Loss of *laten*-support in Embedded Infinitivals in 15th century Low Saxon

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8.1 Introduction

The rise of *do*-support in the history of English has a prominent place in diachronic studies, (Ellegård 1953, Visser 1963, Denison 1985, Kroch 1989). In Kroch's study, *do*-support is one of the four diachronic changes that illustrate his Constant Rate Hypothesis (CRH). The CRH allows us to identify two diachronic processes with distinct actuation times but equal rates, as being realizations of one underlying parametric change. Only if two changes display equal process rates in the E-language, they can be related to one process in the I-language. In the case of *do*-support, the CRH allows Kroch to assume that *do*-support in questions (V-to-C) and in negative declaratives (V-to-T), as one and the same grammatical process, despite the fact that the change occurs later in negative declaratives. Kroch links both changes to a shared change in the properties of VP, which has become opaque for verbal extraction (Roberts 1985, Pollock 1989). In a phase-type analysis, we can tie the two processes to properties of the *v*P-edge. It crucially depends on the status of *v*P as a phase. If, on the other hand, the two processes can be shown to be distinct, the two types of *do*-support are probably tied to changes in some intermediate projection or to the landing site, CP or TP, respectively.

In this paper we study a periphrastic construction ("do-support") in a 15th century Low Saxon dialect in the Netherlands. The periphrasis shows up quite differently because of the basic OV nature and the strict V2 character of the dialect. It enables us to view the locus of verb movement from a different perspective. This 15th century Low Saxon variant exhibits a change in the verbal system that is similar to what happens in the history of English but its direction is reverse: Low Saxon dialects in the Netherlands *lost* auxiliary support and *lost* a separate auxiliary class. It turns out that not so much changes in VP/*v*P but changes in the properties of TP and CP are at the basis of changes in *laten*-support.

8.2. Infinitival verb fronting

Coastal continental Germanic has a scarcely documented and poorly understood construction where an embedded clause-final infinitival verb undergoes fronting (henceforth: "Infinitival V2 or IV2") to a clause initial position.[1] It is a subordinate construction where the subordinate clause is introduced by a coordinator rather than a subordinator, of the type *try-and-do* in

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[1] Our IV2-terminology is theoretically driven and presumes that the moved infinitival occupies a head-position. It shows up as a V1-effect observationally, just as we see in imperatives, yes/no questions, conditionals, etc., but we assume that the target is the structural second position in the clause (C).

modern English, illustrated in (1a). In Continental Germanic, the coordinative construction shows the second conjunct in VO order whereas the first conjunct shows the standard OV order, as represented in (1b).

(1) a. (tree diagram: John will try and help Peter) b. (tree diagram: John will O+Vinf and Vinf+O)

This curious construction can be found in Old-Frisian (2), Middle-Dutch (3), and some modern coastal Dutch dialects still had it in the 19th century (4). It is not found in Standard modern Dutch. In the next examples, we listed the main verb in bold and its complement in italics. Conjuncts after *ende* 'and' systematically show VO order.

(2) Soe scellet hya dae nesta riocht dei deer ney weer [*toe riocht* **gaen**] ende [**nymen***t* als
      nw scold wessen habba]   *(Old Frisian, Sneker Recesboek)*
      so shall they the next law day there after again to court go.inf and take.inf-it as now
      should be have
      'Hence they shall go to court the next law day after it and (they shall) take it as if it
      now had taken place'
(3) Ende men sal [*al die vorseide dingen* **pulveren**] ende [**mingen** *metten zape* van ruten]
      ende [**maken** *pillen*]   *(Middle Dutch, Cyrurgie, Jan Yperman)*
      and one shall all those before-mentioned things grind.inf and mix.inf with soap from
      rue (a plant: *ruta graveolens*) and make.inf pills
      'and one shall grind all the above ingredients and mix them with ruta soap and
      make pills'
(4) We zelle [*te waa* **gaen**] en **make** *de vleet* op order   (Dutch dialect of Katwijk,
      we shall to net go.inf and make.inf the drift-net in order   *apud* Overdiep 1937)
      'we shall go to the nets and make the drift nets in order'

Notice that the clitic object *'t* 'it' appears to the right of the infinitive *nymen* 'take' in the Frisian construction in (2), despite the fact that standard embedded clauses realize OV order. In these dialects, clitic objects scramble beyond the position of the full NP subject. In (2), the infinitival (!) verb *nymen* 'take' appears even to the left of this scrambled position. The infinitive, therefore, must move quite high up in the syntactic tree. Similar considerations hold for Middle Dutch and dialectal Dutch.[2]

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[2] De Haan (2010:132 [1990]) mentions the construction in passing in his study of the imperativus pro infinitivo (IpI) construction in Modern Frisian.

8.3. Infinitival fronting in 15th century Low Saxon

Recently, a corpus has been made available of North-Eastern Dutch 15th century verdicts.[3] Interestingly, the IV2 construction occurs abundantly, probably because of the modal nature of most verdicts. In (5-6) two typical instances are listed.

(5)   Item tusschen den Konen ende den smyt to Legele, wyl de Kone erffnysse hebn, so moet hy *en rechte* **ansetten** ende **laten** *hem* vertugen.
             item between the Krones and the smith in Legele: will the Krone heritage have, then must he a lawsuit start and let.inf him defend-through-witnesses
             'Similarly between the Krone-family and the smith in Legele: if Krone wants to inherit, he must start a lawsuit and defend himself through witnesses'

(6)   Mach Claes 12 van synen magen, (...), *an syn hant* **nemen** ende **maken** *hem* der saeke onsculdich, dair hy voir angesproken was, so ....
             may Claes 12 of his family (...) in his had take and make him in-the case unguilty, which he for called was, then .....
             'if Claes can take in his hand 12 of his family members and (if he can) prove himself not-guilty in the case that he was called for, then .... '

Semantically, the modal verb, *moet* 'must' in (5) and mach 'may' in (6), has scope over both conjuncts. The coordinative structure of these verdicts can be analyzed as VP coordinations in the scope of this auxiliary (7a) or, alternatively, as CP-coordinations (7b).

