Cascading Parameter Changes: Internally-Driven Change in Middle and Early Modern English
Theresa Biberauer & Ian Roberts

Grammatical Change and Linguistic Theory: The Rosendal Papers
Thórhallur Eythórsson [ed.]
John Benjamins (2008) 79-113

AIM OF THE PAPER: A syntax-internal cause for syntactic change arises when an initial, extra-syntactically induced parameter change creates a system which has a propensity to further parametric change.
CASCADES OF PARAMETER CHANGES OVER SEVERAL CENTURIES = TYPOLOGICAL DRIFT

1. INTRODUCTION

[1] BASIC ASSUMPTION ON SYNTACTIC CHANGE
Syntactic change is a consequence of abductive reanalysis leading to parameter-resetting in first-language acquisition.
restriction = Inertia Principle --- (1)&(2)

(1) KEENAN’S (2002) VERSION OF THE INERTIA PRINCIPLE
Things stay as they are unless acted on by an outside force or decay. [cf. DECAY: Things wear out. (Keenan (2002: 325))]

(2) LONGOARDI’S (2001) VERSION OF THE INERTIA PRINCIPLE (IN MINIMALIST TERMS)
Syntactic change should not arise, unless it can be shown to be caused.
syntactic change = a well motivated-consequence of other types of change
(i) extra-grammatical factors such as contact
(ii) independent phonological/morphological/lexical changes
(iii) other syntactic changes \( \Rightarrow \) RECURSIVE SYNTACTIC CHANGE --- [II]

[II] CLAIM OF THE PAPER
A system which has a propensity to further parametric change may lead to cascades of parameter changes over several centuries, giving rise ultimately to a major typological shift and the illusion of ‘typological drift’ in the sense of Sapir (1921).

A SERIES OF CHANGES WHICH TOOK PLACE IN THE HISTORY OF ENGLISH BETWEEN 1100 AND 1700

1 shift from OV to VO [12th and early 13th centuries]
2 loss of residual ‘residual’ OV orders [c.1400]
3 development of clause-internal expletives and of systematic raising of subjects [15th century]
4 loss of V2 [c.1450]
5 development of the auxiliary system (modals and do) [c.1525]
6 loss of ‘short’ verb movement [c.1575]
7 contraction of negation [c.1600]
8 development of negative auxiliaries [1630s]
9 development of do-support [later 17th century]

[III] ORGANIZATION OF THE PAPER:
§2 general theoretical background of the analyses: Biberauer & Roberts (2005a; henceforth, B&R)
§3 analysis of word order change in Middle English (1-3): Biberauer & Roberts (2005a, 2006a)
§4 analysis of the loss of V2 and related changes (4-9): Biberauer & Roberts (2005b, 2006a)
§5 conclusion
2. **Theoretical Background: Agree, EPP-Features and Pied-Piping**

**(IV) General Theoretical Background**

(i) system of feature-valuing  = Agree  ---→ (3)&(4')

(ii) system of movement  = EPP \_  ---→ (4'')

3. Agree is a relation between two heads α and β, where the following conditions hold:
   a. α asymmetrically c-commands β;
   b. α and β are non-distinct in formal features;
   c. there is no third head γ which intervenes between α and β which would be able to Agree with α (i.e. there is no head γ bearing feature of the relevant type which asymmetrically c-commands β but not α).

4'.

\[ \text{TP} \rightarrow \text{vP} \rightarrow \text{v'} \rightarrow \text{VP} \]

4'') a. 

\[ \text{TP} \rightarrow \text{vP} \rightarrow \text{v'} \rightarrow \text{VP} \]

5. **QUESTION:** What determines whether a head or an XP undergoes movement?

