# WORKING PAPERS IN SCANDINAVIAN SYNTAX

## Volume 55

# V°-TO-I° MOVEMENT AND INFLECTION FOR PERSON IN ALL TENSES

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ABSTRACT

Different ways are considered of formulating a connection between the strength of verbal inflectional morphology and the obligatory movement of the finite verb to I° (i.e. to the left of a medial adverbial or of negation), and two main alternatives are arrived at. One is from Rohrbacher (1994:108): V°-to-I° movement iff 1st and 2nd person are distinctively marked at least once. The other will be suggested in section 3: V°-to-I° movement iff all "core" tenses are inflected for person. It is argued that the latter approach has certain both conceptual and empirical advantages (e.g. when considering the loss of V°-to-I° movement in English).

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# 1. Introduction: V°-to-I° movement

SVO-languages fall into two groups, when one considers the relative order of the finite verb and e.g. an adverbial that occurs between the subject and the complement of the verb: Either the finite verb must follow the adverbial, as in English[1], Danish, (modern spoken) Faroese and also Norwegian and Swedish, see (1), or the finite verb must precede the adverbial, as in Icelandic, Yiddish, and French, see (2).

```
(1)  a. En.  That  John  often  eats   tomatoes   (surprises most people)
     b. Da.  At    Johan ofte   spiser tomater    (overrasker de fleste)
     c. Fa.  At    Jón   ofta   etur   tomatir    (kemur óvart á tey flestu)
     d. Ic. *Að    Jón   oft    borðar tómata     (kemur flestum á óvart)
     e. Yi. *Az    Jonas oft    est    pomidorn   (is a xidesh far alemen)
     f. Fr. *Que   Jean  souvent mange des tomates (surprend tout le monde)

(2)  a. En. *That  John  eats   often  tomatoes   (surprises most people)
     b. Da. *At    Johan spiser ofte   tomater    (overrasker de fleste)
     c. Fa. *At    Jón   etur   ofta   tomatir    (kemur óvart á tey flestu)
     d. Ic.  Að    Jón   borðar oft    tómata     (kemur flestum á óvart)
     e. Yi.  Az    Jonas est    oft    pomidorn   (is a xidesh far alemen)
     f. Fr.  Que   Jean  mange  souvent des tomates (surprend tout le monde)
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For more examples of this difference[2], see Rohrbacher (1994:30-67), Vikner (1995:132-

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[1]In all languages except English, all finite verbs behave alike. In English, however, the claim that the finite verb must follow the adverbial only holds for main verbs. All finite forms of the modal verbs and of the verb *be* precede the adverbial, whereas the verbs *have* and *do* precede the adverbial when used as auxiliaries modals but not (*do*) or only rather marginally (*have*, contra Pollock 1989:368, (6e-h)) precede the adverbial when used as main verbs.

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(i)  En. a.  Peter will  probably be at the party                        (modal verb)
         b.  Peter was   often    very polite                            (be as main verb)
         c.  Peter was   often    asked about his past                   (be as auxiliary)
         d.??Peter has   often    problems with his computer             (have as main verb)
         e.  Peter has   often    had problems with his computer         (have as auxiliary)
         f. *Peter does  never    the dishes                             (do as main verb)
         g.  Peter did   not      do the dishes                          (do as auxiliary)
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The alternative sequence, the finite verb following the adverbial, is either always possible (*do* and *have* as main verbs, (id,f)) or possible e.g. when stressed or focussed (as pointed out by Richard Kayne, p.c., though see also e.g. Pollock 1989:370, n8):

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(ii)  En.  Who will be at the party? Peter probably will
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This order (adverbial - finite verb) is never possible for any finite verbs in the languages that allow all types of finite verbs before the adverbial, e.g. Icelandic, Yiddish, and French.
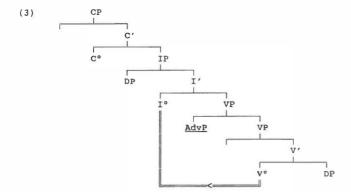
[2]In the French examples above, the verb is subjunctive rather than indicative. There is however no relevant difference between subjunctive and indicative with respect to the relative position of the verb and the adverbial (neither in French nor in Icelandic, the only other one of the languages in question to have relatively widely used subjunctive):

151), and many others.

　　　Following Emonds (1978) and Pollock (1989), this difference has been frequently discussed in the literature, see e.g. Holmberg & Platzack (1988, 1990), Platzack & Holmberg (1989), Chomsky (1991), Roberts (1993), Rohrbacher (1994), various contributions to Hornstein & Lightfoot (1994), and Vikner (1995), which all analyse it as a question of whether the verb has undergone movement.[3] In (1), the finite verb occurs in its base position, i.e. immediately preceding an object or a non-finite verb, whereas in (2), it has undergone V°-to-I° movement, that is, movement to the position where the inflectional endings are taken to be base-generated. This movement is illustrated in (3), where the medial adverbial is taken to be adjoined to VP.

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(i)    Fr.    Jean ne croit    pas ...
               Jean      believes not ...

                           I°        Adv     V°
       a.  ... que  la  lune soit       vraiment          faite de fromage
       b. *... que  la  lune            vraiment soit     faite de fromage
           ... that the moon is(subj.) really  is(subj.) made  of cheese

(ii)   Fr.    Jean croit    ...
              Jean believes ...

                           I°        Adv     V°
       a.  ... que  la  lune est       vraiment          faite de fromage
       b. *... que  la  lune           vraiment est      faite de fromage
           ... that the moon is(ind.) really  is(ind.) made  of cheese

                                  I°        Adv     V°
(iii) Ic. a.  Jón segir að  tunglið sé       reyndar          úr osti
          b. *Jón segir að  tunglið          reyndar sé       úr osti
              Jón says  that moon-the is(subj.) really  is(subj.) of cheese

                                  I°        Adv     V°
(iv)  Ic. a.  Jón veit að  tunglið er       reyndar          úr osti
          b. *Jón veit að  tunglið          reyndar er       úr osti
              Jón knows that moon-the is(ind.) really  is(ind.) of cheese
                                            based on Thráinsson (1991:119, (175))
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[3]Schäufele (1995) argues against such an analysis, taking Italian, Serbo-Croat, and Vedic Sanskrit to provide counterexamples. However, as Schäufele (1995:11-13) admits, for each of the these three cases, there are various problems with his alternative analyses.

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(3)

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                    CP
            ┌────────┴────────┐
                             C'
                     ┌────────┴────────┐
                    C°               IP
                             ┌────────┴────────┐
                            DP               I'
                                     ┌────────┴────────┐
                                    I°              VP
                                            ┌────────┴────────┐
                                          AdvP              VP
                                                    ┌────────┴────────┐
                                                                     V'
                                                             ┌────────┴────────┐
                                                            V°               DP
```

In this paper, I shall leave aside the exact nature of the landing site (including the question of whether I° should be split up into two elements, Agr° and Tns°, see e.g. Pollock 1989:383, Belletti 1990:27 or Chomsky 1991:433), and concentrate on what exactly triggers this movement of the finite verb. I shall follow the general suggestion first made by Kosmeijer (1986) that the presence or absence of V°-to-I° movement is linked to the strength of inflection, but I will argue below (against most other treatments, including Vikner 1995:136) that all tenses, not only the present tense, are relevant, as the crucial sign of a strong inflection is that person inflection occurs in every tense.

In section 2, I discuss various suggestions already made in the literature of how to formulate a link between the strength of verbal inflectional morphology and the obligatory movement of the finite verb to I°, showing that the most convincing suggestion is the one made by Rohrbacher (1994). Where section 2 goes through different positions actually suggested in the literature, the various suggestions in section 3 are only various possibilities on the way to my final alternative formulation of the link between inflection and V°-to-I° movement. Section 4 discusses the different diachronic consequences of the two analyses and section 5 contains the conclusion.


## 2. Agreement inflection

In the rest of this paper, it will be assumed that there is a link between the "strength" of verbal inflectional morphology and the obligatory movement of the finite verb to I° (i.e. to a position left of a medial adverb), as first suggested by Kosmeijer (1986).