(7)   a.   XP AUX SU [VP_1 and VP_2] VP_1=OV, VP_2=VO
       b.   XP [[$_{CP1}$ AUX SU VP_1] and [$_{CP2}$ AUX pro VP_2]] VP_1=OV, VP_2=VO

If we analyze them as VP coordinations, the scope issue is straightforward, but we must assume two different base-generated VPs or we must assume verb fronting to the edge of the second VP. Both assumptions would be *ad hoc*. If we analyze them as CP-coordinations in (7b), we must assume an empty modal in the second conjunct. The fronting can be identified as V-to-C. Both assumption are not ad hoc. The first ingredient is assumed in Kayne (1992) for imperative constructions, which share the MUST modality of these verdicts. Secondly, such embedded AUX to COMP constructions has been reported independently in Romance (Rizzi 1982) and Germanic (Hoeksema 2003). We only have to assume a fronted *empty* AUX, the empty modal, that carries the main verb with it, i.e. the lexical verb must have incorporated into the empty AUX. For a full justification of the V-to-C analysis of these verdicts, I refer to Postma (2006ab). In this context I would like to add an extra empirical argument, drawn from the infinitive-clitic order, as observed in (8). In (8b) we see that the scrambled object clitic *t* is higher than the lexical subject *oir oem*. If we assume a low position of this subject, say in specVP, the object clitic must be above VP. This implies that the second conjunct is certainly larger than VP.

(8)   a.   dye sal en recht ansetten ende **wynnen-t** myt enen buyrtuge ende overluden
               he-TOP shall a lawsuit start and win.inf-it with neighbour-witness and authorities
               'he shall start a court and gain it with witnesses and authorities'

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[3] First published in Keverling Buysman (1987). For a more detailed description, cf. Postma (2006).

b.   so **mach-t** oir oem nyet wedder sprecken
       so may-it her uncle not against speak
       'therefore, her uncle may nor deny it'

We will not make a decision whether the embedded constituent is a projection of T or C. We will simply opt for the CP implementation.

We found more than 231 instances of this otherwise rare construction. Because of its frequency in this juridical corpus (>200,000 words), the construction can be studied diachronically with quantitative means. In Table 1.1 we give the breakdown over the 15th century.

TABLE **8.1 Breakdown of occurrence of IV2 in 15th century Drenthe**

year	IV2	#words	IV2 per 1000w
1400	6	10059	0.59648
1402	8	9438	0.84764
1406	9	10000	0.90000
1412	7	10097	0.69328
1418	11	10739	1.02430
1423	18	12712	1.41598
1428	26	13851	1.87712
1432	17	13096	1.29811
1437	6	13594	0.44137
1441	7	13309	0.52596
1448	6	9521	0.63019
1452	8	11600	0.68966
1455	9	11100	0.81081
1461	6	9900	0.60606
1466	9	10500	0.85714
1461	8	9600	0.83333
1475	7	8900	0.78652
1480	10	9100	1.09890
1485	12	11000	1.09091
1490	6	11600	0.51724
1495	24	10000	2.40000
1500	11	10100	1.08911

In Figure 8.1 we have plotted the global values in a graphic and fitted it with a straight line. The incidence remains relatively constant over this century.
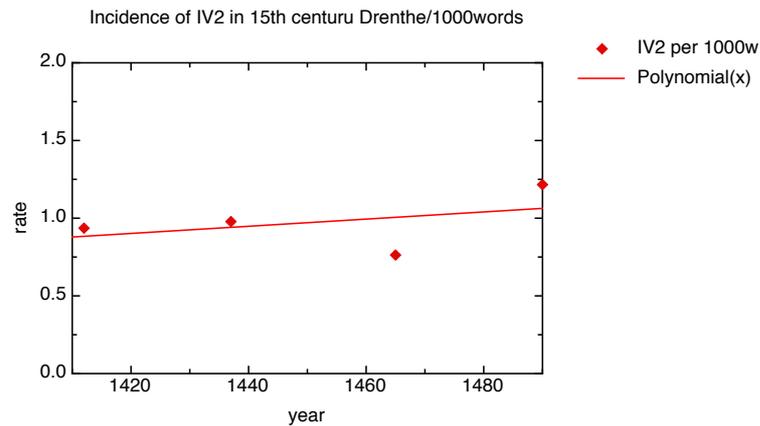
FIGURE 8.1 Occurrence of IV2 in 15th century Drenthe per 1000 words.

If anything changes here at all, there is a slight increase (slope = 2.3062e-3 ± 3.5469e-3/1000words.year). For our purposes, we may consider the incidence of IV2 constant over this century.

4. *Laten*-support

In the previous section, we saw a movement of the infinitive to a clause-initial position (past the clitic position) after the coordinator *ende* 'and'. It can be observed over a period of 100 years. This movement was not without cost. There is evidence that already during this century, there are style variants in which the infinitival verb could not move. Instead, a dummy verb *laten* is inserted and undergoes the fronting. An example is given in (9a).

