1750 in section 5.2.3 consists of the following titles chronologically enumerated within each century and category; if only some parts of a text are included, the relevant pages are mentioned:

16th Century

Controlled, Revised Language

Helgesen, Poul. 1526. *Een cristelig vnderwyszningh paa the thy Gudz budord, then menige cristen kirkis tro ock loffue. Wor Herris bønn Pater noster, oc huore Jesu Christi død oc pyne schulle rettelige begaas oc tracteris* 'A Christian Instruction in the Ten Commandments Given by God, the Faith and Laws of the Common Christian Church. Our Lord's Prayer Pater Noster and How the Death and the Suffering of Jesus Christ Should Be Kept Holy and Treated Correctly'. (Crist)

Helgesen, Poul. 1528. *Huore krancke, mijslige, saare, arme oc fattige menniskir schule tracteris oc besørgis, een kort vnderwijsning aff broder Paulo Helie* 'How the Sick, Unwell, Wounded, Miserable, and Poor Should Be Treated and Provided for. A Short Instruction by Brother Poul Helgesen'. (Kranck)

Den danske Kirkeordinans 'The Danish Church Ordinance'. 1539 [1542]. 150–229. (KO)

Palladius, Peder. 1542. *Hvorledis mandrabere skulle obenbarlig affløsis oc forligis mett then hellighe kirke* 'How Murderers Should Be Given Public Absolution and Reconcile Themselves With the Holy Church'. (Mandrab)[14]

Palladius, Peder. 1547. *En vnderuisningh huorledis der kand hanlis met dem som erre besette* 'An Instruction on How to Treat Those Who Are Possessed'. (Beset)[15]

Palladius, Peder. 1559. *Høgborne Første Stormectige Herre Her Frederick den Anden/ met Guds Naade/ vduald Kõning til Danmarck oc Norrige/ sin allerkiæriste Naadigste Herre/ Tilscreffuit aff hans Naadis Vndersaatte Petro Palladio* 'High-born, First, Mighty Lord Mr. Frederick II by the Grace of God Chosen King of Denmark and Norway. Written to His Most Beloved and Gracious Lord by the Subject of his Grace Peder Palladius'. (Trøst)

Sthen, Hans Christensen. 1578. *En Liden Haandbog* 'A Little Handbook', 289–323. (Sthen)

Spontaneous, Unrevised Language

Bille, Esge, Eggert Frille, Otte Krumpen, Stygge Krumpen, and Peder Skram. 1524–1542. Letters. (AB)[16]

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[14] The edition is based on manuscript Ms 8:vo 2 Chatechismus from ca. 1557 housed in the library of Växjö, Sweden.

[15] The edition is based on manuscript Ms 8:vo 2 Chatechismus from ca. 1557 housed in the library of Växjö, Sweden.

[16] The letters (AB) are housed in the Danish National Archives.

Gyldenstjerne, Mogens, and Kjeld Thorsen. 1527–1530. Letters, 3–15. (MG)[17]

Palladius, Peder. ca. 1543. *En visitatz bog* 'A Book of Visitations', 25–52. (Visit)[18]

Bille, Beate, Tyge Brahe, Johan Friis, Karen Gyldenstierne, Birgitte Gøye, Anne Hardenberg, Arild Huitfeldt, Lisbeth Huitfeldt, Niels Kaas, Inger Oxe, Peder Oxe, Mette Rosenkrantz, Otte Rud, Herluf Trolle, and Christoffer Walkendorff. 1558–1587. Letters. (AB)

Rosenkrantz, Jørgen. 1590–1594. Letters, 116–117, 132–134, 143–147, 158–164. (Rose)[19]

17th Century

Controlled, Revised Language

Bartskær, Anna Hans. ca. 1625. *Huus-Kaars* 'A Vixen', 109–123. (Kaars)

Nansen, Hans. 1633. *COMPENDIUM COSMOGRAPHICUM. Det er: En kort Beskriffuelse offuer den gantske Verden* 'Cosmographic Compendium. That is: A Short Description of the Whole World', 1–10, 101–119, 156–169. (Cosmo)

Aalborg, Niels Mikkelsen. 1633. *MEDICIN Eller Læge-Boog/ Deelt vdi Fem smaa Bøger* 'A Medicine or Doctor's Book. In Five Volumes', 0–12, 174–184, 343–356. (Med)

Brunsmand, Johan. 1674. *Tilegnelses Skrifft* 'A Dedication'. (Brun)

Ulfeldt, Leonora Christina. ca. 1674. *Jammers Minde* 'A Memory of Lament', 2*–37. (JaMin)[20]

Spontaneous, Unrevised Language

Bryske, Lisbet, Christian Friis til Borreby, Christen Thomesen Sehested, Hannibal Sehested, Birgitte Thott, Corfits Ulfeldt, and Thale Ulfstand. 1607–1660. Letters. (AB)

Sokkelund Herreds Tingbøger 'The Records of the Sokkelund District Court'. 1634–1636. 7–13, 29–31, 98–99, 111–114, 225–226, 244. (Sokke)[21]

18th Century

Controlled, Revised Language

Holberg, Ludvig. 1732. *Dannemarks Riges Historie. Deelt udi 3 TOMER* 'The History of the Danish Kingdom. In 3 Volumes', vol. 1, 1r–12. (DanHist)

Spontaneous, Unrevised Language

Holberg, Ludvig. 1731. *Erasmus Montanus Eller Rasmus Berg. COMOEDIE udi Fem ACTER* 'Erasmus Montanus or Rasmus Mountain. A Comedy in Five Acts', A2r–B5v. (ErMont)

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[17] The letters (MG) are housed in the Danish National Archives.

[18] The manuscript Thott 2041,4º is housed in the Royal Library of Denmark.

[19] The letters between Jørgen and Holger Rosenkrantz (Rose) in manuscript NKS 2091,4º are housed in the Royal Library of Denmark.

[20] The manuscript B 3223 is on display in the Museum of National History at Frederiksborg Castle.

[21] The records are housed in the Danish National Archives.