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Contents

The Norwegian Infinitive Marker

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Abstract

Norwegian control infinitives are generally introduced by the infinitive marker *å*. The syntax of non-finite clauses introduced by *å* is similar enough to that of finite subordinate clauses for the infinitive marker to be analyzed as a complementizer. This would account for the characteristic *split infinitive*. However, the continued existence of non-split infinitives in Norwegian represents a problem for this analysis. Merging the infinitive marker in T rather than in C would allow for both split and non-split infinitives. The recently observed, but rather frequent, double infinitive marker, both preceding and following an adverbial, indicates that the infinitive marker is first merged in T and then internally merged in C without the deletion of the copy in T.

1   Introduction[1]

The infinitive in Scandinavian, as in the other Germanic languages, may be used with or without an *infinitive marker*. The conditions on the use of the infinitive marker may differ somewhat among the various languages, and from one historical stage to another. In modern Norwegian, the infinitive marker *å* is used with control infinitives. Control infinitives are non-finite clauses with an unexpressed subject, *PRO*. Those clauses are CPs (Åfarli & Eide 2003), and the syntactic distribution is similar to that of finite clauses introduced by *at* 'that'.

(1)   a. Eg   kan ikkje lova   at   eg aldri skal gjera det   igjen
         I   can not promise that   I never shall do   it   again
         'I cannot promise that I will never do it again'
      b. Eg   kan ikkje lova   å aldri gjera det   igjen
         I   can   not promise to never do   it   again
         'I cannot promise to never do it again'

(2)   a. Det er viktig   at   du   ikkje betaler for   mykje
         it   is important that you not   pay   too   much
         'It is important that you do not pay too much'
      b. Det er viktig   å ikkje betale   for   mykje
         it is important to not pay   too   much
         'It is important not to pay too much'

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[1] I want to thank Kristin Hagemann and Elly van Gelderen for useful comments.

The internal syntactic structures of finite and non-finite CPs also look similar. The assumed structures of the subordinate clauses of (1a-b) are as in (3a-b) respectively.

(3)   a. $_{CP}$[at $_{TP}$[eg $_{vP}$[aldri skal gjera det igjen]]]
       b. $_{CP}$[å $_{TP}$[PRO $_{vP}$[aldri gjera det igjen]]]

According to this analysis, *å* is the complementizer of the non-finite clause, just like *at* in the finite clause. Treating *å* as a complementizer has become a standard analysis for Norwegian (Faarlund et al. 1997, Åfarli & Eide 2003, Faarlund 2007) and for Swedish (Platzack 1986, Beukema & Dikken 1989, Teleman et al. 1999). With *å* in C and the verb in V (or in *v*) a sentence adverbial will *split the infinitive*, as shown in (1b) and (2b). I will call this the *IM-in-C* analysis.

But this analysis does not take care of all the possible structures with infinitive marker in Norwegian. One recently observed pattern is what I will call *double infinitive marker*, as illustrated in (4), which indicates that the structure of infinitival CPs is more complicated than this.

(4)   NN oppmodar alle   som skal søkje om <u>å ikkje å</u> sende inn   søknaden
       NN encourages all   who shall apply to   to not to send in   application.DEF
       i   siste liten
       in last   moment
       'NN encourages all those who are going to apply not to submit their application at the last moment' (kulturradet.no)

I will return to the double infinitive marker below. Before that we need to take a look at another, more traditional pattern, where the infinitive marker follows the adverbial, as in (5).

(5)   a. Eg   kan ikkje lova   <u>aldri å gjera</u> det   igjen
          I   can not   promise never to do   it   again
          'I cannot promise to never do it again'
       b. Det er viktig <u>ikkje å betale</u> for   mykje
          it   is important not to pay   too   much
          'It is important not to pay too much'

This word order, the *non-split infinitive*, was the predominant one far into the 20th century, and was until recently (and still is in certain circles) prescriptively recommended. In contemporary speech it is very rare, but it is still not judged as ungrammatical by today's speakers.[2] However, the non-split infinitive is a problem for the IM-in-C analysis.[3] In order for the infinitive marker to function as a complementizer in C in sentences like (5a–b), the

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[2] A Google search for *prøve ikke å* ('try not to') yields 11 200 hits; *prøve å ikke* ('try to not') yields 315 000 hits.
[3] Åfarli & Eide (2003) are of course aware of this, and suggest a solution along the same lines as the one discussed below. Faarlund (2007) sees it as reflecting an earlier historical stage. That view will not be pursued here.

adverbial would need to be merged in Spec,CP. Such an analysis is not very satisfactory, since a similar adverbial placement is excluded with the finite complementizer *at*.

(6) a. *Eg kan ikkje lova   aldri at   eg skal gjera det   igjen
     I   can not promise never that I shall do   it   again
   b. *Det er viktig   ikkje at   du   betaler for   mykje
     it is important not that you   pay   too   much

The contrast between (5) and (6) breaks down the parallelism between the infinitive marker *å* and the complementizer *at*. Rather than being in C, the infinitive marker in (5a–b) must be in a position below the adverbial. This must be a head position above *v*, namely T^0.

(7)
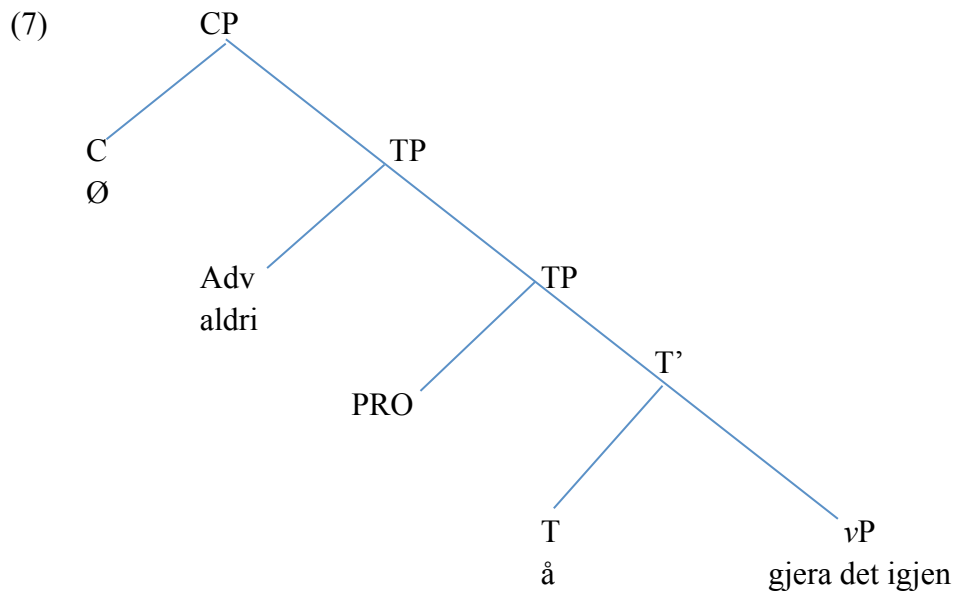
The analysis in (7) seems plausible, since T^0 is also the location of a finite verb, and the infinitive marker is in complementary distribution with a finite verb. By syntactic criteria, the infinitival construction in (7) is still a CP: the clauses in (5) fill the same syntactic positions in the matrix clause as those in (1b) and (2b).
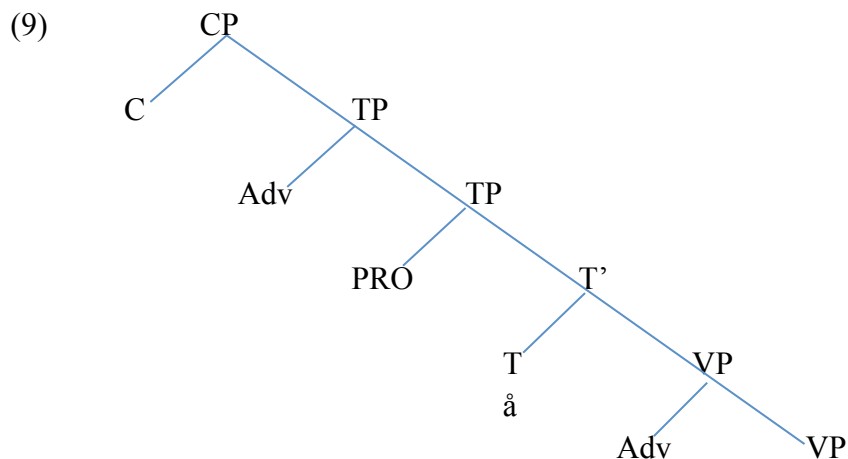
2   Two analyses

In finite subordinate clauses, a sentence adverbial may precede or follow the subject. Both orders are possible whether or not the subject is a full DP or a pronoun.

(8) a. Eg   håpar   at   Alfred ikkje seier noko
     I   hope   that Alfred not   says anything
     'I hope that Alfred won't say anything'
   b. Eg   håpar   at   ikkje   Alfred seier noko
     I   hope   that not   Alfred says anything
     'I hope that Alfred won't say anything'

    c. Eg   håpar   at   han ikkje seier noko
       I   hope   that he   not   says anything
      'I hope that he won't say anything'
    d. Eg   håpar   at   ikkje han seier noko
       I   hope   that not he   says anything
      'I hope that he won't say anything'

The verb remains *in situ* in subordinate clauses, therefore the subject is the only overt manifestation of the TP. This means that there is also an adverbial position below TP in Norwegian subordinate clauses; a sentence adverbial may be adjoined to TP *or* to *v*P.

    If the same is possible in non-finite clauses, *å* in T^0 would account for both split (1b), (2b), and non-split (5a,b) infinitives. With the adverbial adjoined to *v*P, we get split infinitive, as in (1b) and (2b); adjoining it to TP yields a non-split infinitive, as in (5a,b). I will refer to this as the *IM-in-T analysis*.