(9)   (It is sentenced by the judges ...)

      a.   …, dat Herman een rochte ansetten sal (…) ende **laten** die overlude **laeden** ende wes hem die overluede myt den bueren toe tugen, dair sall mede hene gaen   (Etstoel, verdict 924)

           ...that Herman a lawsuit start shall (...) and let.inf the authorities invite, and whatever to-him the authorities with the neighbours PRT sentence.inf, there shall (it) with PRT go

           '...that Herman must start a court amd must invite the authorities, and what the authorities with the neighbours sentence, that way it will proceed'.

      b.   …, dat Johan Staels een rochte ansetten sall ende **laden** de bruytluden ende wes hem die bruytlude toe tugen, dair salt mede henne gaen. (verdict 1039)

           ..., that Johan Staels a lawsuit start.inf shall and invite the bride-people and what to-him the bride-people PRT witness.pl, there shall

           ...that Johan Staals must start a court and must invite the bride's family and what the bride's family decide for him, that way it will proceed'.

The causative/permissive verb *laten* 'let/make' does not contribute a lexical meaning in this construction with main verb *laeden* 'invite'. In (11b) we give a parallel verdict without auxiliary: the lexical verb *laeden* fronts itself. The two verdicts are unfortunately not two versions of the same verdict but they are clearly parallel.

     A first piece of evidence that *laten* is not an ordinary lexical verb in the IV2 construction is the fact that the incidence of *laten* in this construction is significantly higher (11%) than the overall incidence of *laten* in all contexts (2%) justifies. The cross table is given in Table 8.2.

TABLE 8.2 Correlation table of IV2 and *laten*

cross-table	all verbs	*laten*
in text as a whole	4102	95 (2%)
in IV2 contexts	234	26 (11%)

The deviance from the expectation value is highly significant ($p<0.001$).

The second piece of evidence is the fact that the frequency of *laten* in this construction disappears in the course of the second half of the 15th century. Later on, it suddenly shows up again when another scribe takes duty in the last decade of the 15th century. It would be difficult to explain if *laten* had a lexical causative or permissive meaning in this construction. So while the total occurrence of *laten* has virtually a relatively constant incidence during this century, indicated in Figure 8.2, the incidence in IV2 has a lot more dynamics, as visualized in Figure 8.3.

Ratio *laten* and all verbs in 15th century Drenthe
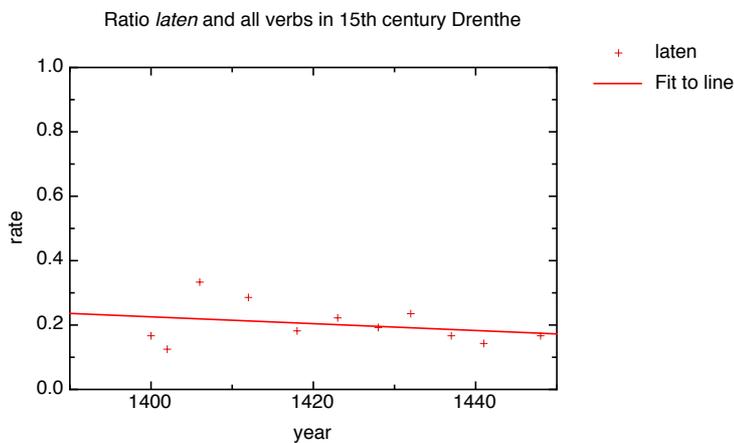
FIGURE 8.2 Ratio of *laten*/all verbs in 15th century Drenthe

In the table in (15) we give the values of incidence of the periphrastic construction. It may be clear that the *laten* in the construction in cases behave substantially different and shows extreme behaviour.

laten in IV2 in 15th century Drenthe
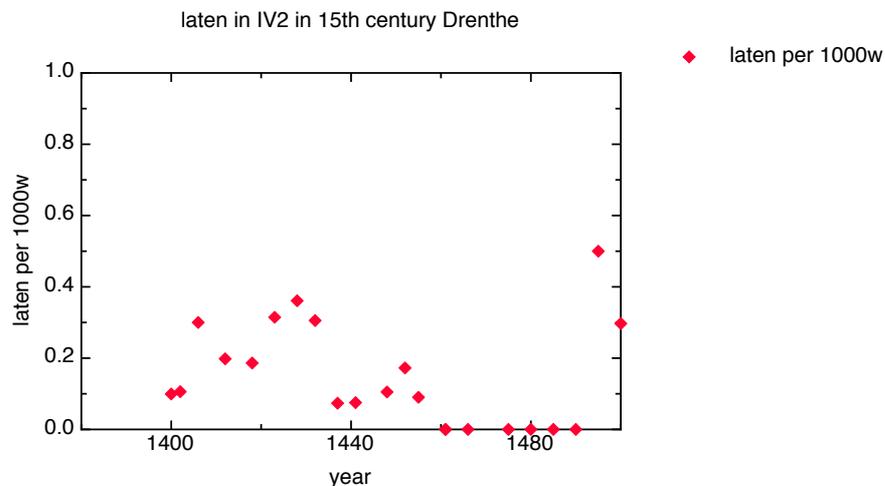
**FIGURE 8.3** Relative frequency of laten in 15th century Drenthe in tokens/1000 words

In the first half on the century, the incidence is substantial but rather jumpy, but disappears in the second part. At the end of the century, *laten* shows up suddenly again. It is probable that this is due to inhomogeneity in the verdicts, for instance, change of a scribe with a different taste or dialect. Nevertheless it is possible to draw conclusions if we average over these extremes and consider it an exponent of an underlying gradual change. Below, we have tabulated the *laten* incidence with respect to the total occurrence of IV2.