Before discussing exactly how to define "strong" inflection, here are first the relevant verbal paradigms of the relevant languages:[4]

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[4] *ju*. is an abbreviation for the Dutch 2nd person plural pronoun *jullie*, and *ji*. stands for the Frisian 2nd person plural pronoun *jimme*. The French singular and 3rd person plural forms *écoute, écoutes, écoute, écoutent* are all pronounced the same: [e'kut].

(4)  *hear*, infinitive, imperatives, participles, and simple present indicative:

| | English | | Danish | | Faroese | Icelandic |
|---|---|---|---|---|---|---|
| Infinitive | hear | | høre | | hoyra | heyra |
| **Imperative** | | | | | | |
| Singular | hear | | hør | | hoyr | heyr |
| Plural | hear | | hør | | hoyr(ið) | heyrið |
| **Participles** | | | | | | |
| Present | hearing | | hørende | | hoyrandi | heyrandi |
| Past | heard | | hørt | | hoyrt | heyrt |
| **Present** | | | | | | |
| 1st sing. | I | hear | jeg | hører | eg hoyri | ég heyri |
| 2st sing. | you | hear | du | hører | tú hoyrir | þú heyrir |
| 3st sing. | he | hears | han | hører | hann hoyrir | hann heyrir |
| 1st plur. | we | hear | vi | hører | vit hoyra | við heyrum |
| 2st plur. | you | hear | I | hører | tit hoyra | þið heyrið |
| 3st plur. | they | hear | de | hører | tey hoyra | þeir heyra |
| Different forms | 2 | | 1 | | 3 | 5 |

| | Dutch | | Frisian | | German | Yiddish | French | |
|---|---|---|---|---|---|---|---|---|
| Inf. | horen | | hearre(n) | | hören | hern | écouter | 'listen' |
| **Imp.** | | | | | | | | |
| Sg. | hoor | | hear | | hör | her | écoute | |
| Pl. | horen | | hear | | hört | hert | écoutez | |
| **Part.** | | | | | | | | |
| Prs. | horend | | hearrend | | hörend | herndik | écoutant | |
| Pst. | gehoord | | heard | | gehört | gehert | écouté | |
| **Pres.** | | | | | | | | |
| 1sg. | ik | hoor | ik | hear | ich höre | ikh her | j' | écoute |
| 2sg. | je | hoort | dû | hearst | du hörst | du herst | tu | écoutes |
| 3sg. | hij | hoort | hy | heart | er hört | er hert | il | écoute |
| 1pl. | we | horen | wy | hearre | wir hören | mir hern | nous | écoutons |
| 2pl. | ju. | horen | ji. | hearre | ihr hört | ir hert | vous | écoutez |
| 3pl. | ze | horen | hja | hearre | sie hören | zey hern | ils | écoutent |
| Forms | 3 | | 4 | | 4 | 4 | 3 | (1/3s=2s=3p) |

Dutch, Frisian and German are only included for the sake of morphological comparison, as it is very difficult or even impossible to determine whether these three SOV-languages have V°-to-I° movement or not (see e.g. Haider 1993:58-66, Koopman 1995, Schwartz & Vikner 1995:46-50, and Vikner 1995:152-157).

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## 2.1 V°-to-I° movement if there is any inflection

If there is a connection between strength of inflection and V°-to-I° movement, the simplest version of such a hypothesis must be one that says that there should be V°-to-I° movement if there is any verbal inflection at all (i.e. if the finite verb shows any agreement with the subject as to person or number), and that only in the complete absence of such inflection would it be possible for the finite verb to occur in its base position (to the right of the medial adverbial). Such a very simple version of the hypothesis is clearly wrong, as it would predict that only those languages which have no person/number inflection at all (i.e. Danish and also Norwegian, and Swedish) have no V°-to-I° movement. However, as we saw in (1) and (2) above, more languages lack V°-to-I° movement than these three, namely also (at least) English and Faroese.[5]

## 2.2 V°-to-I° movement if I° is strong

The next logical possibility is to say that mere presence of inflection is not enough to trigger V°-to-I° movement, but that inflection has to be "strong". In other words, the crucial difference is no longer between any inflection and no inflection but between a relatively rich inflectional system and a relatively poor one. This is the view defended in the papers that were the first to suggest a link between inflection and V°-to-I° movement: Kosmeijer (1986), Holmberg & Platzack (1988, 1990), and Platzack (1988), which all discuss the Scandinavian languages (as opposed to Emonds 1978 and Pollock 1989 which deal with English and French).

Saying that a "strong" inflectional system (i.e. the presence of a substantial number of distinctions on the finite verb w.r.t. person and number) are needed to cause V°-to-I° movement to take place is not very interesting if we do not try to answer the question of exactly how high the number of distinctions has to be in order to count as substantial. This brings us to a very serious problem for this version of the hypothesis, namely that both Faroese and French have three different forms, but whereas French has V°-to-I° movement, (modern spoken) Faroese does not.

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[5]As for the question how the stems of the finite verbs in English and Faroese are united with their inflectional endings (-s in English 3sg, -i in Faroese 1sg, -(i)r in Faroese 2sg and 3sg), at least two possibilities exist:

One possibility is that these inflectional elements are actually base-generated in I°, and subsequently moved downwards to join up with the verb in the base-generated position of the latter. This idea is found in Emonds (1976, 1978), Pollock (1989), Chomsky (1991), Rizzi (1990:22-24), among others, and it is ultimately derived from the affix hopping analysis of Chomsky (1957).

Another possibility is that the verb is already fully inflected when it is taken from the lexicon and inserted at D-structure. Its inflection is then "checked against" the features of the functional heads that it moves through during the course of the derivation, irrespective of whether this movement takes place at S-structure (e.g French) or at LF (e.g. English or Faroese). In this case, says Chomsky (1993:28), "we need no longer adopt the Emonds-Pollock assumption that in English type languages I lowers to V. V will have the inflectional features before Spell-Out in any event, and the checking procedure may take place anywhere, in particular, after LF movement. French-type and English-type languages now look alike at LF, whereas lowering of I in the latter would have produced adjunction structures quite unlike those of the raising languages."

## 2.3 V°-to-I° movement if there are distinctions in person

An alternative to the idea of "substantial number of distinctions" is given by Platzack (1988:233) and Platzack & Holmberg (1989:70), who suggest that V°-to-I° movement is triggered by the existence of distinctions between different persons. This is done in order to account for the following difference: In the Swedish dialect Älvdalsmålet (spoken in Dalecarlia, western central Sweden) there are both number and person distinctions, whereas in the Norwegian dialect Hallingmålet (central southern Norway) the verb is only inflected for number, not for person. The following paradigms are based on Levander (1909:62-63, 80, 84-88)(Älvdalsmålet) and on Venås (1977:156, 164, 167, 177, 188)(Hallingmålet):

(5)　　*hear*, infinitive, imperatives, participles, and simple present indicative:

| | Älvdalsmålet (Sweden) | Hallingmålet (Norway) |
|---|---|---|
| Infinitive | höra | høyræ |
| Imperative Singular | höre | høyr |
| Imperative Plural | hörir | høyr |
| Present Participle | hörend | høyran |
| Past Participle | hört | høyrt |
| Present 1st sing. | ig hörer | e høyre |
| 2st sing. | du hörer | du høyre |
| 3st sing. | an hörer | hann høyre |
| 1st plur. | uir hörum | me høyræ |
| 2st plur. | ir hörir | de høyræ |
| 3st plur. | dier höra | dæi høyræ |
| Different forms | 4 | 2 |

Only Älvdalsmålet has V°-to-I° movement (negation taking over the role of the medial adverb as an indication of whether V°-to-I° movement has taken place):

<pre>
                               I°   Neg
(6)   Äd.  Ba   fo dye at   ig uild int fy    om
           Just because that I  would not follow him
                        (from Levander 1909:123, see also Platzack & Holmberg 1989:70)
</pre>

<pre>
                               Neg   V°
(7)   Hd.  Kall me ko   ru vill, bærræ   ru  ikkji kalla me æin dretukjæse
           Call me what you will, if-only you not   call   me a     turd-rennet
                   (from Venås 1977:243, see also Trosterud 1989:91 and Platzack & Holmberg 1989:70)
</pre>

However, like the previous version of the hypothesis, this one also predicts that Faroese and French should both have V°-to-I° movement, which is not correct for Faroese. Taking into account that French does and (modern spoken) Faroese does not have V°-to-I° movement, Platzack & Holmberg's suggestion would have to be amended

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to say that what counts is whether person distinctions are present in the plural (and that the singular is irrelevant), as is indeed suggested in Roberts (1993:267, (58)).