(9)

```
              CP
          ┌────┴──────┐
          C           TP
                   ┌──┴──────┐
                  Adv        TP
                         ┌────┴────┐
                        PRO        T'
                                ┌──┴────┐
                                T       VP
                                å    ┌──┴───┐
                                    Adv     VP
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An argument in favor of this analysis is the fact the infinitive marker *å* appears not only with control infinitives, but even in raising constructions.

(10) a. Kritikerne synes å like boken
        critics.DEF seem to like book.DEF
        'The critics seem to like the book'
      b. Ho   ser ut   til å elske kattar
         she sees out   to to love cats
         'She seems to love cats'

The clause from which the subject is raised cannot be a CP, since the C would then block movement. The only position for *å* in (10a-b) is T.

(11) kritikerne synes ₜₚ[~~kritikerne~~ å *v*P[like boken]]

An alternative analysis would be to assume that the infinitive marker is merged in T, and that it can next be internally merged in C. That way the infinitive will be split by both high and low adverbials. Call this the *copy analysis*.

Since the subject (PRO) is invisible, there is no way of empirically determining whether the IM-in-T or the copy analysis is the correct one for Modern Norwegian. From a theoretical perspective, the copy analysis may seem less appealing, since it requires one extra merge operation. On the other hand, there may be a historical argument in favor of the copy analysis.

3   A diachronic perspective

In Old Norse, the structure of infinitival clauses is again different (Faarlund 2004, 2007). Old Norse has V-to-T raising in both finite and non-finite subordinate clauses, as shown in (12a,b) and (13a,b), respectively.

(12) a. ef herra Sigvatr <u>er eigi</u> í dalinum
          if lord Sigvat   is not   in valley-the
          'if Lord Sigvat is not in the valley' (DN II.100)
      b. ef konungr <u>bannaði eigi</u>
          if king   forbade not
          'if the King did not forbid it' (Eg 190.21)
(13) a. <u>at láta eigi</u> skera hár   sitt
          to let   not   cut hair his
          'not to have his hair cut' (Eg 6.13)
      b. <u>at ágirnask ekki</u> Svía-konungs veldi
          to covet   not   Swede-king's power
          'not to covet the power of the Swedish king' (Hkr II.118.9)

This means that there is no room for the infinitive marker, *at*, in T^0. As we see, the adverbial follows the verb, and is therefore in a low position in both finite and non-finite clauses. (There are a few rare instances of a sentence adverbial preceding the verb in finite subordinate clauses, but adverbials in the low position is by far the predominant pattern in Old Norse.) On the basis of these data, the infinitive marker might be analyzed as a prefix or proclitic on the verb, as in West Germanic. There are, however, several arguments in favor of analyzing the infinitive marker as a separate word in C (Faarlund 2007, 62–63):

(i) Neither in manuscripts before 1400 nor in philological editions of them is the infinitive marker *at* ever joined to the verb, so we never find, for example, **atvera* 'to be' as a single word. Prepositions, on the other hand, are frequently joined to the first word of the complement, as in *þar alande* "there in-country" (*Konungs skuggsjá,* p. 39b of the manuscript). In standardized spelling this would be *þar á landi*.

ii) When two infinitival phrases are coordinated the infinitive marker is not repeated in the way that prefixes usually are (as in, for example, *rewrite and rephrase*, not **rewrite and -*

phrase), see (14). (This is not an argument against a clitic status of the infinitive marker, but it argues against its status as a prefix).

(14) þat   var   siðr   konungs,   <u>at rísa</u>   upp   snimma um   morna   <u>ok   klæðask</u>
      that   was   habit king's   to rise   up   early   in   morning and   dress.REFL
      <u>ok   taka</u>   handlaugar,   <u>ganga</u>   síðan til kirkju   <u>ok   hlýða</u> óttu-song
      and   take   handwashes   go   since to church   and   hear   morning-song.
      'That was the King's habit, to get up early in the morning, get dressed and wash his hands and then go to church to hear the matins' (Hkr II.81.21)

(iii) Following the words *en* 'than' and *nema* 'except, unless', the infinitive marker is not expressed, as shown in (15). This is because *en* and *nema* are also complementizers occupying the C-position. Thus there is no place for the infinitive marker, which would also be in C.

(15) Kjartan kaus heldr   <u>at vera</u>   með   konungi <u>en   fara</u>   til Íslands
      Kjartan chose rather   to be   with   king   than go   to Iceland
      'Kjartan chose to stay with the king rather than go to Iceland' (Laxd 129.17)

(iv) In raising constructions equivalent to those in (10) above, Old Norse regularly lacks the infinitive marker, indicating that it cannot be in T.

(16) þótti   honum hon   vel   hafa gert
      seemed him.DAT she   well   have   done
      'She seemed to him to have done well' (Hkr III.391.18)

Based on these empirical observations, it seems clear that the infinitive marker in Old Norse is a regular complementizer merged in C.[4]

    If the alternative analyses sketched above are seen as the result of a change from the Old Norse pattern, it is no longer obvious which one is the more plausible. The IM-in-T grammar of Modern Norwegian would involve a complete change of category of the infinitive marker, which may be difficult to explain. A change to the copy grammar is less dramatic, since it would involve "only" an extra internal merge operation.

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[4] There are, however, some instances of argument phrases preceding both the infinitive marker and the verb in Old Norse:

  (i) ok   ætlaði   <u>brullup   sitt</u> at gera   í   Nóregi
     and   intended   wedding   his to do   in   Norway
     'and intended to hold his wedding in Norway' (Hkr II.428.5)
  (ii) ek hafða nú   ætlat   <u>sex skip   ór   landi</u>   at hafa
     I   had   now   intended   six ships   from   country   to have
     'I had now intended to take six ships out of the country' (Hkr II.201.19)

These may be remnants of an earlier OV pattern, where the infinitive marker was a marker of the infinitive, rather than a complementizer, as suggested by Falk (2010).

4　Double Infinitive Marker

The copy grammar also finds support in constructions with the double infinitive marker, which was illustrated in (4) above, repeated here.

(17)　NN　oppmodar alle　som skal søkje om　<u>å ikkje å</u> sende inn　søknaden
　　　 NN　encourages all　 who shall apply to　 to not　 to send in application.DEF
　　　 i　siste　liten
　　　 in last　moment
　　　 'NN encourages all those who are going to apply not to submit their application at the last moment' (kulturradet.no)

This could be an error, but a Google search for "å ikke å" ('to not to') gave a multitude of hits, some even from official and presuambly edited documents, such as (17) and (18d). As can be seen from (18d-h), the double infinitive marker is not restricted to the negation.

(18)　a.　Topp 20 råd　for　<u>å ikke å</u> bli svindlet i　sommerferien
　　　　　 Top　20 tips　for　 to not　 to be cheated in summer-vacation.DEF
　　　　　 'Top 20 tips for not being cheated during the summer vacation' (Kleiven blogg)
　　　 b.　Trenger unnskyldning for　<u>å ikke å</u> drikke　på byen
　　　　　 need　 excuse　　　　 for　 to not　 to drink　on town.DEF
　　　　　 '[I] need an excuse for not drinking out on the town' (VG Debatt)
　　　 c.　Ordfører　Ls　prinsipp　er <u>å aldri å</u> gi seg
　　　　　 mayor　　L's　principle　is to never to give himself
　　　　　 'Mayor L's principle is never to give up' (facebook.com)
　　　 d.　For　mange　som har　slitt,　　<u>å plutselig å</u> føle at　　de　　er uvurderlige
　　　　　 for　many　 who have struggled　to suddenly to feel that　they　are invaluable
　　　　　 'For many who have been struggling, suddenly to feel that they are invaluable …'
　　　　　 (Klassekampen 8.11.2014)
　　　 e.　Da　er det　<u>å bare å</u> glede　seg　　til høstkolleksjonen　　　kommer
　　　　　 then is it　 to only to rejoice　oneself　to autumn-collection.DEF comes
　　　　　 'Then all there is to do is look forward to the arrival of the autumn collection'
　　　　　 (facebook.com)
　　　 f.　Arbeidsplassen　tjener　mer på <u>å faktisk å</u> ha　folk　　på jobb
　　　　　 work-place.DEF　earns　more at to actually to have people　on job
　　　　　 'The　employer　earns　more　by　actually　keeping　people　on　the　job'
　　　　　 (nestorutvikling.no)
　　　 g.　eg har　tenkt　<u>å kanskje å</u> laga ein　enkel　standar treningsplan
　　　　　 I　have thought to perhaps to make a　　simple　standard training-plan
　　　　　 'I intend perhaps to make a simple standard work-out plan' (nb-no.facebook.com)

h. Ønsker du <u>å garantert å</u> bli   rik, så   bør   du   starte
   want   you to guaranteed to become rich then should you   start
   i   dekkbransjen
   in tire-business.DEF
   'If you want to be guaranteed to get rich you should start in the tire business'
   (hegnar.no)

It is unlikely that we are dealing with two different but homophonous lexical items here. There is no difference in meaning depending on whether the infinitive marker appears in C or in T, or in both, so there can be only one infinitive marker in the numeration. It is also difficult to see this as a case of agreement or "attraction", since there is only one verb in each clause. The only way to account for the double infinitive marker, will be to assume copying of the infinitive marker from T to C, as with the copying analysis suggested above to account for the split infinitive, but now *without the deletion of the lower copy*.

 Cross-linguistically, copying without deletion is not an unknown phenomenon. One well known case is colloquial German, which allows for an intermediate *wh*-trace in C to be phonetically realized, if it is monomorphemic (Nunes 2001, Hornstein et al. 2005: 246):

(19) <u>Wen</u> glaubt Hans,   <u>wen</u> Jakob   gesehen hat?
     who believes Hans   who Jakob   seen   has
     'Who does Hans believe that Jakob saw?'

Another case is presented by Vata, a Niger-Congo language, where a verb may be fronted to a focus position, but still pronounced in its T-position (Koopman 1984, Nunes 2004).

(20) <u>li</u> à   <u>li</u>-da zué   saká
     eat we   eat-PAST yesterday rice
     'We did eat rice yesterday'

A common type of construction in Mandarin may perhaps be given a similar analysis. Here the verb is repeated if it takes both a direct object and a manner adverbial.

(21) Ní   xiě zì   xiě de hén   hǎo
     you write character write DE very well
     'You write (characters) very well'

One way of accounting for (21) within the VP-shell analysis would be to assume that the verb is copied from V to *v* without deletion of the lower copy.

(22) _vP_[ní _v_[xiě _VP_[zì _V_[<u>xiě</u> de hén hǎo]]]]

If this is a general option across languages (albeit heavily constrained), it is not unlikely that this also may turn up in Norwegian infinitival constructions, leading to the double infinitive

marker. The Norwegian data in (17–18) support the movement analysis of the infinitive marker.

5 Conclusion

The variable placement of the sentence adverbial in non-finite clauses in Norwegian, leading to the well known variation between a split and a "non-split" infinitive, can be generated by (at least) two different grammars: one with the infinitive marker always in T^0, and one with movement (internal merge) of the infinitive marker to C. Although the latter is less economical, it is more plausible in light of diachronic data. And above all, it can also account for the newly observed phenomenon of a double infinitivmarker, which can be analyzed as a case of copying without deletion.

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Understanding the gradual development of definiteness marking: the case of Swedish[*]

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Abstract

This article discusses how definiteness marking emerges and develops in the Scandinavian languages, with a specific focus on Swedish. The article contains a formal analysis undertaken within a minimalist framework. It is argued that definiteness in full-blown article languages is composed of two cooperating formal features associated with two functional heads. However, early formal definiteness is identified with only one of these features, used optionally, which explains why definiteness marking progressed relatively slowly. The emergence of the optional use of formal definite markers seems to have had a snowball effect, eventually leading to the modern system of obligatory definiteness marking.

1 Introduction

A specific characteristic of all standard varieties of Scandinavian is the definite inflection of nouns by means of a suffix, cf. Sw. *sten* 'stone' and *stenen* 'the stone'. The emergence of the definite suffix can be traced as far back as the 11[th] century, when two instances of *andinni*, the definite form of *and* 'spirit', appear in two late Swedish runic inscriptions in the formulaic prayer *Guð hialpi andinni* 'May God help the spirit'. To the extent that we can judge, there were no formal means to differentiate between definite and indefinite noun phrases in the earliest Viking Age language.

Apparently, the emergence of the definite suffix is the first step in a series of morpho-syntactic changes that affect the Scandinavian noun phrases from the late Viking Age and some centuries ahead. The process eventually leads to an obligatory distinction between definite and indefinite noun phrases all over Scandinavia. However, whereas the definite suffix is a common Scandinavian feature, which seems to have developed in parallel in the different varieties, the process does not lead to identical means to make the distinction in all respects.

For instance, the Mainland Scandinavian varieties have developed an indefinite article (*en*), while Icelandic has not. The former varieties have also developed a free definite article (*den*), used before pre-nominal attributes, most often obligatorily so. Swedish and Norwegian practice so-called double definiteness, i.e. combined use of the definite article and the definite suffix, but Danish does not (cf. Sw. ***den stora sten-en*** – Dan. ***den store sten*** 'the big stone'). Icelandic also has a kind of definite article (*hinn*), but not the same as on the mainland and can normally do without it (*stóri steinn-**inn*** 'the big stone'). On the other hand, all Scandinavian varieties have landed on the same distribution of the so-called strong and weak

forms of adjectives in indefinite and definite noun phrases respectively (cf. Sw. *en **stor** sten* 'a big stone' – *den **stora** stenen* 'the big stone').