TABLE 8.3 Absolute and relative use of *laten* as periphrastic auxiliary

year	*Laten* in IV2	#words	*laten* in IV2 /total IV2
1400	1	10059	0.16667
1402	1	9438	0.12500
1406	3	10000	0.33333
1412	2	10097	0.28571
1418	2	10739	0.18182
1423	4	12712	0.22222
1428	5	13851	0.19231
1432	4	13096	0.23529
1437	1	13594	0.16667
1441	1	13309	0.14286
1448	1	9521	0.16667
1452	2	11600	0.25000
1455	1	11100	0.11111
1461	0	9900	0
1466	0	10500	0
1461	0	9600	0
1475	0	8900	0
1480	0	9100	0
1485	0	11000	0
1490	0	11600	0
1495	5	10000	0.20883
1500	3	10100	0.27270

The question is, therefore, what this underlying development consists of, and what it looks like diachronically. If *laten* is inserted in the IV2-construction for some morphosyntactic reason, its highest possible incidence is 100%. This means that the low values that we encounter in (15), i.e. around 20%, is either the final tail of a disappearing *laten*-support or a beginning of a newly created *laten*-support. In the diagram, we have fitted these two possibilities to the data. Third, there is possibility that *laten*-support is a transitory effect (failed change in the sense of Postma 2010) that marks the transition period of some deeper change, which can be fitted by a logistic peak.[4] We have fitted these three scenarios to the data. The three fits are given in (16) and are of quite different accuracy: 1. the rising logistic gives a bad fit: the error in the value (4.7×10^{19}) is various orders of magnitude higher that the fitted value (6.2×10^{12}), which is itself a meaningless huge number. This model can be ruled out on the basis of this fit.

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[4] A failed change is a product of two logistic functions with equal but opposite slopes. The formula used in the three-parameter fitting process is: $f(x) = a[3] * (1/ (1 + \exp ((x-a[1])/a[2]))) * (1/ (1 + \exp ((a[1]-x)/a[2])))$, with a[3] the saturation value, a[1] the actuation time, and a[2] the slope.
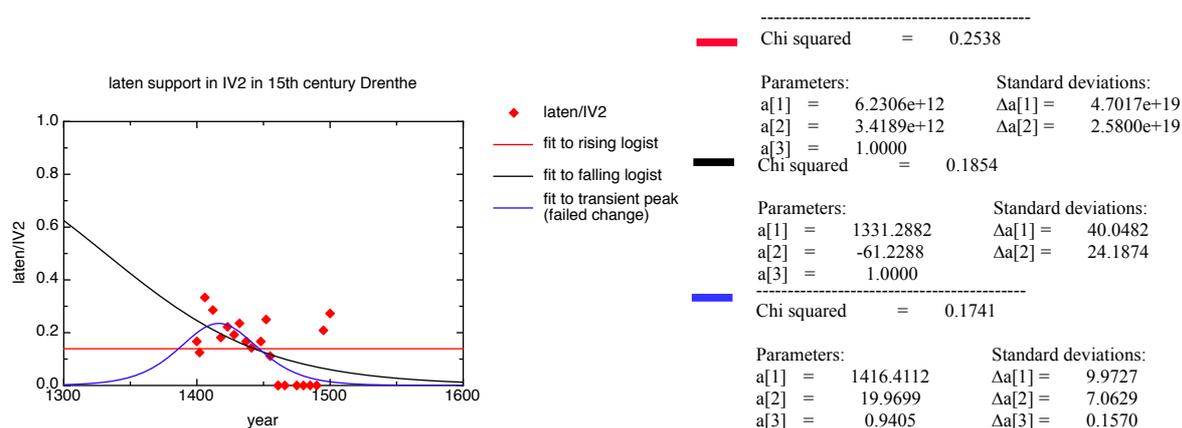
FIGURE 8.4 Three fits to observed data on *laten*-support in 15th century Drenthe

The other two fits, the falling S-curve and a bell-shaped curve are reasonable, of which the transient peak is the better one. The values and the errors are in (17).

(10) a. <u>falling logistic</u> b. <u>logistic peak</u>
     actuation time: 1331 ± 40 actuation time: 1416 ± 10
     slope parameter: -61 ± 24 slope parameter: 19 ± 7

In the falling logistic model, the interpretation is that the loss of *laten*-support started far before the documentation in this corpus. If this is the case, then what we see are the last remnants of a previously more general *laten*-support stage. If the transient peak with a maximum around 1416 is the correct interpretation, we are dealing with an ephemeral change that occurs during this century and might correlate with another, more successful change in the corpus. This will be studied in the next section.

5. IV2 as a subjunctive construction

The IV2-construction only occurs under modal verbs, not for instance in AcI or ECM constructions.[5] More specifically, it is only realized under MUST modality, not under CAN modality. One might think that this is due to the character of these juridical verdicts which might favour MUST. Other modalities, however, do occur though, and never license IV2. In (11) we give some frequencies, taken from Postma (2006).

(11) *Occurrence of various modals licensing the* ende+*V2 construction (sample)*
     moghen 'may'   5
     connen 'can'   0
     moeten 'must'   1
     sollen 'shall'   27
     (other   4)

In order to understand the bias to MUST modality, it is instructive to look at the construction that developed from this IV2-construction: the modern Frisian Imperativus-pro-Infinitivo construction (IpI), as studied in De Haan (2002). In modern Frisian, this IpI-construction

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[5] Accusativus cum infinitivo (AcI) and Exceptional case marking (ECM).

occurs in two contexts: 1. polarity contexts and 2. intentional contexts, exemplified in (12) and (13) respectively.