## 2.4 V°-to-I° movement if overt distinct number morphology

The obvious question then is why plural rather than singular (if person distinctions in singular rather than in plural were relevant, we would expect Faroese but not French to have V°-to-I° movement, exactly contrary to fact). In order to avoid this problem, Roberts (1993:272, (65)) suggests that V°-to-I° movement is triggered by the existence of "overt distinct number morphology". In Älvdalsmålet, there are distinct endings which are marked plural, -um ,-er, and also one which is marked singular, -ar, which is sufficient to trigger V°-to-I° movement. In Hallingmålet, on the other hand, there is a distinct ending marked singular, -e, but no distinct plural ending, as Roberts takes the plural form to have no ending at all, cf. that it is identical to the infinitive.

Applying this version of the hypothesis to the languages discussed above, we obtain the correct predictions that Icelandic, Yiddish, and French (like Älvdalsmålet) all have V°-to-I° movement and that English, Danish, Faroese, and also Norwegian and Swedish (like Hallingmålet), on the other hand, do not have V°-to-I° movement.

Roberts (1993:335, n11) presupposes that distinct endings are present in the underlying forms in the singular in French (an assumption which goes back at least to Schane 1968:69). Otherwise French would be like Hallingmålet and Faroese, except that here it would be singular rather than plural which was marked by absence of endings, rather than by distinct endings.

In Danish, Norwegian, and Swedish, distinct endings are present, cf. that in Danish the present tense form, hører, is distinct from both the infinitive, høre, and the imperative, hør. But although there are distinct endings in the present tense in these three languages, they can be analysed as endings of tense, and not of person/number, as they are the same in all persons in both singular and plural. Historically (see also section 4.3 below), Middle Danish had a system like Hallingmålet, a distinct ending in the singular, -ær, but the plural was identical to the infinitive, -æ. When the singular ending generalised to the plural (a process starting in the west of Denmark before 1400, probably completed in the spoken language around 1600, Skautrup 1947:355, though the plural forms only disappeared completely in print around 1900), it also lost its number significance, and became a marker of tense.

English and Faroese on the other hand are very much like Hallingmålet, in that they have distinct endings which are marked singular, English -s (3sg), Faroese -i (1sg) and -ir (2sg, 3sg), but apparently no distinct plural endings. Roberts (1993) assumes that the plural forms in both languages have no ending at all, cf. that they are identical e.g. to the infinitive.

This is actually not true for Faroese, as shown in Rohrbacher (1994:100-102): Consideration of Faroese verbs from other conjugational classes indicates that the plural form cannot generally be assumed to be identical to the stem. Whereas it is true for the verb given by Roberts (1993:267) kasta 'throw' that the same form is used in present tense plural, in infinitive, and in imperative singular, it does not hold for verbs from

other classes, e.g. the one given in (4) above, *hoyra* 'hear'. Here it is clear that the present tense plural *hoyra* consists of more than the stem, given that the imperative singular is only *hoyr*. The same argumentation applies to Hallingmålet, also here the imperative singular, *høyr*, shows that the present tense plural form *høyræ* consists of more than the stem. This would mean that also from the point of view of Roberts' (1993:267) criterion, Faroese and Hallingmålet would be parallel to French: All three have overt distinct number morphology, even though only the latter has $V°$-to-$I°$ movement.

## 2.5   $V°$-to-$I°$ movement iff 1st and 2nd person are distinctively marked

Rohrbacher (1994:108, 118, 128) therefore suggests a different formulation of the link between verbal inflection and $V°$-to-$I°$ movement:[6]

(8)   <u>The paradigm-verb raising correlate</u>
A language has $V°$-to-$I°$ movement if and only if in at least one
number of one tense of the regular verbs, the person features [1st]
and [2nd] are both distinctively marked.          (Rohrbacher 1994:108)

Rohrbacher goes on to define "distinctively" as meaning that 1st and 2nd person forms have to differ from each other, from the 3rd person form, and from the infinitive form.

Whereas this holds for the plural of the French present tense, it does not hold for the plural of the Faroese present tense, where 1st, 2nd, and 3rd person are identical to each other and to the infinitive, and more importantly it does not hold for the singular of the Faroese present tense either, where 2nd and 3rd person are identical to each other. In Icelandic and in Älvdalsmålet, the condition is fulfilled by the plural of the present tense, whereas in Yiddish it is the 1st and 2nd person singular of the present tense that are distinctively marked.

All predictions made by Rohrbacher's version of the hypothesis are factually correct, as far as I am aware, which is also why it is adopted in Vikner (1995:136). Nevertheless at least three different objections may be raised: (a) Why only 1st and 2nd but not 3rd person? (b) The definition of distinctiveness is not particularly intuitive, and (c) the amount of elements that the child has to keep track of during acquisition is rather large.

The first objection is that it is not intuitively clear why the 1st and the 2nd but not the 3rd person have to fulfill the distinctiveness requirement. As Rohrbacher (1994:106) points out, the reason is that otherwise we would obtain the wrong predictions for Icelandic and Älvdalsmålet, where the relevant part of the paradigm is the plural of the present tense, and where 3rd person plural does not differ from the infinitive. However, Rohrbacher (1994:106-08) also presents some cross-linguistic support (from Czech, Hungarian, Turkish, Yuma, and Hebrew) in favour of 1st and 2nd persons having to be marked, as opposed to the 3rd person which is often left unmarked, and he

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[6]Rohrbacher (1994:118, (48)) also requires that, in at least one person of one tense, [+sing] is distinctively marked. As far as I can tell, this move follows for theoretical reasons, and is not based on any facts, as the

concludes (1994:107) that as opposed to 1st and 2nd persons, 3rd person should be viewed "as the absence of person".

The second and in my view more problematic objection is that whereas it may be intuitively clear why the "distinctive" (1st and 2nd person) forms have to differ from each other (and from the 3rd person), it is less clear why they also have to differ only from the infinitive, but not from any other forms in the rest of the paradigm.

As Rohrbacher (1994:105-06) explains, the 1st and 2nd person forms have to differ from the infinitive in order to make a distinction possible between Early Modern English (which has no $V^\circ$-to-$I^\circ$ movement, see section 4.2 below) and Yiddish (which has $V^\circ$-to-$I^\circ$ movement), given that the present tense singular forms are virtually parallel in these two languages, the 1st person singular having no ending at all. The difference is that the Yiddish infinitive has an ending, whereas the Early Modern English one does not and so if the infinitive is included in the definition of distinctiveness, the 1st person singular is distinctive only in Yiddish. This inclusion of the infinitive again leads to the exclusion of the 3rd person discussed above (to get the right predictions for Icelandic and Älvdalsmålet).

As for why the "distinctive" forms do not have to differ from forms occurring elsewhere in the paradigm, again we need to consider Yiddish 1st person singular present tense. This form, *ikh her*, 'I hear', is identical to the imperative singular *her!*, 'hear!'. Hence, this would not be distinctive if difference from all other forms in the paradigm was required, and Yiddish would fail to meet the requirement for $V^\circ$-to-$I^\circ$ movement, an unwanted result. However, I would guess that imperatives are at least as frequent in what children hear as infinitives are (if not more), and so including infinitives but excluding e.g. imperatives in the definition of "distinctive forms" seems conceptually rather arbitrary.[7]

In fact, there is a way of applying the alternative definition of "distinctive forms" which is too literal, as then not even Icelandic and French should have $V^\circ$-to-$I^\circ$ movement: In Älvdalsmålet, Icelandic, and French, the 2nd person plural forms of the present tense are identical to the imperative plural: Älvdalsmålet *hörir*, Icelandic *heyrið*, and French *écoutez*. In this case, one would be forced to assume that cases of identity between an imperative form and the corresponding 2nd (as opposed to 1st) person form be seen as replacement or paradigm-internal borrowing: Älvdalsmålet, Icelandic, and French (and Yiddish too) simply do not have a real imperative plural form, but uses the 2nd person plural of the present tense. This means that of all the languages discussed so far, only Faroese have a real imperative plural (which presumably is derived diachronically from an old 2nd person plural of the present tense, cf. the Icelandic form).