The development towards obligatory distinction between definite and indefinite noun phrases is a lengthy process. The emergence of the definite suffix only marks the very start, and it is not until several hundred years later that the modern rules are essentially established in all respects. The primary aim of this article is to suggest a minimalist analysis of the process that is consistent with this gradual development.

For the rest of the article, I will still refer to Scandinavian as a whole when discussing the emergence of the definite suffix, but otherwise focus mostly on Swedish, since the details of the later development are better known in this language than in other Scandinavian varieties. I also chiefly concentrate on (semantically) definite noun phrases, leaving the details concerning the development of the indefinite article aside.[1] On the other hand, I draw some attention to yet another aspect of the early Scandinavian noun phrase syntax, not mentioned above, viz. the change of noun phrase word order that runs parallel to the development of definiteness marking. As will become clear, I argue for a causal relation.

Below, the empirical and the theoretical prerequisites are presented in sections 2 and 3 respectively. Section 4 accounts for the analysis proper. Section 5 contains a summing-up.

2   The empirical base

This section accounts for the empirical base of the analysis in the following. It is to a considerable extent the result of recent research, and more extensive accounts on various aspects are found in Stroh-Wollin 2014, 2015, ms. (See also Skrzypek 2012.) The focus below lies on the transitional stages when definiteness marking first emerges and when it becomes obligatory. As for the development of indefiniteness marking, I confine myself to state that the indefinite article appears significantly later than the definite suffix and, following Skrzypek 2012, that the modern rules regarding indefiniteness marking seem to have been finally settled at about the same time as those concerning definiteness marking (i.e. late Old Swedish; cf. below).

2.1   The emergence of the definite suffix

It is a well-founded assumption that the Scandinavian definite suffix stems from a post-posed demonstrative. However, my research indicates that it is not a question of exactly the same word in Iceland as on the mainland, even though we may assume a relation between the two. (Stroh-Wollin 2014, ms) The mainland origin is *hinn*, which is probably a reinforced variant of the Icelandic counterpart *enn*, and the words inflect (for gender, number and case) in the same way. Interestingly, the results of the grammaticalizations seem identical, in spite of the slightly different starts. The process of the mainland varieties is illustrated in (1), where the

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[1] The development of the indefinite article in Old Swedish has lately attained a good deal of interest among scholars; see e.g. Brandtler & Delsing 2010, Skrzypek 2012, Stendahl 2013, but the interrelation between explicit marking of definiteness and indefiniteness is so far largely unknown. However, the emergence and the obligatorification of the indefinite article are sufficiently well dated, which is of importance in this context. I will return to this below.

case-marked demonstrative, here in the genitive, *hins*, is attached to *dags*, the word for 'day' inflected for the same case. (2) shows the corresponding development in Icelandic.[2]

(1)   *dag-s hin-s > dag-s'(h)in-s > dag-s-in-s   (> dag-en-s)*   Mainland Scand.

(2)   *dag-s en-s > dag-s'en-s   > dag-s-in-s*   Icelandic

The double case marking on definite forms of nouns, as in *dagsins* 'the day's', is still a feature of modern Icelandic, whereas the Mainland Scandinavian languages have gone one step further, because of the loss of case marking on nouns. The *-s* in *dagens* (within brackets above), originally a genitive case suffix, is retained as a possessive marker in Swedish, Danish and some varieties of Norwegian.

Now, instances of a pure demonstrative *hinn* (or *enn*) are conspicuous by their absence in the written sources. This circumstance soon gave rise to the hypothesis that the origin of the suffix is rather to be found in post-posed phrases consisting of *hinn* (or *enn*) + a weakly inflected adjective (see e.g. Delbrück 1916). And we do find phrases where a pre-adjectival *hinn* has cliticized to a preceding noun in accordance with this hypothesis. For instance, *Ormen lange* 'The long serpent' (from Old Norw. *ormrinn langi*), the name of a famous long ship built for the Norwegian king Olav Tryggvason, is a contraction of *ormr* (*h*)*inn langi*.

However, there is certainly room for scepticism regarding this hypothesis. It has for instance been objected (e.g. by Saltveit & Seip 1971) that post-posed adjectival phrases of this kind were probably not frequent enough to have the assumed impact on grammar. Furthermore, it seems improbable from a theoretical point of view that formal definiteness should have emerged just accidentally. It is usually assumed that definiteness markers evolve from demonstratives coming into systematic use for intra-linguistic reference in addition to the extra-linguistic. (See also Dahl 2015:36.) Moreover, there is in fact a little more evidence than is often noticed, albeit partly uncertain and partly indirect, of a deictic demonstrative *hinn*. This evidence is mainly found in runic inscriptions. (See further Stroh-Wollin ms.)

Concerning this issue, my point of departure in the analysis below is the assumption that the definite suffix and the pre-adjectival particle just had their origin in the same demonstrative. There is no reason to believe that the former developed from the latter.

Dating the definite suffix is also a much-debated issue. It has been argued that it should be significantly older than the first attested forms from the 11[th] century, but I believe there are several circumstances contradicting a much earlier dating. First, the different origins of the suffix in Iceland and on the mainland indicate that the definite suffix did not come with the colonizers to Iceland, which means that *c*.900 is a terminus post quem. Secondly, the earliest Scandinavian manuscripts, two books of homilies from Iceland and Norway in particular, dated to around 1200, show transitional forms (maybe reflecting slightly older originals) to an extent that is not negligible. For instance, to some extent it is possible to follow the development illustrated in (2) above. Thirdly, a rough estimation based on the rate of increase as

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[2] My investigation shows that the change of vowel in the manuscripts is not only a consequence of peculiarities as regards Icelandic spelling at the time (cf. Benediktsson 2002). There is a real phonetic change as well, caused by the reinterpretation of the cliticized demonstratives as inflectional suffixes; the vowel quality was then adjusted in accordance with other inflectional morphemes.

regards the use of definite forms in mediaeval texts points to around 1000 as a plausible date of birth. (Stroh-Wollin 2014, ms.)

This pinpointing is also consistent with the hypothesis of a causal relation between the emergence of the definite suffix and changes in the noun phrase word order, discernible from the late Viking Age and on. This topic is addressed in the next section.

2.2   Noun phrase word order in early Scandinavian

Anyone who has been confronted with a number of the memorial inscriptions on rune stones from the Viking Age can verify that demonstratives, possessives and adjectives often follow the head noun. Phrases such as *stein þenna* (acc.) 'this stone' (lit. stone this) and *father sinn góðan* (acc.) 'his good father' (lit. father his good) are heavily represented. However, media-eval manuscripts do not typically show the same patterns. Obviously, the noun phrase word order undergoes a conspicuous change in the 12th and 13th centuries.

This change has hitherto received surprisingly little attention. Moreover, descriptions in the literature on noun phrase word order of early Scandinavian are sometimes unclear. Faar-lund (2004:68), for example, states that adjectives most often follow the noun ("on the sur-face"). However, when accounting for cases where the opposite order is predominant, it be-comes clear that definite noun phrases with adjectives belong to this latter category. (Faarlund 2004:70)

Börjars, Harries & Vincent (ms. p. 23) conclude that there is a "relatively free word order", proposing on this ground a rather "flat structure in which elements are not associated with particular structural positions". In their abstract architectural representation of the noun phrase, however, they identify a high "discourse-prominent position on the left edge" (Börjars, Harries & Vincent, ms. p. 24). For my part, I do not take variation to indicate a flat structure, but I believe the view of the left edge as pragmatically relevant actually captures some of the essence of noun phrase word order in Viking Age Scandinavian. However, the authors miss something as we proceed in time.

In order to test the idea put forward by Börjars, Harries & Vincent concerning the left edge of noun phrases, I conducted some searches on the Viking Age inscriptions in the Scandinavian Runic-text Database. My hypothesis was that "noun first", as in *stein þenna* and *faður sinn*, was the unmarked word order and that fronting of a modifier was a means to emphasize it. Five pairs of strings were tested: 1) *stein þenna* vs. *þenna stein*, 2) *faður sinn* vs. *sinn faður*, 3) *sonr* (nom.) 'son' + a name in the genitive case in post-posed vs. pre-posed position, 4) noun + a single adjective in post-posed vs. pre-posed position, 5) noun + an adjective preceded by an intensifying adverbial in post-posed vs. pre-posed position. The results are presented in Table 1 below.

As expected, Table 1 shows a very small percentage of pre-posed demonstratives and pre-posed *sinn*. The figures also indicate a much stronger inclination to front modifying names in the genitive than to front the possessive *sinn*, which also speaks in favour of the hypothesis. There is normally no reason to stress a possessive *sinn* that announces that the commemorated person is the erector's father, because this is the unmarked case. But the situation is different when a less obvious relationship is announced and the use of a name in the genitive is needed. When it comes to the adjectival attributes, we see that the one-word

attributes are not fronted so often. This is perhaps a little surprising, but may be partly due to the fact that a majority of the instances are used to characterize somebody as "good". An adjective denoting a more unexpected virtue would perhaps be fronted to a higher degree. But interestingly, an intensifying adverbial seems to have a substantial effect on the position of the adjectival attributes. On the whole, the investigation supports the view that "noun first" is unmarked and fronting of a modifier is pragmatically motivated.

Table 1. The distribution of post-posed and pre-posed modifiers in five pairs of noun phrases in Viking Age runic inscriptions.

			Tot.	Post-posed mod.		Pre-posed mod.	
Strings of investigation			n	n	%	n	%
stein þenna	vs.	*þenna stein*	815	796	98	19	2
faður sinn	vs.	*sinn faður*	703	678	96	25	4
sonr name-GEN	vs.	name-GEN *sonr*	51	24	47	27	53
N + A	vs.	A + N	123	88	72	35	28
N + [advl + A]	vs.	[advl + A] + N	52	13	25	39	75

Moving on in time after the Viking Age, I regard *change* as the best word to characterize noun phrase word order in Scandinavian. It is not, as I see it, too far-fetched to suspect that this change is due to the emergence of a formal definiteness marking. Apparently, the word order change also first affects semantically definite noun phrases. In the long run, however, word order becomes more fixed in indefinite as well as in definite noun phrases.

I will illustrate my hypothesis about changing word order with some more figures from the runic material. As was demonstrated in Table 1, there are very few instances of *þenna stein* in relation to *stein þenna* in the Viking Age inscriptions. As the mediaeval inscriptions also offer some comparable strings, it is possible to follow how the word order develops in a rather fixed context. In order to maximize the material, I have included all kinds of phrases with demonstratives used in the sense of 'this' and used to refer (extra-linguistically) to the very object on which the inscription is found (as "this stone") or to a very close object (as "this church") or to the writing itself (as "these runes"). Finally, the instances were sorted into time periods and counted. Inscriptions of uncertain age were omitted from the investigation. (See Stroh-Wollin ms for more details.) The result of the investigation is presented in Table 2.

Table 2. The distribution of noun phrases with post-posed and pre-posed demonstratives in Scandinavian runic inscriptions from the Viking Age and the Middle Ages.

	Tot.	Post-posed dem.		Pre-posed dem.	
Period	n	n	%	n	%
c.800 – *c*.1100	1,102	1,067	97	35	3
b 12[th] cent. – *c*.1200	52	41	79	11	21
b 13[th] cent. – *c*.1300	24	12	50	12	50
b 14[th] cent. –	28	8	29	20	71

The figures in Table 2 clearly demonstrate an ongoing shift in word order. The increasing proportion of phrase-initial demonstratives cannot be due to pragmatic factors, since only very comparable phrases were part of the investigation.

Finally, it is noteworthy that as many as 16 of the 35 instances of pre-posed demonstratives in the Viking Age inscriptions are signed by or attributed to the same rune master: Visäte. Visäte's runic inscriptions are normally dated, on ornamental grounds, to a period from the middle of the 11[th] century and about one generation ahead. Interestingly, one of the assumed two first instances of a noun in the definite form (*andinni* (dat.) 'the spirit' on U 669[3]) is found in a runic inscription signed by Visäte.

2.3   The completion of (in)definiteness marking

As mentioned in the introduction, the development towards an obligatory distinction between definite and indefinite noun phrases of the modern Scandinavian languages is a long process. When it comes to Swedish, most signs point to a period of final consolidation in the 15[th] century.