(12)   Jelle tocht der *net* oan en **knip** *syn hier* ôf   (polarity subjunctive)
        Jelle thought there not at and cut.imp his hair off'
        'Jelle did not fancy that he would cut his hair short'

(13)   Dan *sil* de polysje grif komme en **helje** *him* op   (intentional subjunctive)
        Then shall the police PRT come and take.imp him away
        'Then the police wil come for sure to take him away'

As was argued in Postma (2006b), the modern Frisian successor of the IV2 construction covers the entire range of the Romance subjunctive: the polarity subjunctive (12) and the intentional subjunctive (13), studied in Stowell (1993) and Quer (1998). The Middle Low Saxon construction is limited to the *intentional* subjunctive contexts. We therefore interpret the IV2-construction as an infinitival realization of a subjunctive context (similar to what is observed in the Balkan languages), and we might think its increase and fall, as discussed in section 4, as being related to ongoing changes in the subjunctive verbal inflection in general. In the next section we study such changes in the verbal paradigms using our corpus.

6. Decline of the finite subjunctive

In this section, we study the decline of the morphological subjunctive during the 15th century. The reason is the identification of the IV2-construction as a (intentional) subjunctive construction. Semantically, the well-known finite subjunctive in (14a), with implicit modality, is completely parallel to the IV2 construction of (14b), where the modality is expressed by an overt modal verb and the predicate by an infinitive.

(14)   a.   ...dat hy en rochte **ansette** ende **winne'**t als landrecht is binnen 3 wecken
                 that he a lawsuit start.sbj and gain.sgj-it as land.law is within 3 weeks
         b.   ...dat hy sal en rochte **ansetten** ende **winnen'**t als landrecht is binnen 3 wecken
                 ... that he shall a lwasuit start.inf and win.inf it as land.law is within 3 weeks
                 '...that he starts a lawsuit and gain it according to country law within 3 weeks'

To study the parallel in the E-language, we searched all unambiguous subjunctive forms in our corpus.[6] The results are given in Table 8.4. The subjunctive displays a clear decline during this century which might be captured with a falling logistic function.
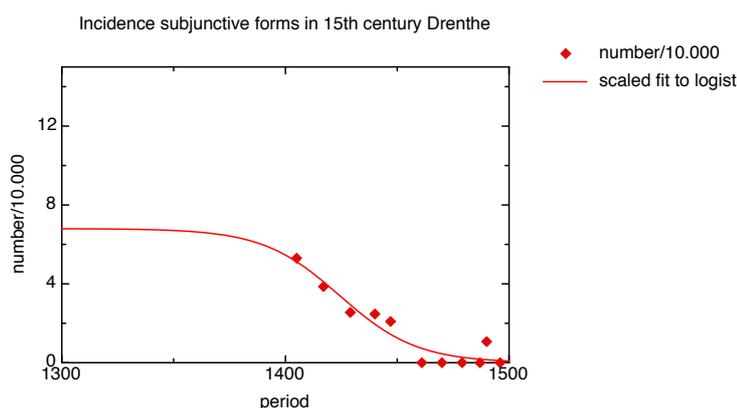
TABLE 8.4   Occurrence of present subjunctive forms per 10.000 words

period	number/10.000
1405.00000	5.30000
1417.00000	3.86000
1429.00000	2.55000
1440.00000	2.47000
1447.00000	2.09000
1490.00000	1.07000

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[6] We used the forms *sette* 'set', *wynne* 'win', *legge* 'lay', *late* 'let', *betale* 'pay', *kome* 'come', *ga* 'go', *brenge* 'bring', and *neme* 'take'.

1461.00000	0.00000
1470.00000	0.00000
1479.00000	0.00000
1487.00000	0.00000
1496.00000	0.00000

Since we do not have an expected value for maximal number of subjunctive forms, we cannot normalize between 0 and 1. This means we have a three parameter model: not only the actuation and the slope are modified, but also the saturation level. In Figure 8.5 we have rendered these data in a graphic together with the best logistic fit.


FIGURE 8.5 Occurrence rate of present tense subjunctive forms in Low Saxon until 1500.

The fitted parameters are in (15).

(15)	actuation time:	1424 ± 17
	slope parameter	17.2 ± 7

It turns out that this fall in the finite subjunctive can be related to the peak in infinitival subjunctive construction. To see this, it is important to recapture our knowledge of Kroch's Constant Rate Hypothesis.

According to the Constant Rate Hypothesis (Kroch 1989), a parameter change proceeds in different grammatical contexts with equal slope parameters, though their actuation times might be different. Postma (1999) extended the identification of linguistic changes to bell shape curves, changes that emerge and fade out, by tying these to an accompanying successful change, with the same slope parameter, as is illustrated in the exemplar case of the rise of the reflexive in Middle Dutch, as in Figure 8.6.
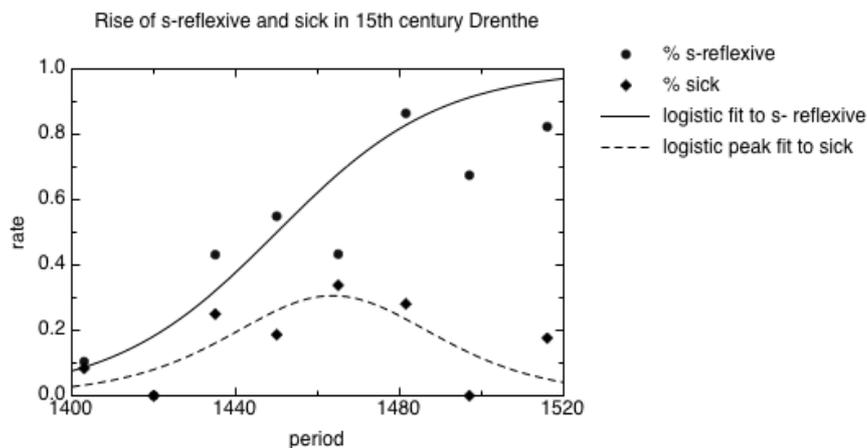
FIGURE 8.6. Rise of *sich/sick* in reflexive contexts in 15th century Drenthe
(taken from Postma 2010)

In Figure 8.6, the two changes are related because of one underlying parameter setting: the need of reflexive pronouns. However, they proceed quite differently: the *sick* form follows a bell-shaped curve, while the overall tendency toward a reflexive form follow an S-shaped curve. Nevertheless, they can be linked by their slope parameters, which turn out to be equal.