**ANSWER:** Pied-piping! A category larger than the goal, but containing the goal, may be moved  ---→ (5)

\[ \text{... X}_{\text{PROBE}} <\text{EPP}_1, \ldots [\text{Y}_P, \ldots Z_{\text{GOAL}} \ldots ] \ldots \text{MOVEMENT OF YP} = \text{PIED-PIPING} \ldots \text{MOVEMENT OF Z}_{\text{GOAL}} = \text{STRANDING} \ldots \rightarrow \text{parametric variation } \rightarrow \text{e.g. French vs. English wh-questions } \rightarrow (6) \]

3. **Word-Order Changes in Middle English**

[V] **Basic Assumption on Word Order**

The underlying word order throughout the history of English is head-initial. [cf. Kayne’s (1994) LCA]

[VI] **Derivation of West Germanic-like OE Word Orders: SOVAux in Subordinate Clauses ---→ (7)**

application of two types of ‘large XP’ movement:

(i) VP-raising to Spec vP

(ii) vP-raising to Spec TP

7. **SOVAux in Subordinate Clauses ---→ (8)**

\[ \text{Do se Wisdom ha bis fitte asungen hefile} \ldots \]

when the Wisdom then this poem sung had

‘When Wisdom had sung thus poem…’  \(\text{Boethius 30.68.6; Fischer et al. (2000: 143, (25))}\)
Derivation of ‘Leaking’/‘VPR’ Word Orders in OE: SAUXOV(VP)

<table>
<thead>
<tr>
<th>MOVEMENT TO SPEC VP</th>
<th>MOVEMENT TO SPEC TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIED-PIPING</td>
<td>PIED-PIPING</td>
</tr>
<tr>
<td>MOVED ELEMENT</td>
<td>MOVED ELEMENT</td>
</tr>
<tr>
<td>a.  No</td>
<td>Yes</td>
</tr>
<tr>
<td>b.  Yes</td>
<td>No</td>
</tr>
<tr>
<td>c.  No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

LEAKING ORDER  --> (12a)

VPR ORDER      --> (12b)

LEAKING VPR ORDER --> (12c)

(12) SAUXOV

a.  *pa geat mon bet attor on the sea*
    `Then someone poured the poison out on the sea`
    (Orosius 256.16; Lightfoot (1991: 61, (18b)))

b.  *...bet hi mihton swa beadlice Godes gelefan bodian*  --> (10b)
    `... that they could so boldly God’s faith preach`
    (ÆCHom. 1, 16.232.23; Fischer et al. (2000: 156, (48)))

c.  *...bet mon hæfde anfiteatrum geworht et Hierusalem*  --> (11b)
    `... that one had made an amphitheatre at Jerusalem`
    (Orosius, Or_6:31.150.22.3210; Trips (2002: 81, (23)))

(9b)  *CP pa geat-v-T-C [TP mon bet attor on the sea]*  --> (9')

(10)  *CP bet hi [TP mihton swa beadlice Godes gelefan bodian]*  --> (10)

(11)  *CP bet mon hæfde anfiteatrum geworht et Hierusalem*  --> (11)

VIII] Word Order Changes in ME

The grammar changed from one which allowed both the VP/vP-pied-piping and the ‘stranding’ (i.e., DP-movement) option for satisfaction of v and T’s EPPφ features to one which allowed only the latter mode of satisfaction. (p.88)

[subcats: PIED-PIPING/STRANDING GRAMMAR > STRANDING GRAMMAR]

(i) OV orders: V-RAISING > object DP movement  --> (13b)  LATE 12TH OR EARLY 13TH CENTURY

(ii) VO orders: V-RAISING > subject DP movement  --> (14b)  EARLY 15TH CENTURY

(13) a.  *CP Subj [V CP t_v [Obj]] [V v-v [CP [CP]]]*  --> (13b)

    REANALYSIS: PIED-PIPING/STRANDING GRAMMAR

b.  *CP Subj [V CP t_v [Obj]] [V v-v [CP [CP]]]*  --> (14b)

    REANALYSIS:...
**[IX] SUBSET PRINCIPLE**

Given two languages, one of which is a subset of the other, if both are compatible with the input data, the learning function must pick the smaller one. (Manzini & Wexler (1987: 414); cf. Berwick (1985: 23))

Let \( p_1, \ldots, p_m \) be the set of parameters that determine a grammar. Parameters \( p_i = 0 \) if

i. for all \( l \leq i \leq m \), \( j \leq i \leq n_i \), \( f_{p_i}(D) \approx p_j \), if

ii. for any \( i \leq r \leq n_i \), \( D \subseteq L(p_{i1}, p_{i2}, \ldots, p_{im}) \) and

\( f_{p_i}(D) \approx p_j \).