Skrzypek (2012) follows the development of the use of the definite forms of nouns as well as the indefinite article from the beginning of the 13[th] century and three hundred years ahead. She concludes that the obligatorification of the definite suffix in non-generic definite contexts is not fully completed until after 1450, whereas there is a very limited use of the suffix for generic reference before 1450 (op. cit., pp.152–154). She also points out that some linguists (e.g. Krámský 1972) take the generic usage as "the hallmark of a true, full-blown definite article" (op. cit., p. 49). When it comes to the indefinite article, it seems that the modern usage is more or less settled around 1450 (op. cit., p.193).

The development of definiteness marking in noun phrases with adjectival attributes in Old Swedish is followed in Stroh-Wollin 2015. Remarkably, such phrases are normally totally void of explicit definite morphology as late as the beginning of the 14[th] century, even though nouns not preceded by any modifier at this time more often than not appear in the definite form in semantically definite contexts. When there is an adjective, this takes the strong form and combines with a noun not inflected for definiteness – irrespective of whether the phrase is semantically definite or not. It is not until the late 14[th] century that pre-posed adjectives more regularly appear in the weak form, and then always before a noun in the definite form. And it is not until the next century that a pre-posed definite article seems indispensible.

All in all, the investigations referred to above show a striking simultaneousness as regards the obligatorification of the definite suffix for non-generic uses, the rise of the definite suffix for generic uses, a modern use of the indefinite article and the obligatorification of the pre-posed definite article. I would say that by the middle of the 15[th] century, the modern rules of (in)definiteness marking are by and large settled in Swedish, even though there are no doubt scattered counterexamples to be found.

3   Theoretical points of departure and matters of debate

The formal analysis in the following will be undertaken within a minimalist framework. Below, I present first in section 3.1 some principle aspects regarding my view on minimalism before giving an account in section 3.2 of a noun phrase model applicable to modern

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[3] Siglum used e.g. in the Scandinavian Runic-text Database.

Scandinavian that will be used in the analysis. In section 3.3 the leading principles of grammaticalization from the minimalist point of view are briefly presented, as well as some earlier attempts to explain the emergence of the definite suffix within this framework. Finally, in section 3.4, I take up the question of whether noun phrases in languages without articles are DPs or not.

3.1   Assumptions on the nature of grammatical derivation

My formal analysis is basically founded on the principles of derivation outlined in Chomsky (2000, 2001) applied on a very minimalistic conception of the inborn grammatical device (maybe even more minimalistic than UG as discussed in Chomsky 2007). This means that I assume a computational capacity, but also that every individual must identify afresh the grammatical categories of his/her mother tongue and the architectural structure of it.

I also take grammatical derivation to be, above all, semantic in nature. This means, among other things, that a functional projection has a role only if it is semantically motivated: new specifications are added successively.[4] A consequence of this view is that understanding grammatical derivation largely means understanding its semantic impact.

This understanding is not a trivial task: the grammatically encoded meaning should be understood as formal in nature, from which follows that it may be quite different from what we might expect prima facie. For example, the formal contribution of plural marking is in fact not necessarily 'plural' or 'more than one' (see further 3.2.1). Of course, a relevant question in this context is what the formal semantic contribution of definiteness marking actually is. I do not believe it is directly linked to a pragmatic notion such as identifiability, nor do I believe it is, as sometimes assumed, directly linked to specificity or uniqueness.[5] The view I adopt will be explained in section 3.2.2.

Further, I assume two different kinds of abstract features. First, there are abstract features that attract lexical counterparts during the course of derivation. But I also find it useful to assume category features to ensure that a functional head selects the right comple-ment.[6] Let us say that the X-head in (3) has an interpretable feature X and that the Y-head above it has not only an interpretable Y-feature but also an uninterpretable X-feature. If so, the uninterpretable X-feature in Y has to probe for interpretability, which means that Y has to select an XP as complement – or a complement containing an XP.

(3)

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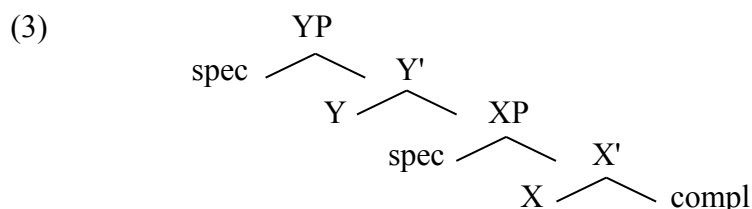
[4] This is not saying that all kinds of flexion is semantic in nature; gender agreement, for instance, is not. But I doubt that non-semantic flexion defines the architectural structure of syntagms.
[5] See e.g. Lyons 1999, especially p. 274 ff., for a discussion.
[6] See Agder & Svenonius 2011 for a theoretical discussion of different kinds of features in Minimalist Syntax.

3.2 A model for the noun phrase in Modern Scandinavian

The analysis in the following is largely based on the model and principles outlined in Stroh-Wollin 2011, which discusses noun phrases in modern article languages. Structurally, this model is fairly simple, devoting more attention to the semantic impact of grammatical derivateion.[7] The account is presented below with a strong focus on the parts that are of crucial importance in this context. The model consists of an N-domain and a D-domain.

3.2.1 The N-domain

The N-domain consists of a lexical n-projection with a functional N-projection on top. The n-head is the locus of the noun stem, whereas the N-head hosts an abstract number feature, which attracts a number suffix, possibly a singular null morpheme, to the head itself. The suffix in turn attracts the stem in the n-head. This means that a noun can never be spelled out in a lower position than N. Consequently, NP alone will represent the N-domain below. The following just gives a hint of the semantic impact of the N domain.

The semantic impact from number inflection is seen as a question of conceptualization of the entity. Plural marking adds a feature value +COUNTABLE, which means that a plural noun denotes an entity comprising separate objects. A noun in the singular is –COUNTABLE and denotes an entity not distinguishable as separate objects.

Singular noun phrases denote either single objects or to masses, but this distinction is not openly accounted for by nominal inflection. However, some determiners have a disambiguating effect on the noun phrase in this regard: a noun phrase such as *a stone* denotes a single object, whereas *a lot of stone* denotes a mass.[8] The effect is, according to the model, due to a divisibility feature, for which the indefinite article has the value –DIVISIBLE and *a lot of* has the value +DIVISIBLE. As it is also possible to use *a lot of* before plural nouns, as in *a lot of stones*, this determiner does not have a specific value for countability. But some determiners do: e.g. *many* can only combine with the value +COUNTABLE of plural entities.[9]

3.2.2 The D-domain from the semantic point of view

The D-domain consists, just like the N-domain, of two projections: (little) dP and (big) DP. The two projections are taken to collaborate in the restriction of the set of referents, and the value of the relevant feature in little d has to be settled before the value of big D can be defined, which justifies splitting the original single DP. (This assumption is empirically supported by the double definiteness structures, cf. 3.2.3 below.) What follows is a brief account of what meaning is encoded in the D-domain.

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[7] Various accounts have been put forward within the framework of the Minimalist Program on how to deal with noun phrase structure generally and in the Scandinavian languages in particular. For the latter category alone, quite a few rather extensive works can be mentioned, e.g. Delsing 1993, Julien 2005, Lohrman 2010. I will not go into details here. The works mentioned and other accounts have their virtues, but the view advocated here on the grammatically encoded meaning in noun phrases is quite different from other approaches.

[8] I will use English examples here as long as there is no difference in principle between English and the Scandinavian languages.

[9] The traditional dichotomy of count nouns and mass nouns is critically scrutinized from the philosophical semantic perspective in Laycock 2006. The model described above actually meets the problems addressed by Laycock.

The set of referents, R for short, is taken to be defined in big DP in relation to a set of selection, S for short, defined in little dP, and S is in turn defined in relation to the universal set, U for short, i.e. the largest possible set with regard to the descriptive core of the phrase.[10]

By restricting the set of referents in two steps, it is possible to formally account for the distinction between a definite noun phrase such as *the dogs* and an indefinite noun phrase such as *three dogs*. If we could only operate with R and U, it would be impossible to differential between the two: the phrases *the dogs* and *three dogs* both denote a subset of the universal set of dogs: $R \subset S$. However, a definite phrase is (in the typical case, cf. below) used when there is an intra-linguistic or extra-linguistic clue available for the receiver to identify the set of referents as all members of a set of selection that is reduced in relation to the universal set: $R = S \subset U$. The use of an indefinite phrase, on the other hand, does not require any reduction of the set of selection in relation to the universal set, which permits us to equate S with U, but the final set of referents denoted by an indefinite phrase such as *three dogs* is a subset of the set of selection: $R \subset S = U$.

Equating S with U in indefinite cases does not exclude the possibility that an indefinite phrase is pragmatically taken to denote a subset of a more restricted set than U as defined above by the descriptive core of the phrase. For example, the utterance in (4) would not be meaningful if the discourse did not restrict the possible set of dogs (e.g. as the dogs at a certain dog show). Only, $S = U$ means that this restriction is not grammatically encoded.[11]

(4)   *Three dogs are white.*

It is also reason to consider the assumption that $R = S$ in the definite case. This assumption is, of course, unproblematic as long as R really encompasses all contextually identified presumptive referents, which is the normal case. But it is sometimes possible to use a definite noun phrase even though an intended referent is not uniquely identifiable to the receiver; see (5).

(5)   *Hon har brutit benet.*   (Swedish)
       she has broken leg-DEF
       'She has broken her leg.'

The definite noun phrase *benet* 'the leg' in (5) is ambiguous, as it could concern either the left or the right leg. However, we do not have to make this a problem. We can still maintain that R equals S, but we have to accept that the contextual restriction of S in relation to U is not exact, but approximate. Formally, there is no problem in doing so. (6) summarizes the concept so far.

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[10] The device of identifying a set S between R and U and making the restriction of the set of referents a two-step process has a kind of parallel in the account of tense in Reichenbach 1947, where the author introduces a time of reference in between the time of speech and the time of the event.

[11] Languages actually seem to vary as regards the formal encoding of S in indefinite noun phrases; $S \subseteq U$ is also possible. Following Stroh-Wollin 2011, I assume, without going into details in this context, that $S = U$ in Germanic indefinite noun phrases (but $S \subseteq U$ in Romance).

(6) a. *the dogs* $R = S \subset U$
     b. *three dogs* $R \subset S = U$

Now, a glance at the examples in (7a–c) reveals that we have not yet come to grips with the whole story. (7a) and (7b) show two noun phrases with generic reference, one definite and one indefinite with no article, whereas (7c) shows the same article-less phrase as in (7b), but used in another context, where it is not interpreted generically.

(7) a. **The Brazilians** *are crazy about football.*
     b. *She doesn't like **dogs**.*
     c. *There are **dogs** in the garden.*

Thus, it is necessary to adjust the concept a little to capture the ambiguity of definite noun phrases and of article-less noun phrases. This can be solved by simply taking a definite noun phrase to express $R = S \subseteq U$ and an article-less noun phrase to express $R \subseteq S = U$.

The specification of S is a matter for the dP, whereas the specification of R is a matter for the DP. The relevant features can be labelled σ_1 and σ_2 respectively.[12] The σ_1-feature in d can, according to the discussion above, take the values $S = U$ and $S \subseteq U$ and the σ_2-feature in D can take the values $R \subset S$, $R \subseteq S$ and $R = S$. Three combinations of values are possible; see Figure 1.

	σ_2	σ_1
indefinite noun phrases with determiner	$R \subset S$	$S = U$
indefinite noun phrases without determiner	$R \subseteq S$	$S = U$
definite noun phrases	$R = S$	$S \subseteq U$

Figure 1. Values on σ_1 and σ_2 for three structurally defined kinds of noun phrases.

The assessment of values on σ_1 and σ_2 for different kinds of noun phrases accounted for in Figure 1 is not universal, but applies to modern Germanic in general. We will return to the situation in Early Scandinavian.

3.2.3 Structural derivation in the D-domain

The structural consequences of the split DP will be demonstrated below on definite noun phrases, since this is the more complicated case. As for the indefinite phrases, we can take the "indefinite" value $S = U$ on the σ_1-feature to be semantically unmarked and structurally accounted for with just a null morpheme in d. The unmarked value on the σ_2-feature is $R \subseteq S$, which is accounted for with a null morpheme in D, whereas the marked "indefinite" value $R \subset S$ on the σ_2-feature demands an indefinite determiner in D.

So, what about definite noun phrases? If we consider languages with only a pre-nominal definite article, such as English *the*, it is not obvious from the structural point of view that a split DP is an advantage. However, the idea finds empirical support in the "double