We now can apply this methodology to the two changes discussed so far: the rise and fall of the IV2 construction, as visualized in Figure 8.4, with parameters in (10ab) on the one hand, and the disappearance of the subjunctive inflection, as visualized in Figure 8.5, with parameters in (15) on the other hand. Can these changes be related? The Constant Rate Hypothesis implies that if the data on *laten*-support are to be fitted by a falling logistic, the decline of *laten*-support and the decline in subjective forms cannot be related, for they have different slope parameters: -61 ± 24 years and 17.2 ± 7 years, respectively. These do not overlap within the error. However, we can relate the two changes if we fit the *laten*-support data to a logistic peak. Just as in Kroch's logistic model, the Constant Rate Hypothesis holds in the failed change model: if the slope parameter of the transient peak and the slope parameter of the logistic are equal, the changes may be related. If we now look at the fitted data, these two changes have - within the error - equal slope parameters: 19±7 years for the *laten*-peak in (10b), and 17.2±7 years for the subjunctive (15), respectively. This shows that E-language considerations allow us to tie the transient peak of *laten*-support in the IV2 construction to the decline of the *finite* subjunctive verbal forms. In the next sections, we provide formal I-language arguments that *laten*-support and the decline of subjunctives are related to one parameter change in CP/TP.

7. The *ende*+infinitive as T-to-C

Let us first observe that subjunctive forms have a special relation to C. In earlier stages of English and Dutch, for instance, subjunctives may undergo movement across the subject *the king* in (16a) and across the subject *I* in (16b). This is a cross-linguistic pattern. Fronting is complementary to the lexicalization of the complementizer (17).

(16) a.   Long live the king!   present subjunctive
       b.   Were I rich, I would have traveled more   past subjunctive

(17) a.   **That** the king live!
       b.   **If** I were rich, I would travel more

Within a minimalist feature checking system, this can be implemented by assuming that subjunctives are probed by a subjunctive feature above TP. Since subjunctive forms can also remain in situ (17), we assume that the probe is in C and that checking can induce movement to C or by AGREE at a distance. The latter is standardly captured by absence or negative value of an EPP feature.

(18)   <u>Middle Drentish before 1400</u>
                $AGR_{indicative}$ sits in T
                $AGR_{subjuncvtive}$ is probed by C: C attracts AGR_{subj} to C   (+EPP)
                                          or C agrees with AGR_{subj} in situ   (-EPP)

So, if the *ende*+infinitive construction is a subjunctive (Postma 2006b), we expect that the landing site is above TP, probably CP or ModP and the infinitive is attracted by the subjunctive feature in C or Mod.[7] The emergence of *laten*-support in the IV2 construction, therefore, implies that the language imposes restrictions to T-to-C. Before we are looking into the restrictions on T-to-C in more detail in section 9, we first discuss restrictions on V-to-Neg in the next section.

8. The loss of a separate class of auxiliaries.

These older North-Eastern texts had a separate class of auxiliaries (Postma & Bennis 2006). We consider two aspects: the loss of neg-cliticization on verbs (auxiliary versus lexical) and the appearance of infinitival forms 'to V'. We start with negation. In the first part of the century, the neg-clitic *en* on V shows up in C (together with the verb fronting to C) only if the verb is an auxiliary, cf. *mogen* 'may' (19a). No instances are found where the fronted verb is a lexical verb (*holt* 'keeps' in 19b) with a clitic negator. In those cases, the clitic negator is absent, as illustrated in (19b).

(19) a   dat **en** mogen oir oir erffgenamen **nyet** verbeden
          that neg may them their heirs not forbid
          'Their heirs may not forbid that to them'
     b   ende (*en) holt hy dair **nyet** off, machmen om ander werve besaten
          and   keeps he there not off, may-one him other time   seize
          'and if he does not keep it off, then one may him seize a second time'

So, there is a clear effect of auxiliaries in their interaction with negation. The examples in (19) concern main clauses. In embedded clauses, where no V2 occurs and the verb stays in final position (V-to-T), the effect is reversed: only lexical verbs carry the clitic (significance $p=0.0002$).

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[7] So we interpret the dependend feature of the subjunctive (dependent tense, Progovac 1994, anaphoric tense, Picallo 1985) as an indirect dependency that has C as an intermediate step. The impoverished nature may be due to this anaphoricity (Motapayane 1995, rather than to incorporation of the subject (Don *et al.* 2013).

TABLE **8.5**   Neg-doubling by a verbal clitic in 15th century Drenthe in function of the finite verb's position (C/Vfinal) and its auxiliaryhood (Aux/Lex) : 1399-1405 + 1444-1447.

Negation doubling in nyet-contexts	main clauses (V2)		embedded (Vfinal)	
Aux	16/64	(25%)	2/86	(2%)
Lexical	0/11	(0%)	17/40	(42%)

(Data from Postma & Bennis 2006).

There is no evidence that V and a clitic negator *en* form a syntactic complex in embedded clauses. In main clauses, however, we must assume that a fronted verb must have formed a clitic+verb complex, as it has dragged the clitic with it to C. This is apparently only possible with auxiliaries. Hence, incorporation with negation defines a syntactic auxiliary class in the first part of the 15th century.