(Manzini & Wexler (1987: 433-434))

**[X] RULING OUT THE SVOAUX**

Let everything it contains is inaccessible to syntactic operations once the derivation has proceeded past \( v_P \). (p.90)

In phase \( a \) with head \( H \), the domain of \( H \) is not accessible to operations outside \( a \), only \( H \) and its edge are accessible to such operations.

(Chomsky: 2000: 108)

**[XI] BICALUSAL CASES**

Causative verbs

\( VR/VPR \) (i.e. restructuring) triggers in OE: …\( V_R \ldots V_{INF} \ldots \ldots \) --> (15)

**[XII] THREE CONSEQUENCES OF (14)**

(i) Expletive insertion became obligatory where no appropriate, raisable subject was available.

(ii) Movement of DP into Spec TP became obligatory in passives and unaccusatives.

(iii) Stylistic Fronting orders disappeared. --> (19) INVOLVING VP-MOVEMENT TO SPEC TP

**[XIII] SUMMARY**

<table>
<thead>
<tr>
<th></th>
<th>MOVEMENT TO SPEC VP</th>
<th>MOVEMENT TO SPEC TP</th>
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<tbody>
<tr>
<td>OE – LATE 12c / EARLY 13C</td>
<td>pied-piping/stranding</td>
<td>pied-piping/stranding</td>
</tr>
<tr>
<td>LATE 12c / EARLY 13C – EARLY 15C</td>
<td>stranding</td>
<td>pied-piping/stranding</td>
</tr>
<tr>
<td>EARLY 15C –</td>
<td>stranding</td>
<td>stranding</td>
</tr>
</tbody>
</table>

[XIV] EXCEPTIONS TO V2 IN OE: PRONOMINAL CLITIC SUBJECT: The clitics do not ‘count’ for V2. → (21)

loss of V2 around 1450 = ‘decliticization’ = change in T’s mode of satisfying its EPP_T feature → (22)

(21) a. [hiera unreynnese] he sceal rowian on his heortan.
    their weakness he shall a tone in his heart
    (CP 60.17; Pintzuk (1999: 136))

b. [Pin agen geleafa] he heaffpe gehealdene
    thy own faith thee has healed
    (BlHom 15.24-15)

(21’)

(22) a. [CP [XP [c_SCL V-v-T-C [TP [vP t_CP [v gehealdene-v [vp gehealdene [t, bagen]]]]]]]]
    REANALYSIS
    reanalysis forced by the loss of the pied-piping option (i.e. vP-movement to Spec TP)
    ⇒ SCL = full pronoun subject after 1450

[XV] A CONSEQUENCE OF (22): V-to-T movement became a general feature of finite clauses. □ MARKED OPTION IN ENGLISH

Biberauer & Roberts (2005b): trigger for V-to-T movement ≠ rich agreement morphology
    = rich tense morphology ⇒ EPP_T feature on T
    ⇒ REALIZED AS TENSE MORPHOLOGY
    a. [TP ... T <V<[[EPP_T] >v[vP v ... ]]]
    b. [TP ... V<v[v<[[EPP_T] >v-v-T<[[EPP_T] >v[vP v ... ]]]]]
    5-7 synthetic tenses
    2 synthetic tenses INCOMPATIBLE WITH V-TO-T MOVEMENT

V-to-T movement grammar inherently unstable around 1450 → [XVI]

[XVI] DEVELOPMENT OF DO-SUPPORT

(i) reanalysis of the restructuring structure: modals = subclass of the members of V_R → (17’), (18’) & (23’)
    ⇒ MODALS/AUXILIARIES/DOS ALWAYS AVAILABLE TO LEXICALIZE T
(ii) emergence of optional ‘exuberant’ do: ① non-emphatic in positive declaratives → (24)
    ② absent in negative declaratives → (26)
    ⇒ TRIGGER FOR V-TO-T RAISING OBSCURED BY THE DEVELOPMENT OF AUXILIARIES
(iv) development of negative auxiliary forms featuring contracted negation [c.1600]: Aux+n’t = part of the English lexicon
    NEGATION CONTRACTED ONTO AUXILIARIES IN T
(v) development of the modern system of do-support
    ⇔ MERGER OF DO IN T ASSOCIATED WITH:
    ① THE PRESENCE OF AN ‘EXTRA’ FEATURE ON T (NEG-/Q-FEATURE), OR
    ② THE PRESENCE OF A DISCOURSE EFFECT (EMPHASIS & VP-FRONTING)
    → (27)