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[12] Only one σ-feature (in d) is identified in Stroh-Wollin 2011. The assumption made here leads to a slightly different approach on some aspects in the account below.

definiteness" structures found in some of the Scandinavian languages. Double definiteness means, as pointed out in the introduction, that a free pre-posed definite article is combined with a noun inflected for definiteness. The pre-posed article is used only if there is a pre-nominal attribute, otherwise pure definiteness is expressed solely on the noun; cf. (8a–b).[13]

(8)   a. *den lilla flickan*   (Swedish)
          DEF little girl-DEF
          'the little girl'

      b. *flickan*
          girl-DEF
          'the girl'

The derivation of the noun phrases in (8a–b) are demonstrated in (9a–b). In both cases a definite suffix is first merged in the d-head, from where it attracts the noun in N. The further derivation is not the same, as a pre-nominal attribute for some reason prevents the noun from further advancement. The adjective *lilla* 'little' in the a-example takes its locus in the specifier of the dP, whereas the DP is lexicalized with the free article. When there is no pre-nominal attribute, as in the b-example, nothing prevents the noun from moving to D.

(9)   a.   DP   b.   DP
                      ⁀   dP   D ⁀   ⁀ dP
              den   spec ⁀   ⁀ d'   *flickan*ᵢ   d ⁀   ⁀
                      lilla   d ⁀   ⁀ NP   tᵢ
                              -n   N ⁀   ⁀
                                       flicka
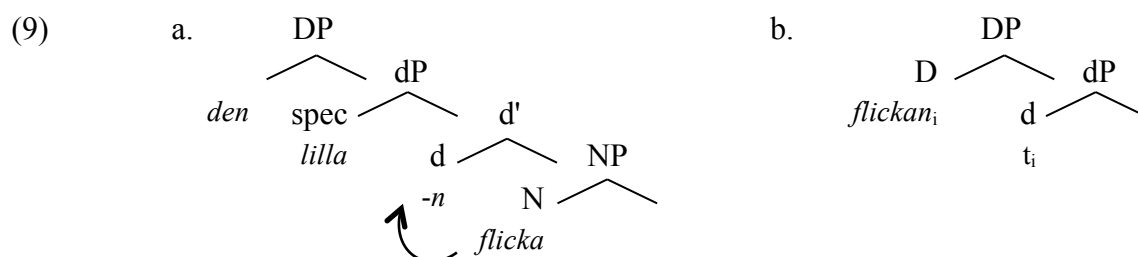
Since the suffix is the sole marker of definiteness in the absence of pre-nominal attributes (9b), we may conclude that it holds interpretable variants of both σ-features. And since the free article cannot impose definiteness on its own, we can conclude that it is an expletive with uninterpretable σ-features, which have to probe the inflected noun for interpretability.[14] [15]

The Scandinavian languages are alike when it comes to definiteness marking in noun phrases with no pre-nominal modifiers, so we can draw the same conclusion concerning the definite suffix irrespective of language. The free pre-posed article in Danish, on the other hand, seems to have interpretable σ-features, unlike its counterpart in Swedish and Norwegian, as it cannot combine with nouns inflected for definiteness; see (10).

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[13] The definiteness is regarded as "pure" when there is no deictic connotation; a phrase such as *den flickan* is grammatical in the sense of 'that girl'.
[14] Thus, I do not accept the conclusion in Börjars et.al. (ms., p. 39) about the free article: "Since it is an expletive element, it does not have any features and hence it is not actually a syntactic definite determiner."
[15] Some pre-nominal modifiers that may be interpreted as inherently definite are not necessarily preceded by the free article, viz. superlatives, ordinal numbers and some other words, e.g. *sista* '(the) last', *högra* '(the) right', *vänstra* '(the) left'. Ordinary adjectives in the positive can appear without the free article only in very special cases. I refrain from speculating on the analysis of these kinds of noun phrases here.

(10) *den gamle mand*(**en*)   (Danish)
      DEF old man-*DEF

It is not self-evident whether the free articles are head constituents or phrase constituents, which makes it somewhat uncertain where they are first merged in the structure. Considering the "Head Preference Principle" (cf. section 3.3), we might expect a head analysis and a first merge in D. However, the principle asserts a preference, not a conclusive rule. And demonstratives are often assumed phrase constituents, which would permit the same analysis for the corresponding forms of the definite article. If so, it is possible that the article is first merged below D, in an additional specifier above the adjective in dP and moves to DP. This hypothesis implies that multiple specifiers are possible. I see no problems with this assumption and will make further use of it in the diachronic analysis.

The definite suffix, on the other hand, is a head constituent. When the various forms of a demonstrative have eventually developed into inflectional morphemes, we have to assume that a re-categorization from phrase to head has taken place.

Another question concerns why we need the free article at all, i.e. why the noun is not allowed to precede the adjective.[16] There are numerous formal accounts proposed in the literature, characterized by Börjars, Harries &Vincent (ms. p. 38) as "'technical and correct' rather than 'insightful'". The authors give a brief presentation of some, before they propose their own technical solution within the LFG framework they apply. I will not go into this discussion here, since the issue is not at stake for my purposes.

3.3   The grammaticalization of definiteness markers from the minimalist point of view

For a long time, grammaticalization was discussed exclusively from a functionalist approach, but for some time the phenomenon has also inspired linguists working within the Minimalist Program: see e.g. Roberts & Rousseau 2003, van Gelderen 2010.

A guiding principle in this approach is that grammaticalization is change "up the tree". This is logical from the general principle of design by which the lexical projections of syntagms are low, whereas functional projections are high. Thus, a reinterpretation of a descriptive semantic feature in functional terms will push the element bearing the feature in question upwards. It is also taken to be less costly to insert an element directly into a high position, a Late Merge, than to move it from below.

A couple of other basic ideas are the Head Preference Principle and the driving force of Feature Economy. The first of these says: "Be a head rather than a phrase", which means that grammatical morphemes tend to be head constituents. The latter means that semantic features of content words (when and if possible) are reanalysed as interpretable functional features and later as uninterpretable. (van Gelderen 2010:13 ff.)

The grammaticalization of definiteness markers in Early Scandinavian has of course also been addressed from the Minimalist approach.[17] Two quite different attempts are Faarlund 2007/2009[18] and Abraham & Leiss 2007. Both Faarlund and Abraham & Leiss seem to take

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[16] However, there are counterexamples in Icelandic. See further Pfaff (2014, 2015).
[17] There is also a short section devoted to Scandinavian in chapter 6, "The DP Cycle", in van Gelderen 2010. See also van Gelderen 2007.
[18] Faarlund 2009 is a revised version of Faarlund 2007.

for granted that the post-posed bound article and the free pre-adjectival *hinn* are involved in one and the same grammaticalization process. However, whereas Faarlund's analysis follows the traditional grammaticalization cline, i.e. demonstrative > free article > clitic > suffix, but ends up in a process "down the tree", Abraham & Leiss place it the other way round. Abraham & Leiss assume an "up the tree" process in accordance with the generative theory, but take the free article as secondary to the post-posed bound, which is contrary to the view of traditional grammaticalization theory.

Both of these analyses were criticized on various grounds in Börjars & Harries 2008. One topic of specific interest to the authors was Faarlund's assumption that the post-posed article was a clitic, not yet a suffix, in Old Norse. This assumption is crucial for Faarlund's analysis, but according to Börjars & Harries it is impossible to draw a distinct borderline between the two categories.

Both Faarlund 2007 and Abraham & Leiss 2007 are also criticized in Stroh-Wollin 2009. Above all, the premise of a joint grammaticalization process for the definite suffix and the pre-adjectival article is dismissed. This criticism still holds true, I believe (cf. section 2.1), but details in the analysis proposed in Stroh-Wollin 2009 have to be reconsidered, even though it solved the problems that characterized the analyses discussed.

Characteristic for previous attempts among generativists to explain the grammaticalization of definiteness markers in Scandinavian is the focus on the very beginning of the process. In what follows, I try to give an account of the whole story, from the beginning to the end, i.e. when definiteness marking has become obligatory in definite contexts.

3.4   Are noun phrases DPs even in languages with no articles?

One question that has come to the fore rather recently in generative syntax is whether noun phrases in languages without articles are DPs or NPs. The latter view is proposed in different works by Željko Bošković (see e.g. Bošković 2012). Bošković (2012) argues on empirical grounds that languages with and without articles differ on specific points related to the presence/absence of a DP. Many have taken the DP analysis, proposed for argumental noun phrases in Abney 1987, more or less for granted in article-less languages as well (e.g. Faarlund 2007/2009, Abraham & Leiss 2007, van Gelderen 2007, 2010 and Stroh-Wollin 2009). However, the question is important when dealing with the initial development of definiteness markers in Scandinavian (or any language).

The topic has in fact recently been explored to some extent. Lander & Haegeman (2013) test Old Norse on some of the criteria put forward by Bošković to distinguish between, on the one hand, languages with definite determiners and a DP on top of NP, so-called DP languages, and, on the other hand, languages without formal definite determiners and assumingly also without the DP layer, so-called NP languages. The authors do not adopt a definite position on the question of whether Old Norse lacks the DP layer or not, but state that the language behaves like an NP language according to the criteria tested.

I am also inclined to believe that we should not assume specific projections related to definiteness marking as long as we cannot state the existence of formal articles or the like in the language. This is above all a theoretical position, based on scepticism vis-à-vis very far-reaching assumptions concerning innate linguistic knowledge. However, the empirical in-

vestigation of noun phrase word order in Viking Age Scandinavian indicates that the left edge is open for fronting, which points to a functional projection above the NP after all. This is a problem for the analysis to tackle.

Of course, not devoting a specific locus in the phrase structure to definiteness in the earliest Scandinavian does not mean that noun phrases with, for instance, demonstratives and possessives were not semantically definite, only that they were not formally definite. This means that they were not associated with any functional definite feature with relevance for the structural derivation. But once a language possesses a pure definiteness marker in the formal sense, it becomes possible even for various semantically definite modifiers in the noun phrase to acquire formal definiteness as well.

4   The analysis

The analysis presented in this section is an attempt to explain how the noun phrase structure in Swedish gradually develops from a stage with no formal definiteness markers to a stage where definiteness marking is mandatory. Obviously, an analysis of this kind must be consistent with the notion of a long transitional period. This is possible if we assume, first, that definiteness in a full-fledged article language is associated with two cooperating formal features, as accounted for above, and secondly that formal definiteness was initially associated with only one of these features and that it was optional for speakers to use it or not. In section 4.1 below, I describe a model to account for the noun phrase structure in the earliest attested Scandinavian. In section 4.2, I describe what happens when the demonstrative (*h*)*inn* is reinterpreted as a formal definiteness marker. Finally, in section 4.3 I deal with the subsequent development towards compulsory definiteness marking.

4.1   Noun phrase structure before the definite suffix

As mentioned, I do not assume that noun phrases in languages without articles (or the like) are DPs. On the other hand, I find it necessary to assume some functional projection above the NP in Viking Age Scandinavian to explain the variable word order. I take this projection to host a case feature, but I will simply label it EP here, with E for "edge", in order not to commit myself to a definite position concerning its full nature. (It may be linked, in some way or another, to referentiality.)[19] Most important, E is not associated with any σ-feature.

The abstract structures of the (accusative) noun phrases in (11a–c) are demonstrated in (12a–c) to show how the system works. Modifiers with nominal inflection such as the ones in (11a–c) are taken to merge in the NP-specifier, i.e. in a position where their uninterpretable gender, number and case features can probe the corresponding features on the noun for interpretability. If we then take the E-head to host an abstract case feature, it needs to be lexicalized with some case-defined constituent, which moves to (re-merges in) the EP. Formally, this constituent can be the noun, which will merge in the E-head; cf. (12a–b), or a modifier, which will merge in the specifier; cf. (12c).

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[19] While certainly believing that the initial position was used for discourse-related movement, I do not believe in pragmatically motivated projections. Thus, I also avoid labels on par with Rizzis (1997) TopP and FocP for the C domain of clauses.

(11) a. *stein þenna*
      stone this
      'this stone'

    b. *faður sinn*
      father his
      'his father'

    c. *harða goðan dræng*
      very good man
      'a very good man'

(12)

                EP
        spec   E'
              E   NP
                spec   N'
                   N

  a.   *stein*$_i$ *þenna* t_i
  b.   *faður*$_i$ *sinn* t_i
  c. [*harða goðan*]$_i$ t_i *dræng*
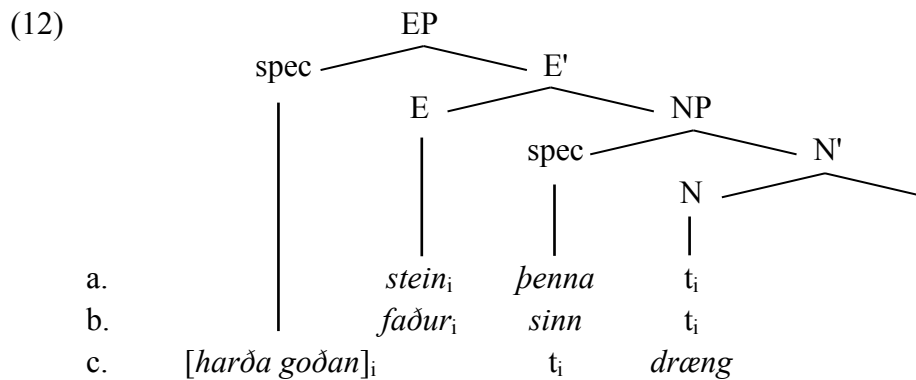
Case inflection in Early Scandinavian was (and still is in Icelandic and Faroese) integrated with number inflection, i.e. the inflectional morphemes express number and case at the same time. But this does not mean that the functions of number and case are blended: number inflection affects the conceptualization of the entity and case is an edge feature with relevance when the noun phrase is spelled out and used in further derivation, for instance as an argument in a clause. Hence, the distribution of features on two projections is not far-fetched.