In the second part of the century, the auxiliary effect in negation-clitic doubling disappears in both contexts, V-to-C and V-to-T (14), no significant skewing (p=0.8).

TABLE **8.6**   Neg-doubling by a verbal clitic in 15th century Drenthe in function of the finite verb's position (C/Vfinal) and its auxiliaryhood (Aux/Lex) : 1488-1492

Negation doubling in nyet-contexts	main clauses (V2)		embedded (Vfinal)	
Aux	2/8	(25%)	28/36	(78%)
Lexical	2/5	(40%)	7/9	(78%)

(Data from Postma & Bennis 2006)

This means that the auxiliary class, which can be defined using the clitic negator as a test, disappears around 1450. This development is, therefore, opposite to the development of *do*-support and neg-cliticization in English, which increases in time.

The second evidence for a change in the status of auxiliaries is the occurrence of modals after the infinitival marker *to/te* 'to'. While *to/te*+modal verb can be observed in the second part, as given in (20), not one case is found in the first half of the 15th century.

(20)   alsdan hebben de gemenen etten angenoemen voir myns heren genaden to reijsen
ende tkennen gevende hoer olde rechten toenende ende begeren daer by **te moegen** blyven, so alse ...
so have.pl the communal judges decided before my Lordship's grace to travel and to-know giving their old rights showing and desire.inf there by to may stay, so
'therefore, the assembled judges have decided to travel to my lord's grace and giving witness to retain their old rights and wish *to may stay* with these (old rights), hence ...'

We do not have fine grained diachronic data to our disposal. However, in view of the situation in the modern dialects, we may safely assume that the to/te+AUX.inf has increased ever since. Summarizing, there is evidence that, during 15th century Drenthe, a change was going on in the nature and licensing conditions of T-to-C.

9. T-to-C in the history of Dutch

As subjunctive forms must move to a position above TP (Dobrovie-Sorin 1994), we assume that the verbs we studied in this paper (IV2 and subjunctives) move out of TP to a projection above it, be it C or Mod (as Dobrovie-Sorin assumes). According to Pirvulescu (2006), subjunctives are impoverished forms in the sense of distributed morphology (Halle & Marantz 1990).

(21)   Subjunctive verbal forms have impoverished AGR

Apparently, only impoverished forms may move out of TP. We, therefore, interpret the developments we discussed above, and which were tied by the Constant Rate Hypothesis (section 6), as both resulting from a language change in TP.

(22)   • The loss of subjunctives and the rise of *laten* support are tied
                 to changes in TP
              • Rich verbal forms {may not/may} cross TP

How can we characterize this change, both in observational terms and formally? One way of formulating it, is that the language changed from having an opaque TP to a transparent TP because of deflection (all verbal forms may cross TP). However, this formulation makes reference to structure of the paradigm, i.e. to forms that are potentially present rather than actually present in the construction at hand. Moreover, it is not the case that the indicative inflections becomes deflected, but rather than the (already impoverished) subjunctive forms disappear. Finally, we prefer to have a syntactic cause from which the disappearance of a subjunctive follows and which describes the changes in the paradigms as its consequence. In order to reach that goal we must widen our perspective to the modern situation.

The present-day Dutch dialectal space has a main isogloss that sets Dutch apart form its neighbouring West Germanic variants such as Low German, Frisian and Limburgian. It is given in (23a).

(23)   a. Dialects with *du* 'thou'   b. Double AGR dialects
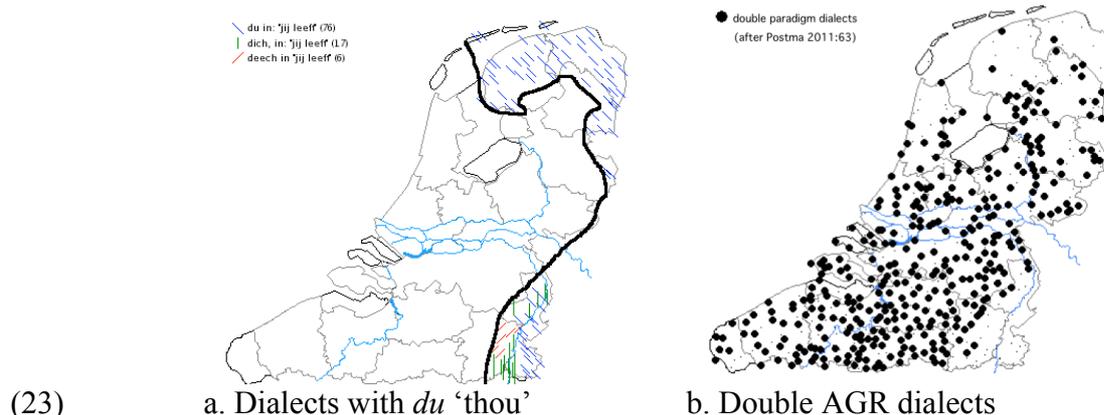
The drawn line in (23a) separates the dialects with *du* 'thou' (east) from the dialect with *jij*[8] 'you' in the west. Apart form this lexical difference, this line separates dialects that have double inflectional paradigms of verbs, AGR_T and AGR_C (west) from dialects with an unitary

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[8] And its variants, notably Southern *gij*.

paradigm $AGR_C=AGR_T$ (east). An AGR_T versus AGR_C opposition arises in dialects that have blocking of T-to-C in certain contexts (Zwart 1993, Postma 2012).