Finally, the third kind of objection that could be raised is that it is not particularly appealing to require the child to keep track of such a large amount of elements and verb forms during acquisition, given that the child presumably also has to form and

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predictions for the languages he discusses remain the same.

[7]One phenomenon might support the assumption inherent in Rohrbacher's analysis that infinitives are more basic or more relevant to the child than e.g. imperatives, namely the so-called root (or optional) infinitive phenomenon: Very young children often use infinitive forms instead of finite forms. See Rizzi (1993), Wexler (1994) and references cited there.

test a number of different hypotheses as to how much of the forms are part of the stem of a given verb or of the inflectional morphology. I do however have to be careful when making this kind of criticism, as the alternative I am about to suggest in section 3 below also requires a fair amount of computation on the part of the acquiring child.

## 3. Tense and agreement inflection

For the conceptual reasons outlined in the previous section (2.5), it seems desirable to revise or replace Rohrbacher's (1994:109, 118, 128) version of the hypothesis, even if the predictions it makes are exactly the ones we would want it to make. I would like to suggest that such a new version of the hypothesis could be arrived at if we include in our considerations more tenses than the present.

To extend the database to cover more tenses, here are the simple past paradigms of all the languages under consideration.[8]

(9)    *hear*, infinitive and simple past indicative:

| | English | Danish | Halling-målet | Faroese | Älvdals-målet | Icelandic |
|---|---|---|---|---|---|---|
| Infinitive | hear | høre | høyræ | hoyra | höra | heyra |
| **Past** | | | | | | |
| 1st sing. | hear-d | hør-te | høyr-dæ | hoyr-d-i | hör-d-e | heyr-ð-i |
| 2st sing. | hear-d | hør-te | høyr-dæ | hoyr-d-i | hör-d-e | heyr-ð-ir |
| 3st sing. | hear-d | hør-te | høyr-dæ | hoyr-d-i | hör-d-e | heyr-ð-i |
| 1st plur. | hear-d | hør-te | høyr-dæ | hoyr-d-u | hör-d-um | heyr-ð-um |
| 2st plur. | hear-d | hør-te | høyr-dæ | hoyr-d-u | hör-d-ir | heyr-ð-uð |
| 3st plur. | hear-d | hør-te | høyr-dæ | hoyr-d-u | hör-d-e | heyr-ð-u |
| Different forms | 1 | 1 | 1 | 2 | 3 | 5 |

| | Dutch | Frisian | German | Yiddish | French | |
|---|---|---|---|---|---|---|
| Inf. | horen | hearre(n) | hören | hern | écouter 'listen' | |
| **Past** | | | | | | |
| 1sg. | hoor-d-e | hear-d-e | hör-t-e | --- | écout-ais | |
| 2sg. | hoor-d-e | hear-d-est | hör-t-est | --- | écout-ais | |
| 3sg. | hoor-d-e | hear-d-e | hör-t-e | --- | écout-ait | |
| 1pl. | hoor-d-en | hear-d-en | hör-t-en | --- | écout-i-ons | |
| 2pl. | hoor-d-en | hear-d-en | hör-t-et | --- | écout-i-ez | |
| 3pl. | hoor-d-en | hear-d-en | hör-t-en | --- | écout-aient | |
| Forms | 3 | 3 | 4 | - | 3   (1/2s=3s=3p) | |

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[8]The French singular and 3rd person plural forms *écoutais, écoutais, écoutait, écoutaient* are all pronounced the same: [eku'tɛ].

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Although all the paradigms are given here, they are not all considered in each of the following sections: Faroese is only considered in 3.2 and the situation in Yiddish only in 3.3. The three SOV-languages Dutch, Frisian, and German are merely given for morphological comparison and will not be discussed at all.

Please notice that when I speak of tenses, I only refer to those tenses that consist of inflected forms of the main verb (synthetically realised), not to those that include e.g. auxiliaries (periphrastically realised). Thus I take the past tense *heard* to be a relevant tense, but I take the future tense *will hear* not to be a relevant tense in this sense.

## 3.1 V°-to-I° movement iff inflection for tense and agreement cooccur

Trying to (re-)formulate the hypothesis that V°-to-I° movement is triggered by certain properties of the inflection of the finite verb, while focussing not only on agreement morphology but also on tense morphology, a first stab might be to say that V°-to-I° movement is triggered by the occurrence of both tense morphology and agreement morphology on the same finite form.

Danish verbs (like Norwegian and Swedish) regardless of whether they have tense morphology or not never have any agreement morphology. English finite verbs have either tense morphology (past tense) or agreement morphology (present tense), but never both (as observed in Johnson 1990), and the same goes for Hallingmålet finite verbs. Älvdalsmålet, Icelandic, and French on the other hand clearly have agreement morphology even on those verbs that have tense morphology, cf. the 1pl forms Älvdalsmålet *(uir) hör-d-um*, Icelandic *(við) heyr-ð-um*, French *(nous) écout-i-ons*.

However, when considering Faroese, it becomes clear that this first version of the hypothesis has to be revised, as the Faroese past tense forms clearly have both tense morphology and agreement morphology, cf. the 1pl form *(vit) hoyr-d-u*.

## 3.2 V°-to-I° movement iff inflection for person and tense cooccur

Although Faroese past tense forms clearly have both tense morphology and agreement morphology, the agreement morphology is rather minimal: The regular verbs (the weak verbs) are only inflected for number and not for person in the past tense: There is only one form in singular, *hoyrdi*, and another in plural, *hoyrdu*.

At first glance, this seems not to hold for the strong verbs, where not only tense (realised as a change in stem vowel) and number but also person is marked, as 2nd person singular is different from all the other forms: 1/3sg *tók*, 2sg *tókst*, 1/2/3pl *tóku*. However, according to Lockwood 1955:81 and Haugen 1982:140, this 2sg ending, *-st*, is often not pronounced[9] so that all three singular forms are the same, and the only distinc-

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[9]Heðin Meitil (p.c.) suggests that leaving out the 2sg ending is typical of the southern dialects of Sandoy and Suðuroy.

tion inside the past tense is one of number.

This last observation raises the question of which verbs are relevant: only weak verbs or also strong ones? modals and primary auxiliaries as well? I shall follow Rohrbacher (1994:108), cited in (8) above, who only includes the "regular" verbs, where I take this to mean the productive paradigms, i.e. those paradigms that new verbs follow ("weak verbs" in the Germanic languages, the first conjugation in French). I shall nevertheless point out where differences or near-differences (as in the previous paragraph) would occur if also e.g. strong verbs were to count, whereas I shall take it for granted that the paradigms of modal verbs or *have* and *be* are irrelevant.

Returning to the Faroese paradigm(s), it is now possible to revise the formulation of our hypothesis as follows: V°-to-I° movement is only found in languages which have cooccurrence of person morphology (as opposed to number morphology) with tense morphology, i.e. outside the present tense. This is actually parallel to the suggestion of Holmberg & Platzack (1990:70), see section 2.3 above, except that I here apply it to forms with tense morphology rather than only to the present tense (where tense morphology is absent).

Why should tense and person play a role but not number? Whereas number is an inflectional category in both the verbal system (conjugation) and the nominal system (declination), tense and person are only inflectional categories in the verbal system. I take person not to be an inflectional category in the pronominal system but only in the verbal system: Whereas *(they) hear* and *(she) hears* are inflected forms of the same element, *I*, *you* or *she* are not (as opposed to *I* and *me*).