In cases where there is more than one modifier, I take them to merge in multiple specifiers to N, the ordering being a question of scope. Noun phrases consisting of noun, adjective and possessive vary in surface structure, even though "noun – possessive – adjective", as in *faður sinn goðan* (acc.) 'his good father' (lit. father his good), is by far the most common in the Viking Age Runic inscriptions. I believe it is possible to account for the different patterns by fronting either the noun or the (pre-adjectival) possessive or the lowest attribute and noun together.

4.2   The crucial moment

The formal analysis has so far identified one abstract structure applicable to Viking Age Scandinavian, before any formal definiteness marking had emerged, and one abstract structure applicable to the modern Scandinavian languages. The question now is how we get from the former stage to the latter. The process is a lengthy one, as already stressed.

I will argue here that the cliticization of post-posed *hinn* demonstratives on nouns, demonstrated in (13) below, at some point in time affects the grammar in a crucial way. But this occurrence does not have any immediate radical effect on the surface structure of noun phrases. Rather, it marks the start of a continuous process of several hundred years.

(13)   *dag-s hin-s*   >   *dag-s'(h)in-s*   >   *dag-s-in-s*

The pivotal change comes with a new generation identifying the former demonstrative as a formally definite element. This means that the rising generation takes this element to host some functional, and in some sense definite, feature and that there is a corresponding abstract feature in a functional head of the abstract noun phrase structure to attract it. In the language of the older generation, definiteness is not grammatically encoded, but the weakened deictic meaning of the demonstrative can, in practice, have had the same impact on the interpretation.

In her account of grammaticalization, van Gelderen (2010: 13 ff, 197) takes the principle of Feature Economy to drive the process whereby "semantic features are reanalysed as interpretable and then uninterpretable [functional] features" (op. sit. p. 197). The change I am talking about here is in these terms a reinterpretation from semantic into interpretable functional features. However, I would prefer other labels, as I also view the functional features as semantic in nature. I would say that semantic features whose contribution to the meaning of the syntagm is purely lexical are non-functional, in contrast to the functional features, interpretable and uninterpretable, that play a role in the morpho-syntactic derivation.

My claim concerning the structural change is that a little dP is sandwiched in between the NP and the EP. The structures of noun phrases representing the starting point and the completed transition to definite inflection in (13) are demonstrated in (14a–b). In the b-variant, the functional feature of the suffix is merged in d, from where it attracts the noun in N (solid arrow). The inflected noun will then move to E, attracted by the abstract case feature in this head (dotted arrow).

(14)   a.   b.
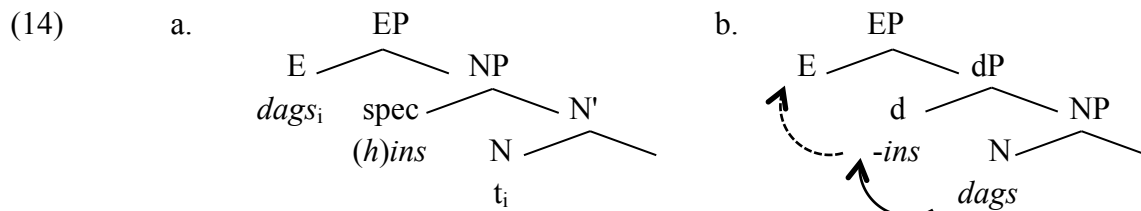
Definite noun phrases sometimes appear in very early West Norse texts with the definite morpheme as a separate word. I tentatively assume that such phrases also have the underlying structure accounted for in (14b). The definite morpheme still attracts the noun: it just does not amalgamate with it. A label other than *suffix* would certainly be appropriate in these cases, but I am hesitant about the label *clitic*, as the point is that the morpheme does not cliticize (at least not on the surface), and I refrain from going into the very extensive debate on clitics vs. affixes. Suffice it to say that I can see no argument for assuming a different structural analysis solely on the basis on the definite morpheme's character as suffix or a separate word. I just see a smooth development of the process in (13), including some intermediate instances.

4.3   A gradual change

Comparing the abstract structures in (14a–b), one may expect that the obligatorification of the definite suffix could have been carried out within a relatively short period. It is justifiable to

ask, therefore, why the development nonetheless seems so gradual. The answer, I argue, lies in the features that drive the derivation.

As the new projection above NP is identified as a little dP, we expect it to host a σ-feature. It corresponds to the σ_1-feature in full-blown article languages, but the value of this feature on the definite suffix is not initially $S \subseteq U$, but just $S \subset U$, which is what we associate with prototypical, i.e. non-generic, definiteness. A noun phrase with a head noun inflected with the definite suffix is formally definite by the force of this value on the σ-feature.

A noun phrase without a definite morpheme, on the other hand, is not indefinite (in this early stage of the language): it is unmarked with regard to definiteness, which means that any interpretation of the S as restricted or not in relation to U is possible. Thus, the interpretation is compatible with $S \subseteq U$, but importantly, this is not formally expressed in the phrase. There is no σ-feature to be valued and there is no dP in the structure.

This all means that the dP-projection is there only if the speaker chooses to express definiteness explicitly. In any other case, the old EP–NP structure still applies. But this in turn means that the EP does not have to select a dP as its complement. An NP complement will do just as well. This is not a problem, as the EP has not changed at all: it still hosts an uninterpretable categorical N-feature and selects a complement with an interpretable instance of the same feature. It can find it in an NP, where the interpretable feature is intrinsic, or in a dP with an NP-complement. In the latter case, the uninterpretable N-feature in d is already made interpretable by Agree with the interpretable feature in N.

A dP emerges when some morpheme is understood as a formal and pure definiteness marker, void of root meanings. However, real demonstratives and other semantically definite modifiers are likely to soon become associated with the formal feature as well. When a modifier is taken to host the formally definite σ-feature, it must merge in the dP. This means that the underlying abstract structure of a noun phrase with, for instance, a demonstrative is different from what it was before; cf. (15a–b).

(15)　　a.

EP
E　　　　NP
stein$_i$　spec　　　　N'
　　　þenna　N　　　　
　　　　　　t$_i$

b.

EP
　　　　　　dP
spec　　　　d'
þenna　d　　　　NP
　　　　　N　　
　　　　stein
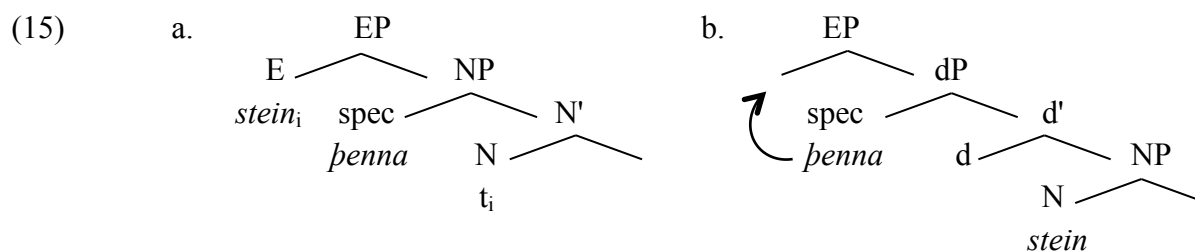
The structure in (15a) demonstrates how a phrase such as *stein þenna* 'this stone' is derived according to the older grammar, whereas the structure in (15b) shows how the demonstrative is merged above NP, in the dP. As the demonstrative in the new structure is merged in a projection closer to the EP than the noun, it could be a more preferred candidate for satisfying the case feature in EP than before, possibly because movement of the closer demonstrative is less costly than movement of the noun.

If this is on the right track, we now have two competing principles for fronting to the EP. And it seems as if the new principle was felicitous, as "noun first" yields to "modifier first", especially "definite modifier first". A contributing explanation could be that the new

principle, based on derivational economy, also had consequences for the transparency of the pragmatic principle of the older system. If modifiers that were not discourse-prominent headed more and more noun phrases, it is likely that it was impossible in the long run to maintain the discourse-related option of the older system.

Now, an optional dP and one single σ-feature do not take us the whole way to the system of the modern Scandinavian languages. So, what is the whole story?

The re-structuring of the noun phrase accounted for in (14) and (15) is in a sense a radical step. But as long as a semantically definite noun phrase did not have to be formally marked for definiteness, the option of having no dP was still available. And this transitional period seems to have lasted for some four hundred years. However, the emergence of the dP brings about a snowball effect. From this point we can see a perpetual development of, among other things, more definiteness marking and more pre-nominal attributes.

Of course, this process has an end, when interpreting unmarked noun phrases as semantically definite is no longer a natural option. At this point, the dP becomes obligatory and a clear distinction between formally definite and formally indefinite noun phrases arises. If there is no definiteness marker to satisfy the σ-feature in d, then an indefinite null morpheme is inserted instead.

The σ-value of the indefinite null morpheme is $S = U$. Thus, the value does not just spring from a formalization of how unmarked noun phrases were formerly implicitly interpreted, viz. $S \subseteq U$, in contrast to the σ-value $S \subset U$ of explicitly definite phrases. Interestingly, this leaves the σ-value $S \subseteq U$ available for the definite phrases, which is needed as soon as definite noun phrases can have generic reference. The empirical data accounted for in section 2.3 also indicate that the rise of generic uses of definite noun phrases is more or less contemporary with the obligatorification of definiteness marking in non-generic contexts (and accordingly with the obligatory precens of the dP and the specification of the indefinite value).

So far, definiteness in early Swedish (Scandinavian) has been treated as a matter that only concerns one feature, whereas definiteness in the modern language (and full-blown article languages on the whole) was associated above with two cooperating features. This reflects my view of the process. Definiteness was in a first step formally regulated on only one feature. But this is no longer possible when the value of the first σ-feature has become less precise than before. At this point there must be a definite σ_2-feature with a distinct value to maintain a clear dichotomy between definite and indefinite phrases. Leaving R unspecified would open for almost any use of definite phrases when combining with the σ_1-value $S \subseteq U$.[20]

Thus, we must assume that we have both σ_1-features and σ_2-features at the time of the obligatorification of (in)definiteness marking and the rise of generic uses of definite noun phrases. The combinations of σ-values are exactly as presented above for the modern languages. This means in turn that the EP has become a DP, i.e. a projection selecting a dP as its complement by virtue of an uninterpretable d-feature and hosting an uninterpretable σ_2-feature that attracts an interpretable lexical counterpart, e.g. the lately evolved, but now established, pre-posed definite article.

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[20] There are actually sub-varieties of Scandinavian where the "definite" forms of nouns are not definite in the normal sense, but have a much wider use than in the standard languages; see Dahl 2015.

5   Summing-up

In this paper, I have charted the development from the very emergence of the definite suffix to mandatory distinction between definite and indefinite noun phrases. In Swedish, this process seems to stretch over four or five hundred years. It is not always expected that an understanding for such a drawn-out change would come out of a minimalist analysis; minimalist analyses often seem more appropriate when a change is carried out within the space of a few generations. Nevertheless, I have tried to show that it is possible.

An important theoretical assumption is that definiteness in fully developed article languages depends on two cooperating functional features related to two different functional projections. This makes it possible to assume that definiteness was initially associated with only one of these features, which is part of the explanation. But it is also important that the indefinite noun phrases retain their character, in the sense that its leftmost projection does not change and does not require definiteness to be expressed formally and explicitly. This requirement will set in much later.

In short, the analysis states that the abstract structure of semantically definite noun phrases has developed through the stages shown in (16).

(16)   1. EP–NP   (no definiteness marking)
        2. EP–(dP)–NP   (optional definiteness marking)
        3. DP–dP–NP   (obligatory definiteness marking)

The first step of the development, the transition from stage 1 to stage 2, may appear as a minor change, but it sets the ball rolling. Once definiteness has become a formal category, this also has an impact on the noun phrase in other respects; for instance, demonstratives become associated with formal definiteness as well, and the noun phrase word order changes towards more pre-nominal modifiers.

Throughout the centuries, the use of the definite form increased steadily, but it was a long time until it reached obligatorification. Interestingly, it seems that the obligatorification of the definite suffix and the pre-posed definite article as well as the indefinite article coincide in time, which indicates that stage 2 prevailed until the formal distinction between definite and indefinite noun phrases became mandatory. If so, the structure passes in one sweep from the EP-structure of stage 2 into the modern DP-structure of stage 3. This may seem like a more dramatic change of the abstract structure than the transition from stage 1 to 2, but is maybe just the terminal point we should expect of a development that has moved towards this "goal" for several hundred years.

Considering the linguistic usage, it is probably not a question of a very conspicuous change at the former transition either. I would guess, for instance, that the structure of stage 2 is represented in only a few individuals in the 11[th] century; perhaps the rune master Visäte is one of them. The change is more discernible during the 12[th], 13[th] and 14[th] centuries, when stage 2 prevails. Seen from the outside, it is not the slow start and the final consolidation of the transition phases that appear as the most dynamic, but the period in between.

In addition, the analysis I have proposed above makes it possible to see a connection between the emergence of the definite suffix and the apparent differences concerning the noun phrase word order in the Viking age runic inscriptions and the medieval manuscripts. The

noun phrase word order has received very little attention in earlier research, despite the fact that it undergoes significant changes in Swedish, and in Scandinavian as a whole, during the Middle Ages.