(24) a. $[_{CP}$ wi - $[_{TP}$ t_{wi} speult op straat]]   (Modern Low Saxon)
                     AGR_T

        b. $[_{CP}$ dan speul-e $[_{TP}$ wi t_V op straat]]
                 AGR_C

        c. $[_{CP}$ datt-e $[_{TP}$ wi speult..............]]
          (that/then) we play on the street

Den Besten (1987) assumes all V2-sentences to lexicalize C as in (25).

(25) a. $[_{CP}$ wy   spylje $[_{TP}$ t_{wi} t_V op 'e strjitte]]   (Modern Frisian)
        b. $[_{CP}$ dan   spylje $[_{TP}$ wy t_V op 'e strjitte]]

So, according to Den Besten, finite V always ends up in C in main clauses, both in subject-initial sentences and in inversion contexts. According to Zwart 1993, the verb sits in T in subject-initial sentences, but sits in C in inversion contexts while the subject is always in specTP.

       In Postma (2013), a dialect-geographical interpretation of the two theories of V2 is proposed: in the eastern dialects systematically no double paradigms arise (Den Besten's theory). In the western dialects, however, the verb does not always move to C but stays in T in subject-initial contexts (Zwart's theory). In the western dialects, there is a block on T-to-C in contexts with a [2p]-feature subject which fronts to the sentence peripheral position.[9] If a subject without [2] or if any other XP fronts, be it the object or an adjunct, the verb ends up in C, just as in the neighboring West Germanic variants. T-to-C blocking shows up as a special verbal agreement, AGR_T, distinct form the verbal forms that sits in C, ARG_C (Zwart 1993). The modern Dutch dialects that have such double AGR_C and AGR_T are indicated by the dots in the map in (23b), which is based on the modern MAND database.

       Recently, it has been argued that AGR_C is the impoverished agreement while AGR_T is the full rich agreement (Ackema & Neeleman 2003, 2012; Don, Fenger & Koeneman 2012).

(26) AGR_C is impoverished AGR; AGR_T is the rich AGR

Comparison with (21) brings us to identify the AGR_C with the old subjunctive agreement, and AGR_T with the indicative agreement. As to the shape of the agreement morphemes, this identification is unproblematic (e.g. *wi maakt* < Old Saxon *makoth* (indicative, pl) versus *make(n) wi* < *makon* (subjunctive, pl)): Modern Low Saxon: *wi maakt/dan maken wi*).[10] We, therefore, characterize the change as a change of subjunctive features into positional spellout features. The old subjunctive forms, which were C-directed, are reanalyzed as C-forms, while the old indicative forms are reanalyzed as T-forms.

(27) V_{subj} $\rightarrow$ V_C
                  V_{indic} $\rightarrow$ V_T

In formal terms, this change can be captured as a change in the subjunctive, say, the clause

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[9] The Postal feature, [2], is present in 2sg, 2pl, and 1 pl. (inclusive reading).

[10] Similar relations in later Old English: indicative *bere gē* 'bear you' versus *gē beraþ* 'you bear', cf. Brook (1955, §158).

typing feature uX. It was the loss of the -EPP feature of uX and, simultaneously, the extension of uX into *any* clause typing feature.

(28)   uX   →   uX
        X=clause typing {mood}   X=clause typing {Foc/Top/WH/...}
        ±EPP   +EPP

If we now go back to our infinitival forms in the IV2 construction, the question arises whether we must characterize the infinitival inflection -*en* as full or impoverished. Let us start with the situation before the change. Before the 15th century, the "non-positional" period, these infinitives pattern with subjunctives and should therefore also be considered as impoverished, i.e. as C forms. After the change, i.e. in the second half of the century, the 'positional' period, all infinitives raise to T, both lexical and auxiliary verbs: *to maken* 'to make', *to mogen* 'to may', etc. This identifies infinitival -en after the change as a realization of AGR_T. Now during the change, the IV2-construction looks like the structure in (29).

(29)   ende [$_{CP}$ - laten [$_{TP}$ pro .... laden]]]
                        C   T

During the change, infinitives are being reanalyzed as sitting in T. However, as we have seen above, the IV2-construction realizes the infinitive in C. This makes it understandable that a separate verbal form is needed as a spellout of C. There are two possibilities: a special inflection exists that sits in C or, alternatively, C lexicalizes in a special way. Both strategies are found. In the modern Frisian construction, an existing C-form, the imperative, has extended its domain of usage to subjunctive contexts: the IPI effect. In Low Saxon a specific verbal form was used.

(49)

	C-form	T-form	
Old-Frisian	n-infinitive	-e-infinitive	(cf. 2)
15thc Low Saxon	*laten*-support	-n-infinitive	(cf. 9a)
Modern Frisian	imperative	-e infinitive	(cf. 12-13)
Modern Dutch	-	-e-infinitive	(no IV2)

The rise of positional spellout as an abstract change in the I-language is the basis of the observed patterns in the E-language: the decline of the subjunctive and the rise of *laten*-support. While *laten* support is a failed change and the loss of the subjunctive a successful change, they are nevertheless tied both formally (positional spellout) and observationally (in the E-language): they have equal process rates.

10. Conclusions

In this quantitative corpus study of IV2 in 15th century Low Saxon, we have shown that *laten*-support in the infinitival V2 construction is tied to the decline of the subjunctive in finite contexts. Both phenomena are quantitatively related in the E-language. Furthermore, we have shown that *laten*-support, the decline of the subjunctive, and the rise of double paradigms are related in the I-language (positional spellout in C and T). These changes are related to properties of CP and TP, not of VP. It is unclear yet, why *laten*-support is a transient phenomenon ("failed change"), but it might have been the trigger of the reshuffle of auxiliaries as ordinary verbs. *Laten*-support as a specific C-spellout survives in the Frisian imperativus-pro-infinitivo construction (IpI).

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