However, there is still at least one language which is problematic: Yiddish has V°-to-I° movement but no cooccurrence of person morphology with tense morphology, as Yiddish does not have any tense morphology marked by bound morphemes on the finite verb.

### 3.3 V°-to-I° movement iff tense never occurs without person

In Yiddish, the difference between tenses is marked exclusively by auxiliaries (periphrastically), and, as opposed to all the other languages under discussion, not by bound morphemes (synthetically), cf. e.g. Weissberg (1988:135). Thus the past tense is realised identically to the present perfect (a distinction can be made by including e.g. the adverbial *shoyn* 'already'), and the past perfect is realised by means of two auxiliary forms ("double compound tense"):

```
(10)  Yi. a.  Jonas hert  dos lid
              Jonas hears the song

      b.  Jonas hot gehert dos lid
          Jonas has heard  the song (= 'Jonas heard the song')

      c.  Jonas hot gehat gehert dos lid
          Jonas has had   heard  the song (= 'Jonas had heard the song')
```

The situation is parallel in Afrikaans and in all southern dialects of German (which are not directly relevant here, as they are all SOV). However, only in standard Yiddish does no verb have a (simple) past tense, whereas in Afrikaans (Donaldson 1993:222), southern dialects of German (König 1985:159, Fox 1990:188-189), and a few dialects of Yiddish (Marvin Herzog, p.c.), a few verbs have a past tense.

V°-to-I° movement is thus found not only in languages with cooccurrence of person morphology with tense morphology (Älvdalsmålet, Icelandic, and French), but also in at least one language with no tense morphology at all, namely Yiddish. In other words, if and only if a language has no tense-inflected finite forms without person morphology, it has V°-to-I° movement: The only languages where finite forms occur without person morphology are English, Danish, Hallingmålet, and (modern spoken) Faroese (and also Norwegian and Swedish).

## 3.4 V°-to-I° movement iff all tenses are inflected for person

The formulation of the hypothesis given in the previous section (3.3), repeated in (11a), is based on the observation that Yiddish has no tense morphology. A different observation is that in its only tense, Yiddish makes clear person distinctions, cf. (4) above, which allows the alternative formulation (11b):

```
(11)   An SVO-language has V°-to-I° movement if and only if...
       a. ... tense morphology never occurs without person morphology
       b. ... person morphology is found in all tenses
```

One argument against the formulation in (11a), is that it is irrelevant that Yiddish has person morphology in its present (and only) tense, as even languages without any person morphology whatsoever would be expected to have V°-to-I° movement, as long as they have no tense morphology. I find this corollary counterintuitive, even if it may not have any testable consequences: The closest we get is Afrikaans (which has no person morphology and no tense morphology in the relevant sense), but this is an SOV-language and thus cannot be checked for the presence or absence of V°-to-I° movement.

If, on the other hand, the formulation in (11b) is accepted, the reason why Yiddish has V°-to-I° movement would be that it has person distinctions in all tenses (i.e. in its one and only tense, present), whereas a hypothetical SVO-version of Afrikaans or a hypothetical tense-less version of Danish would not be expected to have V°-to-I° movement.

Another argument against the formulation in (11a) is that additional stipulations would be necessary to explain why children do not take e.g. Icelandic *tók* (1/3sg past of *taka* 'take', i.e. the tense morphology is a change in stem vowel, person and number morphology is absent) as an indication that Icelandic does not have V°-to-I° movement, given that *tók* is a tense-inflected form without any person morphology. Under (11b), the past tense paradigm of *taka* (*tók, tók-st, tók, tók-um, tók-uð, tók-u*) could not possibly be taken as such an indication. However, forms such as *tók* are only found in the strong verbs (see the weak paradigm in (9) above), and may therefore not be relevant at all, as was noted in section 3.2 above.

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This argument is however valid for French, as forms with the properties discussed above appear in all French verb paradigms: In e.g. 1sg *(j') écout-ais* [eku'tɛ] '(I) listened', there is only one morpheme, and the question is whether this is a tense or a person ending. When comparing the past tense form to the present one *(j') écoute* [e'kut] '(I) listen', it would seem that neither form has a person ending, and that the ending in the past is a tense ending (and that person and number are marked by the absence of relevant morphology). In that case, given the formulation in (11a), additional stipulations would be necessary to explain why children do not take tense-inflected forms without any person morphology as an indication that French does not have V°-to-I° movement. Given the formulation in (11b), on the other hand, no such problem arises, as person morphology clearly is found in the French past tense, even if it is not present on all forms (see the paradigm in (9) above).

Based on the two arguments discussed above, I conclude that of all the formulations given in section 3 (which all take into consideration both agreement and tense), the most adequate one is the one in (11b).

## 4. The diachronic evidence: the weakening of inflection and the loss of V°-to-I° movement

In this section, the two competing views from section 2.5 (Rohrbacher 1994) and from section 3.4 will be compared and applied to the diachronic evidence. Section 4.1 will discuss which tenses in which verbs are relevant for the hypothesis, and the following sections will discuss the three languages in which there is a reasonable amount of evidence concerning the loss of V°-to-I° movement: English in 4.2, Danish in 4.3, and Swedish in 4.4. At least three more languages (Faroese, Hallingmålet, and Norwegian), have lost V°-to-I° movement, but they will not be discussed below because not enough is known (to me, at least) about this loss or about the influence exerted by the administrative language (Danish in all three cases) at the time of the loss.

### 4.1 The two approaches and a restriction on the tenses

As discussed in section 2.5, Rohrbacher (1994) defends the formulation in (12), whereas in section 3.4, a different formulation was reached, namely the one in (13):

(12)  A language has V°-to-I° movement if and only if in at least one
      number of one tense of the regular verbs, the person features [1st]
      and [2nd] are both distinctively marked.          (Rohrbacher 1994:108)

(13)  An SVO-language has V°-to-I° movement if and only if person
      morphology is found in all tenses                  (Section 3.4 above)

In other words, where the Rohrbacher analysis asks "Is there a tense where 1st and 2nd person are distinctively marked in singular or plural?", the analysis advocated here asks

"Are all tenses inflected for person?". In both cases a positive answer entails the presence of V°-to-I° movement.

A question which has not been directly addressed so far is whether all tenses count for the purposes of (12) and (13), and if not, which ones count and which ones do not. Whereas it has already been said that only regular (weak) verbs are taken into consideration (cf. section 3.2), no similar restriction has been placed as yet on the different tenses of the weak verbs. For the languages considered so far, no such restriction has been necessary, but when we consider the diachronic development, it becomes necessary for the approach in (13) to disregard certain tenses: In English, the person distinction is lost in the present and past subjunctive already in Old English (1/2/3sg *hīere*, 1/2/3pl *hīeren*, from *hīeran* 'hear', see among many others Mitchell & Robinson 1986:46, 48), whereas V°-to-I° movement is not lost until around 500 years later (see section 4.2 below). As for Rohrbacher's (1994) approach, (12), this problem does not occur, only the tense with the most inflection is relevant, and this would seem to always be the present indicative. For the approach suggested here, (13), however, all tenses are relevant.

I shall therefore have to take only "core" tenses into consideration (and as discussed in section 3.3. above only insofar as they are synthetically realised, not periphrastically), and disregard e.g. subjunctives. The conceptual justification for this move is that presumably only the core tenses have been acquired (or encountered) by the child at the point where word order is determined, whereas non-core tenses only come in much later. Furthermore, I suspect that in most cases subjunctive and other similar tenses are learned rather than acquired, as witnessed by the many references in the literature as to the absence in the modern spoken language of e.g. the subjunctive in Faroese (Lockwood 1955:137) or 'passé simple' and the past subjunctive in French (Confais 1978:14-15, Pedersen et al. 1980:335, Rougerie 1966:404, and many others).

Concluding, the tenses that count for the purposes of (13) (and (12)) are those synthetically formed tenses of the regular (weak) verbs that are actually acquired rather than learned, i.e. presumably only simple present, simple past, and in French also the simple future.