Some aspects of the development of the noun phrase have not received much attention in this paper, e.g. the role of the indefinite article and the question of how the (semantically) indefinite noun phrases developed in relation to the definite. These aspects are topics for further research.

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Stroh-Wollin, Ulla. ms. The emergence of definiteness marking in Scandinavian – new answers to old questions.

Forgotten Factors in the Development of Dependent Clauses in Swedish as a Second Language

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Abstract

This paper is concerned with the acquisition of Swedish dependent clauses. In a longitudinal study of Belgian foreign language learners of Swedish, three factors were found to be of special relevance in the learner's successive acquisition of dependent clauses: (i) finiteness, i.e. the difference between finite and non-finite complements; (ii) complementizers, i.e. the acquisition of different complementizers (iii) dependent clause types, i.e. the acquisition and use of different types of dependent clauses. My study emphasizes the importance of acknowledging a wide array of structural factors besides internal word order, which has hitherto been the main focus in studies on the acquisition of Swedish dependent clauses.

1   Introduction

In the area of Second Language Acquisition in general, subordination is often linked to syntactic complexity. Relative frequency of subordination is sometimes even used as a measure of syntactic complexity in studies on linguistic complexity (Norris & Ortega, 2009). However, Baten & Håkansson (2015) recently argued that it is the internal structure of the subordinate clause, rather than its frequency ratio, which is relevant when analysing language development.

In Swedish, dependent clause word order is typically acquired late (see for instance Glahn et al., 2001) and often perceived of as a difficult feature to acquire in Swedish (Baten & Håkansson, 2015). Most studies on the acquisition of dependent clauses in Swedish language development have focused on the internal structure, but on word order almost exclusively; see, e.g., Baten & Håkansson, 2015; Glahn et al., 2001; Håkansson & Nettelbladt, 1993; Håkansson & Norrby, 2010; Hammarberg & Viberg, 1977; Hyltenstam, 1977. Word order is indeed the most obvious contrast between main and dependent clauses in Swedish. In main clauses, sentence adverbials follow the finite verb, whereas they precede the finite verb in dependent clauses[1]. This rule applies irrespectively of whether the finite verb is an auxiliary or a main verb, as illustrated in (1)–(4).

(1)   Hon berättar *aldrig* sanningen.
       She tell.PRS   never   truth.DEF
       'She never tells the truth.

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[1]   As is well known, some dependent clause types (especially narrative *att*-clauses) allow main clause word order, a phenomenon commonly referred to as embedded V2. I will not be concerned with such clauses in this paper.

(2)   Hon fick   *aldrig* veta   sanningen.
         She get.PST   never know.INF truth.DEF
         'She never got to know the truth.'

(3)   När hon *äntligen* berättade sanningen blev   hon ledsen.
         When she finally tell.PST   truth.DEF become she sad.
         'When she finally told the truth, she became sad.'

(4)   När hon *äntligen* fick   veta   sanningen blev   hon lättad.
         When she finally   get.PST know.INF truth.DEF   become she relieved.
         'When she finally got to know the truth, she became relieved.'

Given the obvious linear distinction between (1) and (2) on the one hand and (3) and (4) on the other hand, it is perhaps not surprising that most of the above-mentioned studies have focused on the placement of negation in relation to the finite verb. The problem with such a focus is that it limits the field of investigation, as most dependent clauses do *not* contain negation, after all. Hence, one has to design tests with the specific purpose of eliciting dependent clauses containing clause adverbials. Elicitation tasks always have their limitations of course, because a restricted number of clause types can be tested.

      Moreover, most of the above-mentioned studies tested the placement of negation particles in relative clauses as an only diagnostic (Baten & Håkansson, 2015; Glahn et al., 2001; Håkansson & Nettelbladt, 1993; Norrby & Håkansson, 2007). This means both that other dependent clause types and other sentence adverbials have received little attention in the literature so far.

      This article builds on a longitudinal study of 21 Dutch-speaking foreign learners of Swedish. By examining seven consecutive written texts by each informant, I have charted the linguistic development for a duration of 1 year and 3 months. The results indicate the importance of three factors that have not been discussed extensively in relation to the acquisition of dependent clauses in Swedish as a foreign language: (i) finiteness, i.e. the difference between finite and non-finite complements; (ii) complementizers, i.e. the acquisition of different complementizers (iii) dependent clause types, i.e. the acquisition and use of different types of dependent clauses. Based on these results, I conclude that we must look beyond both subordination ratio and internal word order if we want to arrive at a full understanding of the process of acquiring dependent clause structures in Swedish.

2   Dependent clauses in Swedish

In Swedish, a prototypical dependent clause is traditionally defined as an embedded clause introduced by a subordinating conjunction and containing a finite verb (Teleman et al 1999: 4, 462).[2] Three main types of dependent clauses are usually distinguished, based on their

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2 An exception to this rule is that the finite auxiliary *har/hade* 'have/had' before the supine in the perfect tense can be omitted, leaving the clause with only a nonfinite verb form:
     (i)   Han var inte full,   men han märkte   att han (hade) druckit.
            He was not drunk, but he noticed that he   had   drunk
            'He wasn't drunk, but he could feel that he had been drinking.'

grammatical function in the sentence (SAG 4: 462-472): *noun clauses*, *attributive clauses* and *adverbial clauses*. Noun clauses function as arguments to the verb and can be subjects, direct objects, predicates, appositives or objects of the preposition. Noun clauses have an obligatory syntactic function and most prominently include *att*-clauses (comparable to *that*-clauses in English) and interrogative clauses. Adjectival clauses are mainly relative clauses. Adverbial clauses can for instance express time, condition, purpose, reason, place or manner. Both adjectival and adverbial clauses are syntactically optional. An example of each clause type is given in (5)-(7) below.

(5)   Alla trodde   <u>att det inte var   sant.</u>   (noun clause)
       All   believe.PST that it   not is.PST true
       'Everyone thought that it wasn't true.'

(6)   Vi   tog   en bok <u>som du inte har   läst.</u> (SAG 4: s. 471)   (adjectival clause)
       We take.PST a   book that you not   have.PRS read.SUP
       'We took a book that you haven't read.'

(7)   Han tappade bort boken   <u>innan han hann   läsa   den.</u>   (adverbial clause)
       He   loose.PST   book.DEF before he   manage.PST read.INF it
       'He lost the book, before he managed to read it.'

Baten and Håkansson (2015, p. 532) argue that the acquisition of subordination is not difficult *per se*. They state that in a language like English, for example, there is no difference between most main and dependent clauses with regard to internal structure. Thus, they conclude that "(i)n L2 English, learners merely need to acquire (the meaning of) complementizers, to which they can add a new clause (Baten & Håkansson 2015, p.32)." Nevertheless, I would argue that this view is too simplistic: even in the lack of structural word order differences, the learner still has to acquire an understanding of different clause types. It may be that this distinction is not as relevant for learners of English compared to learners of Swedish, as dependent clause word order in Swedish can only be acquired after the L2 learner has acquired the concept of dependent clauses. But acquiring the concept of subordination might be more challenging than the word order pattern itself.

This means that whenever an L2 learner of Swedish uses incorrect (main clause) word order in dependent clauses, the error may be taken to indicate one of the following:

i)   the dependent clause word order is not yet acquired/automatized;
ii)   the learner can apply the correct word order but has not acquired the distinction between main and dependent clauses in the L2;
iii)   Neither the word order rule nor the difference between main and dependent clauses have been acquired in the L2.

In order to recognize dependent clauses, the language user can rely on subordinating conjunctions, as well as on the number of finite verbs in a sentence. These two aspects are therefore important to take into account when investigating the acquisition of dependent clauses.

3   Material

The material that was analyzed for the purpose of this paper comes from a longitudinal study including data from 21 Dutch-speaking learners of Swedish as a foreign language, starting from beginner's level. The group of learners consisted of students at Ghent University, Belgium. All learners had Dutch as their L1 and English as their strongest L2[3], and the learners' age of onset was between 17 and 22. Students with any prior knowledge of Swedish were excluded from the study. The data consists of seven free writing assignments that were obtained at seven different points in time, over a time span of one year and three months. In this context, 'free writing assignment' means that only the topic of writing was given, without further instructions. Table 1 provides an overview of these topics and the time of writing, counted from the start of the learning process.

Table 1. Topics of learners' writing assignments

Text	Time of writing (after time of onset)	Topic
1	4 weeks	Tell me about yourself
2	8 weeks	A travel story
3	12 weeks	Description of a person I like
4	6 months	Explain why behavior is also part of language
5	1 year	Advantages and disadvantages of [topic of choice]
6	1 year and 1.5 months	A childhood memory
7	1 year and 3 months	Abstract of a popular science article

Each text contained approximately 300 words, and the learners had a dictionary at their disposal while writing. The texts were not written specifically for this study, but were part of the course practice. Thus, the learners were not aware which structures were targeted.

The learner data were also compared to L1 baseline data in two types of written texts: 20 blog texts (informal) and 20 newspaper texts (formal) of a length comparable to the learner texts. The texts were randomly picked from various blogs and newspapers and analyzed in the same way as the learner texts.

4   Results: The role of variation

In this section, I present the main results from study. For every text, the dependent clauses were analyzed and classified according to the three before-mentioned types: noun clauses, relative clauses and adverbial clauses. This was done so as to get a clear picture of which clause types are used over time and in what genres. In the following subsections, I discuss each clause type in turn.

4.1   Noun clauses

Figure 1 below shows the average number of all dependent *att*-clauses per text (LT1–LT7). The error bars display the standard error for the means. The learner data were also compared to L1 baseline data in two types of written texts: blog texts (NTB: informal) and newspaper

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[3] According to self-judgment in survey questions, English was the language the participants used most frequently besides their L1 Dutch and the language they were most competent in. Many participants also had knowledge of other languages (most importantly French).

texts (NTN: formal). In the figures below, NNS stands for non-native speakers, NS for native speakers.
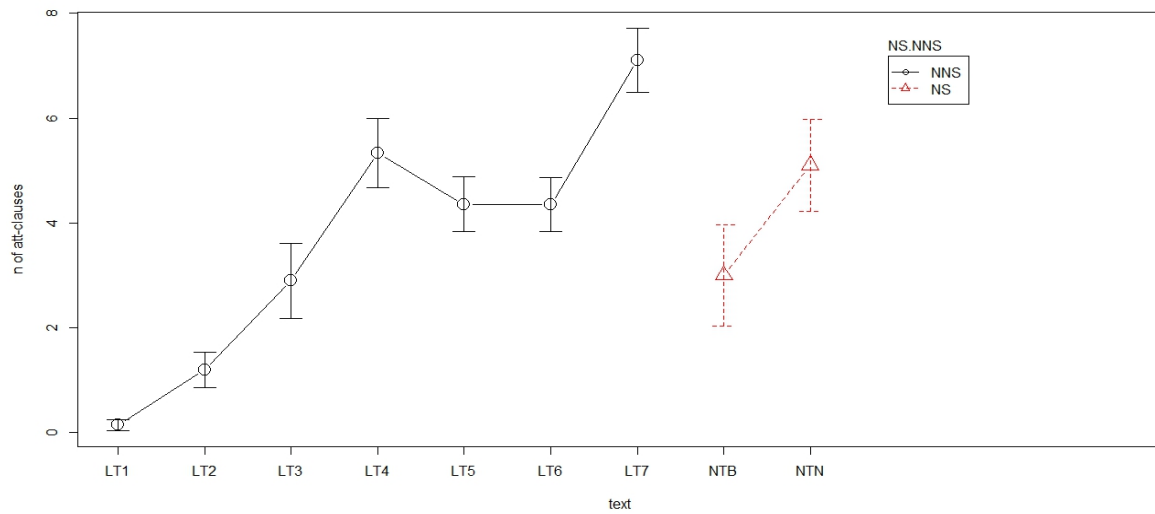
Figure 1: Plot of means for number of *att*-clauses, language learners (NNS) and native speakers (NS).

As evident from figure 1, the use of noun clauses increases linearly between text 1 (LT1), in which most learners do not use any dependent clauses, and text 4 (LT4). The frequency stabilizes in text 4 and 5 but reaches a peak in text 7. In the native speakers' texts the frequency of *att*-clauses is higher in the more formal newspaper texts than the informal blog texts. However, the frequency of noun clauses in the texts written by native speakers is comparable to the frequency in the learner texts from learner text 3 onwards.

4.2   Relative clauses

Figure 2 below shows the average number of all dependent relative clauses per text (LT1–LT7). The error bars display the standard error for the means. The learner data were also compared to L1 baseline data in two types of written texts: blog texts (NTB: informal) and newspaper texts (NTN: formal).
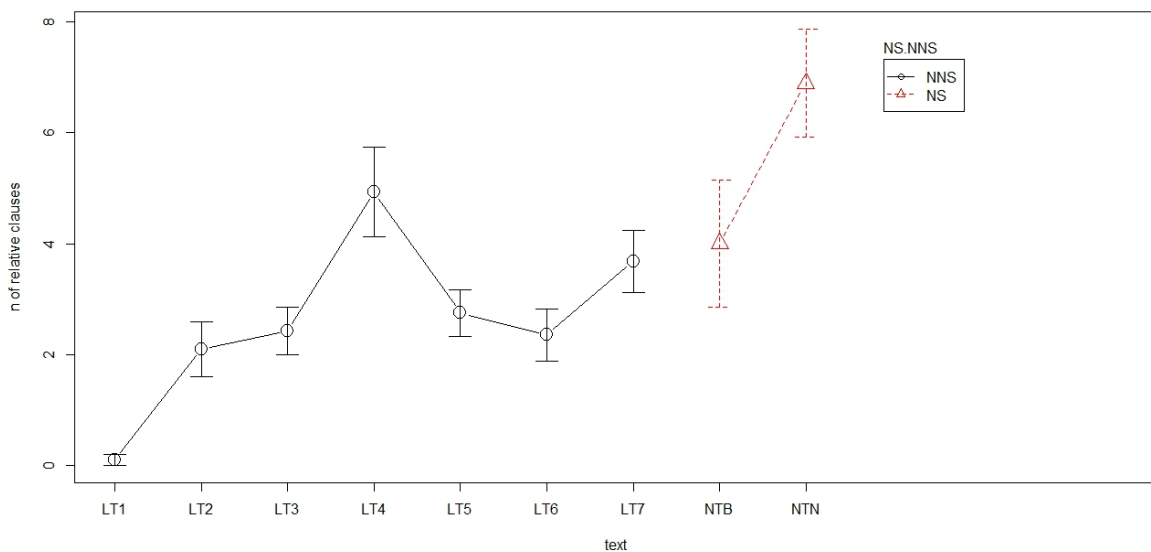
Figure 2: Plot of means for number of relative clauses, language learners (NNS) and native speakers (NS).

As illustrated in figure 2, the frequency ratio of relative clauses is slightly different from *att-*clauses. The first relative clauses appear in text 2 (LT2) and the relative frequency is similar in text 3 (LT3); in both texts relative clauses are less frequent than in the two text types by native speakers. The number of relative clauses substantially increases in text 4 (LT4), but drops again in text 5 (LT5) and 6 (LT6), again below the frequency of the native texts. The number of relative clauses shows a slight increase in the last text (LT7), but it does not reach the frequency of text 4. Thus, the number of relative clauses does not top out in the last text, in contrast to the number of noun clauses. By the last text, the frequency is still not quite native-like. In fact, the native blog text (NTB) has a higher frequency of relative clauses than every learner text, with the exception of learner text 4. The more formal newspaper texts (NTN) have a higher frequency of relative clauses than all learner texts.

4.3   Adverbial clauses

Figure 3 below shows the average number of all dependent relative clauses per text (LT1–LT7). The error bars display the standard error for the means. The learner data were also compared to L1 baseline data in two types of written texts: blog texts (NTB: informal) and newspaper texts (NTN: formal).