## 4.2 The history of English

The loss of V°-to-I° movement in English is assumed to have taken place in "the early to mid 16th century" (Rohrbacher 1994:162, based on Ellegård 1953 and Kroch 1989:222-228) or "around 1575" (Roberts 1993:249, 302, Watanabe 1994:158, based on a different interpretation of Ellegård 1953 and Kroch 1989:223-224). Schäufele (1994:11-15) points out that cases of V°-to-I° movement are relatively frequent in texts from as late as the end of the 17th century (an observation he then uses to question the link between the loss of V°-to-I° movement and the weakening of verbal inflection).

With respect to the loss of V°-to-I° movement, there does not seem to be any reason to assume any difference between northern and southern dialects.[10] However, as

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[10]See Roberts (1993:266) on the northern dialects (the 15th century northern examples with V°-to-I°

far as the history of the inflectional systems is concerned, there is a clear difference between the English spoken in the south of England (including the Midlands) and the English spoken in the north of England and in Scotland.

Consider first the development of the inflectional system in the south in connection with the predictions made by Rohrbacher's analysis, cf. (12). Compare the late Middle English and the Early Modern English paradigms (based on Pinsker 1959:178, O'Neil 1978:265, Davis 1989:495-97, Roberts 1993:257, Strang 1970:201, Görlach 1991:85, 88, Schäufele 1994:4, and the entry under *hear* in the Oxford English Dictionary):

(14)  *hear*, infinitive, imperatives, participles, and simple present and simple past indicative:

| | late Middle English (14th & 15th centuries) | | Early Modern English (16th century) | |
|---|---|---|---|---|
| Infinitive | here(n) | | hear(en) | |
| Imperative singular | her(e) | | hear | |
| Imperative plural | hereth | | hear | |
| Present participle | heringe | | hearing | |
| Past participle | herd | | heard | |
| Finite | Present | Past | Present | Past |
| 1st sing. | I here | herde | I hear | heard |
| 2st sing. | thou herest | herdest | thou hearst | heardst |
| 3st sing. | he hereth | herde | he heareth | heard |
| 1st plur. | we here(n) | herde(n) | we hear(en) | heard(en) |
| 2st plur. | ye here(n) | herde(n) | ye hear(en) | heard(en) |
| 3st plur. | thei here(n) | herde(n) | they hear(en) | heard(en) |
| Different forms | 4 | 3 | 3 | 2 |

To Rohrbacher (1994:105, 148), the person features [1st] and [2nd] are both distinctively marked in the singular of the present tense in the Middle English paradigm, whereas in the Early Modern English paradigm, the person feature [1st] is no longer distinctively marked, as it is identical to the infinitive.[11]

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movement cited by Roberts are verse rather than prose, but according to Görlach 1991:18 no prose older than the 16th century has survived). The statistical studies like Ellegård (1953) and Kroch (1989) do not distinguish between northern and southern dialects.

[11]It is crucial to Rohrbacher (1994:105, 147) that the late Middle English infinitive ends in *-en* (*to heren*) and thereby differs from the simple present 1st person singular (*I here*), as otherwise his analysis would predict the loss of V°-to-I° movement to take place already in late Middle English (see also section 2.5 above). However, as shown e.g. in Davis (1989:495) and Wyld (1927:262), from the 14th century onwards there actually was an alternative infinitive form without this ending (*to here*), which thus was identical to the simple present 1st person singular.

The question is whether for a particular form (like *I here*) to be distinctively marked it needs to differ from just one infinitive form (e.g. *to heren*) or from all infinitive forms (i.e. both from *to heren* and from *to here*). It seems more plausible to me that distinctive marking requires difference from all infinitive forms, in which case the above is a problem for Rohrbacher's analysis.

Also, if difference from one infinitival form is enough, then Rohrbacher's analysis would predict that not even Early Modern English would have lost V°-to-I° movement, as also here there are two alterna-

If Roberts (1993:302) is right both that English lost V°-to-I° movement "around 1575" and that the Early Modern English inflectional system had taken over already "early in the 16th century", then there may indeed be a gap of "more than half a century" between when we would expect V°-to-I° movement to be lost under Rohrbacher's analysis and when it is actually lost. As pointed out by Watanabe (1994:158), this gap is particularly interesting when it is kept in mind that no such gap seems to occur in Swedish (cf. section 4.4). Roberts (1993:302-3) suggests that positive declarative *do* somehow becomes a "functional substitute" for strong inflection in triggering V°-to-I° movement, and then V°-to-I° movement is lost when this kind of *do* is lost again at the end of the 16th century. Watanabe (1994:170, n21) points out certain weaknesses of Roberts' explanation, and goes on to suggest an alternative explanation (based on the phrase structure suggested in Chomsky 1991 and the degree-0 learnability restriction suggested in Lightfoot 1989, 1991), in which this difference is linked to the difference with respect to V2, allowing English (non-V2) to show such a gap, whereas Swedish (V2) should not. What we see in Middle Swedish and in English until 1500 is movement to Agr°, but what we see in English 1500-1575 is only movement to Tns°, a distinction which is reflected in the data by the surge in *do*-support in this period: If the finite verb must move to Agr°, verb movement is less costly (and therefore obligatory), whereas if the finite verb must move to Tns°, *do*-insertion is less costly (and therefore obligatory), Watanabe (1994:164). However, even though the sequence *does never hear* thus shows the linguist that Tns° is strong (as opposed to the sequence *hears never* which shows that Agr° is strong), this does not count as evidence for the child. In a move that appears to me to be counterintuitive, Watanabe (1994:169) stipulates that the only evidence the child will accept for strong Tns° is the sequence *hears never* (which can only arise if Agr° is strong!), and not *does never hear* (the only evidence for the child for a strong Agr° is strong verbal inflections). Thus only one generation will be able to take Tns° to be strong, namely the one which still receives its input from an older generation with strong Agr° (i.e. which says *hears never*). The following generation only gets input where Agr° is weak and Tns° strong, i.e. *does never hear*, which may suffice to show linguists that Tns° is strong, but not children, and as Agr° is also weak (due to weak inflection), movement of the finite verb is lost.

I shall consider two further alternatives, although they may both amount to what Watanabe (1994:158) calls "trivializing the problem". One is that the dates may not be as far from each other as Roberts (1993:302) and Watanabe (1994:158) assume: It is not clear that the inflectional changes required by Rohrbacher did not happen somewhat later (Strang 1970:201 dates them to around 1550), and furthermore, as mentioned above, it is also not clear that the syntactic change did not happen somewhat earlier (see Rohrbacher's 1994:162 interpretation of Ellegård 1953 and Kroch 1989:222-228). The other alternative is that "a more adequate formulation of rich agreement can be found" (Watanabe 1994:158), and in the following I will argue that this is exactly what has been done in the preceding sections of this paper.

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tive infinitival forms (both *to hear* and *to hearen*), one of which (though admittedly the less common one) differs from the simple present 1st person singular (*I hear*), Görlach (1991:88) and Strang (1970:201).

Consider now the development of the inflectional system in the south in connection with the predictions made by the alternative analysis suggested in this paper, (13). As for the present tense of Early Modern English, given above, it is clear that this tense is not one with no person morphology in any of the six forms. As for the past tense, the last surviving inflection for person in the past tense is 2sg -*st*. According to Barber (1976:237) and Görlach (1991:88), it is not lost until the 17th century (along with the 2nd sg. pronoun *thou*), which is clearly too late, irrespective of which of the two interpretations of the syntactic evidence is taken. However, a different view is presented in Pyles (1964:205): Early Modern English past tense "had no personal endings save for 2nd sg -*(e)st*, which began to be lost in the 16th century" and in Strang (1970:203): By 1570 "there was, as now, practically no distinction of person, number, or mood in the past of any normal verb", cf. also that, as discussed in section 3.2, Faroese strong verbs are written with -*st* in 2sg, but this ending is not pronounced. If we now follow Pyles (1964:205) and Strang (1970:203) on the inflection and Roberts (1993:302) and Watanabe (1994:158) on the syntactic developments, the analysis suggested in this paper, which would lead us to expect that V°-to-I° movement should be lost in the second half of the 16th century, thus makes the right prediction.

In other words, due to the difficulty in dating the syntactic changes, neither Rohrbacher's analysis nor the alternative one can be shown to make unwanted predictions for (southern) English (although, as discussed in footnote 11 above, the former may have a problem in connection with the form of the infinitive).

Consider finally the development of the inflectional system in the north of England and in Scotland (based on O'Neil 1978:265, Pinsker 1959:178, Schäufele 1994:4):

(15)   *hear*, infinitive, imperatives, participles, and simple present and simple past indicative:

|  | northern late Middle English (14th & 15th centuries) | |
| --- | --- | --- |
| Infinitive | her(e(n)) | |
| Imperative singular | her(e) | |
| Imperative plural | heres | |
| Present participle | herande | |
| Past      participle | herd | |
| Finite | Present | Past |
| 1st sing. | I     her(e) | herde |
| 2st sing. | thou heres | herdest |
| 3st sing. | he    heres | herde |
| 1st plur. | we    heres | herde(n) |
| 2st plur. | ye    heres | herde(n) |
| 3st plur. | thei heres | herde(n) |
| Different forms | 2 | 2 |

Because of the lack of distinctions in the northern late Middle English present tense paradigm, Rohrbacher (1994:162-64), cf. also (12), makes a different prediction here compared to the southern case discussed above. The prediction is that in the North already late Middle English (14th and 15th centuries) should have lost V°-to-I° movement and thereby precede the rest of English by about a century. However, both Rohrbacher (1994:163) and Roberts (1993:266) take the syntactic evidence to show that northern late Middle English had V°-to-I° movement. The alternative analysis suggested in this paper, (13), does not make this unwanted prediction. Both the simple present and the simple past are inflected for person, and thus V°-to-I° movement is expected to take place.

## 4.3  The history of Danish

The loss of V°-to-I° movement in Danish took place between 1300 and 1700, but a more exact date has yet to be determined. However, even a cursory check of late 15th century texts turns up a number of examples of V°-to-I° movement but no clear examples of absence of V°-to-I° movement, due to interference from OV-order and from stylistic fronting (see Platzack 1988:225-27 and Falk 1993:178-88 for Swedish, Vikner 1995:161-62 for Danish, and references cited there).[12] Thus it seems that Haugen's (1976:311) dating of this loss between 1350 and 1550 may be somewhat early, which may at least partly be due to examples with stylistic fronting not having been disregarded.

The predictions of the two approaches under discussion are identical and both seemingly problematic. For both, the inflectional system had reached the required degree of simplification already around 1350: the present tense only had number distinctions, and the past tense had neither number nor person distinctions. Compare the Middle Danish paradigm to that of the preceding stage, Old Danish (based on Bertelsen 1905:43, 95-97, 171-72, Skautrup 1944:273-74, Karker 1974:25, Haugen 1976:209):

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[12]Rohrbacher (1994:173) cites a late 15th century example taken from Vikner (1991:156) as one of "the first clear instances of V in situ", even though Vikner (1991:156) points out that this example can also be derived in a grammar with V°-to-I° movement by means of stylistic fronting (a possibility considered for Swedish in Rohrbacher 1994:171).

(16) *judge*, infinitive, imperatives, participles, and simple present and simple past indicative:

| | Old Danish (around 1050) | | Middle Danish (around 1350) | |
|---|---|---|---|---|
| Infinitive | døma | | dømæ | |
| Imperative singular | døm | | døm | |
| Imperative plural | dømið | | dømær | |
| Present participle | dømandi | | dømændæ | |
| Past participle | dømðr | | dømdær | |
| **Finite** | **Present** | **Past** | **Present** | **Past** |
| 1st sing. | jak dømi | dømða | iak dømær | dømdæ |
| 2st sing. | þu dømir | dømðir | þu dømær | dømdæ |
| 3st sing. | hann dømir | dømði | han dømær | dømdæ |
| 1st plur. | vit dømum | dømðum | wi dømæ | dømdæ |
| 2st plur. | it dømið | dømðuð | i dømæ | dømdæ |
| 3st plur. | þer døma | dømðu | þe dømæ | dømdæ |
| Different forms | 5 | 6 | 2 | 1 |

Under Rohrbachers analysis, cf. (12), in no number of any Middle Danish tense are the person features [1st] and [2nd] both distinctively marked. Under the alternative suggested in this paper, (13), this stage of Danish has not only one but two core tenses with no person morphology in any of the six forms.

Thus both approaches would expect this stage to have lost V°-to-I° movement, and Danish therefore does not provide evidence in favour of one approach over the other, both analyses would lead us to expect V°-to-I° movement to be lost already around 1350, which may be 100-200 years too early.


## 4.4 The history of Swedish

The loss of V°-to-I° movement in Swedish has been the object of much more detailed studies than the case was for Danish, and has been dated to the 16th century (Platzack 1988:232, Falk 1993:176-177).[13]

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[13]In her study of historical Swedish syntax, Falk (1993:196-99) develops an analysis of when V°-to-I° movement may and/or must be lost. She suggests that if the finite verb has person and number distinctions, then I° is a governor (making V°-to-I° movement possible) and then the content of I° is not recoverable (making it impossible for the verb to remain in V°). If only number distinctions are made, then I° is still a governor (V°-to-I° possible) but then the content of I° is recoverable (the verb may remain in V°). Finally, if neither person nor number distinctions are made, then I° is not a governor (V°-to-I° impossible) and the content of I° is recoverable (the verb may remain in V°). In other words, Falk's analysis allows for a stage in which V°-to-I° movement is optional, namely when number but not person distinctions are found, in order to account for the fact that this movement is found as late as the 17th century in Swedish (Falk 1993:177).

However, even if we accept for the sake of argument, that e.g. Early Modern Swedish, Faroese, and Early Modern English have optional V°-to-I° movement, the predictions made by Falk's analysis are less than optimal. Not only would French, Yiddish, Icelandic, Älvdalsmålet, Old Swedish, Old Danish, and Middle English (correctly) be expected to have obligatory V°-to-I° movement, but also Faroese (as Falk herself admits, 1993:198, n25) and Early Modern English (both of which either have no V°-to-I° or at most

Also when applied to the history of Swedish, the predictions of the two different approaches under discussion are identical. In Early Modern Swedish (which begins in 1526, the first publication in Swedish of the New Testament), the situation was completely parallel to the Danish situation in 1350 discussed above, and the conclusion is therefore also the same. The present tense only had number distinctions and the past tense had neither number nor person distinctions. Compare the Early Modern Swedish paradigm to that of the preceding stage, Middle Swedish (based on Bergman 1968:51, 55-56, Falk 1993:155, Wessén 1970:272, 282, 293):

(17)    *demand*, infinitive, imperatives, participles, and simple present and simple past indicative:

| | Middle Swedish (14th cent.) | | Early Modern Swedish (16th century) | |
|---|---|---|---|---|
| Infinitive | kræfia | | kräva | |
| Imperative singular | kræf | | kräv | |
| Imperative plural | krævin | | kräver | |
| Present participle | kræfiandi | | krävande | |
| Past    participle | krafþer | | krävt | |
| Finite | Present | Past | Present | Past |
| 1st sing. | iak  kræfer | krafþi | iag kräver | krävde |
| 2st sing. | þu  kræfer | krafþi | tu  kräver | krävde |
| 3st sing. | han  kræfer | krafþi | han kräver | krävde |
| 1st plur. | vi  kræfum | krafþum | vi  kräva | krävde |
| 2st plur. | i  kræfin | krafþin | I  kräva | krävde |
| 3st plur. | þer  kræfia | krafþu | de  kräva | krävde |
| Different forms | 4 | 4 | 2 | 1 |

Under Rohrbacher's analysis, cf. (12), in no number of any tense of Early Modern Swedish are the person features [1st] and [2nd] both distinctively marked. Under the alternative suggested in this paper, (13), Early Modern Swedish has not only one but two tenses with no person morphology in any of the six forms. Thus both approaches would expect this stage to have V°-to-I° movement, and Swedish does not provide evidence in favour of one approach over the other, both analyses would lead us to expect V°-to-I° movement to be lost in the first half of the 16th century, which is consistent with the syntactic data.