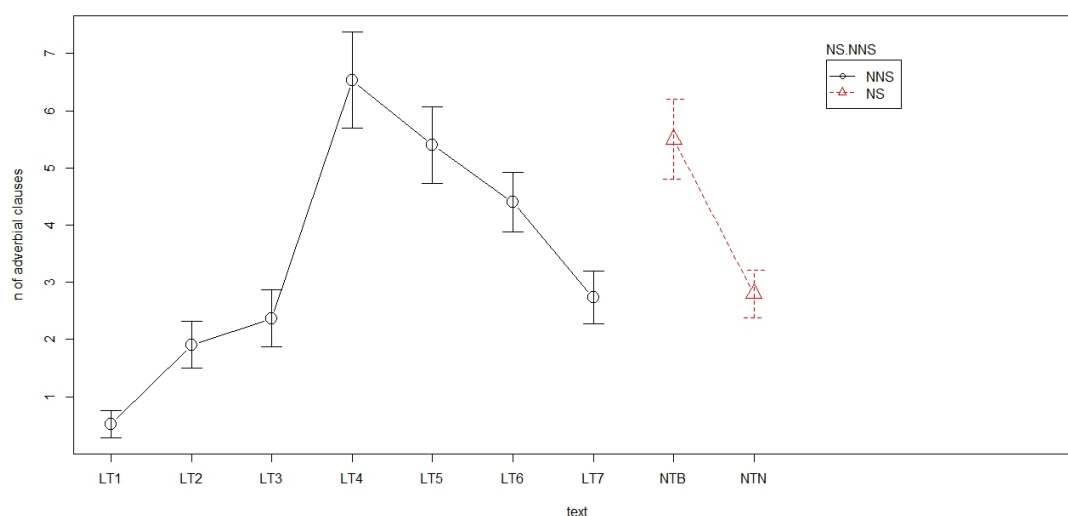
Figure 3: Plot of means for number of adverbial clauses, language learners (NNS) and native speakers (NS)

As illustrated in figure 3, the relative frequency of adverbial clauses in the learner texts shows a rather remarkable development. The number of adverbial clauses steadily rises in the first four texts and peaks at text 4 (LT4); in this text, the ratio of adverbial clauses is higher than in any of the two native text types. This can be explained by the high number of adverbial clauses introduced by *när* 'when'. Some examples of this are given in section 5.1 below. After text 4, however, the number of adverbial clauses decreases for each of the following texts. The number of adverbial clauses in the last text (LT7) is equal to the number of adverbial clauses in text 3 (LT3). By the last text, the frequency of adverbial clauses is similar to that of the newspaper texts. The frequency of adverbial clauses was higher in the blog texts than in the newspaper texts.

4.4   Intermediate conclusion

As was shown in figures 1–3, the use of dependent clauses in all dependent clause types increases between text 1 and text 4. After text 4, there is more variation between the different dependent clause types. From this moment in the development, frequencies are not as informative. This is especially so, since the L1 baseline data show very similar frequencies, at least for nominal and adverbial clauses. Compared to learners, native speakers tend to use more relative clauses than learners, but this only holds for the newspaper texts, indicating that there is an effect of text register on dependent clause types used. In the texts by native speakers, the number of noun clauses and relative clauses are higher for the newspaper texts than for the blog texts. The opposite is true for adverbial clauses, although the difference is only statistically significant for adverbial clauses (ANOVA: F= 10.92, P< 0.005). The effect of text type could of course also hold for the learner texts, which strengthens the idea that frequencies alone are not sufficient measures for development.

Given that this is a longitudinal study, it is possible to look at the individual development in more detail. This will be done in the next section.

5   Individual variation

In this section, I look at three distinct aspects that – according to my study – seem to play an important role in the acquisition of Swedish subordinate clauses: (i) clause types (ii) complementizers and (iii) finiteness. Let us look at each aspect in turn.

5.1   Dependent clause types

When looking at individual results, clause types are not always equally distributed. In general, many learners start using dependent clauses more frequently in text 2 or 3, but most of these clauses are of the same type and/or have a similar structure. Some learners rely on one or two clause types only, many use one clause type far more frequently than other types, although the choice of clause type can vary for each text. In their later development, the learners show a more varied use of clause types.

The gradual development can be illustrated by the acquisition of one particular learner, SDN in this study. Almost all of SDN's dependent clauses in text 3 are adverbial clauses introduced by *när* 'when'. Text 3 also marks the beginning of SDN's use of dependent clauses. Some examples from text 3 are given in (8)–(10) below.

(8)   <u>När han skrattar</u>, han har gropar i kinderna.
       'when he smiles, he has dimples in his cheeks.'

(9)   <u>När vi går på restaurang med vår släkten</u>, han ha en svart kostym på sig.
       'When we go.PRES to a restaurant with our family, he wear.INF a black costume.'

(10)   <u>När är vi på resa</u>, då tror man som vi är tvillingar.
       'When we are on a trip, then people think that we are twins'

The constructions in (8)–(10), are identical: each sentence starts with an adverbial clause introduced by *när* 'when' and is followed by a main clause. In (8) and (9), the subject does not invert, resulting in (ungrammatical) V3 word order. These examples indicate that SDN has not yet acquired subject-verb inversion, which is necessary for the V2 constraint (note that the same inversion rule applies to SDN's mother tongue Dutch). The fact that learner SDN uses commas might also indicate that the two clauses are analysed as two separate main clauses. In (10), however, SDN does use the correct, inverted word order after the adverbial clause, though this particular construction contains a doubling adverbial. Still, the adverbial clause is separated by a comma, and has the non-targetlike word order of a main clause *wh*-interrogative. From these three examples we may thus conclude that SDN has not yet required a distinction between main and subordinate clauses in Swedish, but rather treats the adverbial clause and the main clause as two separate main clauses.

The fact that many learners hold on to a very limited number of dependent clause types can mark a learner strategy. It also suggests that much interesting information is lost if we only test one type of dependent clauses in the development of learners, especially because dependent clause word order is sometimes used in one dependent clause type but not in others. Overall, many learners in this study are rather conservative in their choice of dependent clause types, complementizers and sentence structures. Moreover, the difference between native speakers of Swedish and L2 learners was biggest for the frequency of relative clauses, which is exactly the clause type that has been investigated most frequently in studies on Swedish word order acquisition (Baten & Håkansson, 2015; Glahn et al., 2001; Håkansson & Nettelbladt, 1993; Norrby & Håkansson, 2007). Therefore it is important to be aware of the differences between dependent clause types and look at other clause types as well.

5.2　Complementizers

Another issue concerns the use of complementizers. As a possible transfer from Dutch (or English), some learners overuse the relative pronoun *som* 'which/who'. The Dutch equivalent *dat* (and English *that*) can be used to introduce relative as well as nominal clauses; in Swedish, declarative nominal clauses must be introduced by *att* 'that'. Overall, the variety of complementizers used is limited. Often there is a clear pattern in the texts, showing that most learners tend to use only a couple different complementizers within a text, which corresponds to the limited variation in dependent clause types. As already mentioned, adverbial clauses with *när* are overrepresented in the first learner texts, and are also overused in contexts where another subordinating conjunction would be used in the target language.

Other learners, like the learner CDU in this study, use other clause types as a kind of default. CDU starts using dependent clauses in text 2; in this text, 7 out of 8 dependent clauses are relative clauses.

(11)　Den är en stad <u>var gamla romarna bodde förr</u>!
　　　'That is a city where old Romans lived in the past!'

(12)　Det är slottet <u>var kung Henry VIII bodde förr</u>.
　　　'That is the castle where King Henry VIII lived in the past.

(13)   London var den sista stad <u>som vi besökte under vår resa.</u>
        'London was the last city which we visited during our trip.'

CDU also seems to have a transfer problem with the choice of subordinators. In the learners'
native language Dutch, as well as in the L2 English, *waar/where* is used to introduce spatial
relative clauses. However, in the target language Swedish *där* 'there' should be used. The
word order is grammatical, but as none of the subordinate clauses contains an adverbial, the
underlying structure cannot be deducted from these examples. Note also that sentence (11)–
(13) are structurally very similar; they all start with the subject followed by a copula verb and
the predicate which is specified by a relative clause.
        The use of complementizer can also indicate other learning difficulties. A good exam-
ple concerns the subordinating conjunction *att*. The word is homonymous with the Swedish
infinitive marker, a fact that can lead to a mix-up of verb forms after either of them. In (14)
below, *att* is an infinitive marker; in (15) *att* is a subordinating conjunction.

(14)   Han gillar *att* laga   mat.
        He   likes to make.INF food
        'He likes to cook.'
(15)   De   sa   *att* de   skulle komma.
        They said that they will.PST come.INF'
        They said that they would come'

(16)   De   kommer *och* de   tar   med kaffe och kakor.
        They come.PRS and they take.PRS with coffee and cookies
        'They are coming and they will bring coffee and cookies.'

Phonetically, there is a difference in pronunciation between the two homonyms. Subordinat-
ing *att* is pronounced [at:], whereas the infinitive marker *att* is often pronounced [ɔ]. This
does not necessarily simplify the situation, however, since the infinitive marker and the
coordinating conjunction *och* 'and' are homophones. This means that *att* (infinitive marker)
and *att* (complementizer) in examples (14) and (15) respectively are homonyms, whereas *att*
(complementizer) and *och* (coordinator) in examples (14) and (16) respectively are homo-
phones.
        It is reasonable to assume that these similarities between important clause-linking
words may lead to confusion for learners of Swedish, especially with verbs that can take both
infinitival and finite *att*-complements as their arguments, such as *vilja* 'want' and *låtsas* 'pre-
tend'. This complicates the process of learning the difference between main clauses, depend-
ent clauses and non-finite clauses, which leads us to another factor in the development of
dependent clauses.

5.3 Finiteness
Another frequently occurring problem found in the data, which is related to the acquisition of
subordination, is the choice of verb forms. In Swedish, verb morphology is rather poor: verbs
are only inflected for tense and imperative mood. As a result, the morphological differences
between finite and nonfinite verb forms are limited. In (39) above, for instance, the infinitive

ha 'have' was used in the main clause instead of the finite form *har*. Consider the following example sentences from text 7 of learner EDS:

(17) Till sist påpekar Parkvall att möjligheten för att uttrycka sig **inte** <u>är</u> beroende av vilket språk någon <u>tala</u>, för att det <u>finns</u> **alltid** ett sätt för att uttrycka sig. 'Finally, Parkvall points out that the possibility to express yourself <u>is</u> **not** dependent on which language someone **speak.INF,** because there <u>is</u> **always** a way *(for) to express yourself.'

(18) Man kan återkomma från en resa och <u>har</u> **bara** sett turistiska sida av landet. You <u>can.PRS come.INF</u> back from a journey and **just** have.PRS seen the touristy side of the country

Sentence (17) and (18) illustrate all before-mentioned problems: word order, choice of complementizers and finiteness, which can all be explained by the learner's confusion about clause boundaries. First, the verb *tala* has the infinitive form, leaving the relative clause without a finite verb, which is ungrammatical. In sentence (18) on the other hand, the same language learner uses the finite form *har* instead of the infinitive *ha*, which would be grammatical, because the sentence contains two coordinated VPs with the auxiliary *kan* 'can'. It is likely that the learner analyzed the part after the conjunction 'and' as a main clause and therefore chose the finite verb form. This hypothesis is supported by the word order in the sentences, which leads us to the second problem.

In (18), the sentence adverb *bara* 'just' follows the finite verb, so the learner chose to apply the main clause word order, hence the selection of the finite verb form. In sentence (17), the sentential adverbial *inte* 'not' precedes the finite verb, so the learner used dependent clause word order, which is grammatical. In the second part of the same sentence the adverbial *alltid* 'always' follows the finite verb, meaning that the main clause word order is applied in the dependent *att*-clause. This means that either word order is not acquired yet, or that the learner wrongly analyzes dependent clauses as main clauses and vice versa. The second explanation seems plausible, because the word order is used correctly in other clauses. Furthermore, it can be the case that the learner recognizes only certain sentence adverbials. Negation particles are used frequently and they are often given as the main example of sentence adverbials in the classroom. Therefore it is not surprising that the dependent clause word order is applied when the clause includes negation but not other sentence adverbials.

6 Conclusion

In this paper some preliminary results from a longitudinal study on the acquisition of dependent clauses in Swedish as a foreign language were presented. In the area of Second Language Acquisition, subordination is often linked to syntactic complexity and the relative frequency of subordination is even frequently used as a measure of syntactic complexity. My study has shown that the ratio in itself is not sufficient, as the learners often fall back on different strategies, such as repeating the same dependent clause type or making use of only a few different types. Consequently, we have to look more closely at the kind of subordinate clauses the learners use.

Following Baten & Håkansson (2015), I looked at the internal structure of the subordinate clause instead of its frequency ratio. Besides word order, finiteness of the complement and choice of complementizers were looked at briefly, because these are factors that the learner can use to both identify and produce dependent clauses. In many cases there seems to be a clear interplay between word order and the factors considered in this paper. Main clause word order is often linked to ungrammatical use of finite/non-finite complements and non-native like use of complementizers. Furthermore, the learners in this study were often conservative in their use of dependent clause types as well as complementizers, often repeating the same constructions and patterns within the same text. This raises the question whether the learners acquire several dependent clause patterns rather than the category of dependent clauses in general. It also stresses the importance of investigating various dependent clause types, as well as various sentence adverbials, because this possibly has important implications for the learning development. The data have to be scrutinized further to find out whether the interplay between the investigated factors is systematic for all learners.

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