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optional V°-to-I°) and also Modern English (which definitely has no V°-to-I°). Also, not only would Early Modern Swedish and Middle Danish (arguably correctly) be expected to have optional V°-to-I° movement, but also Hallingmålet (which seems to have no V°-to-I°). The only languages expected not to have any V°-to-I° movement would be modern Danish, Norwegian and Swedish.

### 4.5 Summary of the historical development

Summing up sections 4.2-4.4 on the diachronic evidence, the two approaches make exactly the same predictions as far as Danish and Swedish are concerned. Depending on a closer study of Danish, the predictions for Danish ($V°$-to-$I°$ movement from around 1350) might be wide of the mark, whereas the predictions for Swedish seem to be more or less correct.

When it comes to English, the predictions differ. As for southern English, neither approach can be shown to make unwanted predictions (although, as mentioned in footnote 11, Rohrbacher's approach may have a problem in connection with the form of the infinitive). As for northern English, it was clear that the data presented a problem for Rohrbacher (1994:162-64) but not for the analysis defended in this paper.

## 5. Conclusion

After considering a number of different ways of formulating the connection between the strength of verbal inflectional morphology and the obligatory movement of the finite verb to $I°$ (i.e. to the left of a medial adverbial or of negation), two main alternatives were established:

(18)  A language has $V°$-to-$I°$ movement if and only if in at least one number of one tense of the regular verbs, the person features [$1^{st}$] and [$2^{nd}$] are both distinctively marked.          (Rohrbacher 1994:108)

(19)  An SVO-language has $V°$-to-$I°$ movement if and only if person morphology is found in all tenses          (Section 3.4 above)

In other words, where the Rohrbacher analysis asks "Is there a tense where $1^{st}$ and $2^{nd}$ person are distinctively marked in singular or plural?", the analysis advocated here asks "Are all tenses inflected for person?". In both cases a positive answer entails the presence of $V°$-to-$I°$ movement.

As far as the empirical consequences for the present-day languages are concerned, the two approaches seem to make the same predictions. Only when the diachronic evidence is included, do empirical differences appear: The analysis advocated here seems to do better than the one suggested by Rohrbacher (1994:108) with respect to the (late) Middle English spoken in the north of Great Britain, and depending on various interpretations, maybe also with respect to the (late) Middle English spoken in the south.

As for conceptual advantages of one approach over the other, it was claimed in section 2.5 that it was conceptually unmotivated why in Rohrbacher's analysis the "distinctive" ($1^{st}$ and $2^{nd}$ person) forms have to differ from each other, from the $3^{rd}$ person form, and from the infinitive, but not from any other forms in the rest of the paradigm, e.g. the imperative. It was also pointed out that including the imperative would lead to unwanted empirical consequences for e.g. Yiddish. In the approach developed in this paper, a different restriction is introduced on which tenses are relevant for the purposes

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of (19), namely only simple present, simple past, and simple future (as the tenses must also be synthetically inflected, the past tense is irrelevant in Yiddish, and the future tense is only relevant in French). I would however like to claim that this latter restriction is not conceptually unmotivated, as it is meant to exclude those tenses that are learned rather than acquired (subjunctive, French 'passé simple', etc.) and therefore presumably not available to the child during language acquisition. There is no similar reason to suppose that e.g. the singular imperative is not available to the child during language acquisition (probably on the contrary).

A potential problem for both analyses has to do with the default situation, i.e. with what happens when the child does not encounter any relevant evidence. Under the Rohrbacher analysis, the child must assume the absence of V°-to-I° movement unless she finds "a tense where 1st and 2nd person are distinctive in singular or plural". Under the approach developed in this paper, the child must assume the absence of V°-to-I° movement unless she finds "that all core tenses are inflected for person". The dialects discussed in the appendix, which have (obligatory or optional) V°-to-I° movement but no strong inflection, thus pose a problem to both approaches: How it is possible for the child to change from the default into V°-to-I° movement without the appropriate trigger (Rohrbacher: distinctive [1st] and [2nd] person features, this paper: presence of person inflection in all core tenses)?

In this paper, I hope to have shown that the hypothesis I have suggested (V°-to-I° movement iff all core tenses have person morphology) represents an improvement over previous suggestions both empirically and conceptually.


## Appendix.   Dialects with V°-to-I° movement but with weak inflection

Platzack & Holmberg (1989:73-74) and Roberts (1993:268) take the relationship between strong verbal inflection and V°-to-I° movement to be an implication ("if") rather than an equivalence ("if and only if"). Stated in terms of the approach advocated here, their point is that while it is true that if all core tenses of an SVO-language are inflected for person, then this language also has V°-to-I° movement, it does not hold that if a language has V°-to-I° movement, then all its core tenses are inflected for person.

The evidence cited in both works comes from the dialect of Swedish spoken in Kronoby in western central Finland. This dialect has no person or number distinctions at all (like Danish and standard Swedish), but nevertheless seems to have V°-to-I° movement, as the verb precedes the adverbial in an embedded clause of the type that clearly is not V2 in Danish (and standard Swedish):

```
                                       I°        Neq  V°
(20)   a. Kb.  He  va  bra  et    an  tsöfft    int            bootsen
       b. Da. *Det var godt at    han købte     ikke           bogen
       c. Da.  Det var godt at    han           ikke købte     bogen
              It  was good that  he   (bought) not  (bought) book-the
```
                                  ((20a) from Platzack & Holmberg (1989:74, (43)))

A parallel example brought to my attention by Christer Platzack is the dialect

of Norwegian spoken in Tromsø in northern Norway. This dialect also has no person or number distinctions at all (like Danish and standard Norwegian), but nevertheless data with V°-to-I° movement in contexts where embedded V2 is impossible are reported by Iversen (1918:83, 84):

```
                                              I°    Neg   V°
(21) a. Tr. Vi va'  bare tre støkka, før det at   han Nilsen  kom   ikkje
     b. Da. *Vi var  kun  tre stykker fordi (at) ham Nielsen  kom   ikke
     c. Da. Vi var  kun  tre stykker fordi (at) ham Nielsen         ikke  kom
            We were only three        because that he  Nilsen  (came) not   (came)

                                        I°     Neg   V°
(22) a. Tr. Han kom så seint at  dørvakta  vilde  ikkje        slæppe han inn
     b. Da. *Han kom så sent  at  dørvagten ville  ikke         slippe ham ind
     c. Da. Han kom så sent  at  dørvagten       ikke  ville  slippe ham ind
            He  came so late  that guard-the (would) not   (would) let    him in
```

However, I do not think that the data from Kronoby and Tromsø make it necessary to change "if and only if" in (19) to "if", which would result in the weaker formulation "An SVO-language has V°-to-I° movement if person morphology is found in all tenses". The reason is that at least the Tromsø data are of a different nature from the other languages with V°-to-I° movement: Whereas finite verbs always occur before the sentence adverbial or the negation in French, Yiddish, and Icelandic[14], this order is merely possible in Tromsø, but it is not even the most common one. This is explicitly stated in Iversen (1918:83, 84), which also includes many examples of the other order, i.e. the finite verb following the sentence adverbial or the negation:

```
                 Neg   V°
(23) Tr. a. Han som ikkje vil   høre, han må    føle
            He  who not   will hear, he  must feel

                     Neg   V°
     b. ... at  dæm ikkje måtte klive op på   det   taket
        ... that they not   could climb up onto that  roof
```
(from Iversen 1918:95, 98)

As for whether the situation in Kronoby is like the one in Tromsø or like the one in French, Yiddish, and Icelandic, not enough is known about it at the present time to draw any conclusions one way or the other.

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[14] Although Sigurðsson (1989:44) discusses some Icelandic cases of the finite verb following an adverbial or a negation.

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