(17) [TP_T subj [T2 [V_R-v2-T2 [vP2 t_sub2 vP vT [TP1 [PRO t1 t2 vP v_obj]]]]]]
    REANALYSIS: CHANGE IN T’S MODE OF SATISFYING ITS EPP_T FEATURE (EARLY 15TH CENTURY)

(18) [TP_T subj [T2 [V_R-v2-T2 [vP2 t_sub2 vP vT [TP1 [V-v1-T1 [vP v_obj]]]]]]]
    REANALYSIS: LOSS OF V-TO-T MOVEMENT IN THE COMPLEMENT TO V_R
    □ biclausal

(23’) [TP_T subj [T [V_R-T [vP t_sub2] v [vP v_obj]]]]
    MERGED IN T
[XVII] (23') RECONSIDERED: The modals and *do* are merged in *v* and raised to *T* in the new structure.

\[
\begin{array}{c}
\text{BY THE END OF THE 16TH CENTURY: V-to-v-to-T movement lost} / \text{obligatory v-to-T movement remained: v}_{\text{MODAL}}\text{-to-T} \\
\text{17TH CENTURY:} \quad \text{obligatory v-to-T movement ⇒ optional v-to-T movement: Aux+v-to-T}
\end{array}
\]

present-day English verbal system

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5. CONCLUSION

[XVIII] RESULT OF THE CHANGE DESCRIBED IN THIS PAPER

<table>
<thead>
<tr>
<th>OE SYSTEM</th>
<th>PDE SYSTEM</th>
</tr>
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<tbody>
<tr>
<td>OV</td>
<td>VO</td>
</tr>
<tr>
<td>V2</td>
<td>non-V2</td>
</tr>
<tr>
<td>no syntactically distinct auxiliaries</td>
<td>syntactically distinct positive/negative auxiliaries</td>
</tr>
<tr>
<td>no <em>V</em>-movement in non-<em>V</em>2 clauses</td>
<td><em>do</em>-support</td>
</tr>
</tbody>
</table>

(29)&(30)

<table>
<thead>
<tr>
<th>TIMING</th>
<th>INTERMEDIATE CHANGES</th>
<th>CASCADE OF PARAMETRIC CHANGES</th>
</tr>
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<tbody>
<tr>
<td>a. late 12th century or early 13th century</td>
<td>Loss of <em>V</em>-movement to Spec <em>vP</em></td>
<td>Loss of pied-piping to satisfy <em>v</em>'s EPP_0 feature, which may have been optional throughout the attested OE period</td>
</tr>
<tr>
<td>b. 1400</td>
<td>Restriction of object shift to negative and quantified objects</td>
<td>Loss of <em>v</em>'s optional EPP_0 feature, but retention of specialized EPP_0 on <em>D</em></td>
</tr>
<tr>
<td>c. early 15th century</td>
<td>Loss of <em>vP</em>-movement to Spec <em>TP</em></td>
<td>Loss of pied-piping to satisfy <em>T</em>'s EPP_0 feature</td>
</tr>
<tr>
<td>d. 1450</td>
<td>Loss of <em>V</em>2</td>
<td>(Matrix) <em>C</em> loses EPP-feature triggering <em>T</em>-to-<em>C</em> movement</td>
</tr>
<tr>
<td>e. 1525</td>
<td>Development of lexical <em>T</em> (*modals and <em>do</em>)</td>
<td>Modal features of <em>T</em> realized by Merge</td>
</tr>
<tr>
<td>f. 1575</td>
<td>Loss of <em>V</em>-to-<em>T</em> movement</td>
<td><em>v</em> loses EPP-feature triggering <em>V</em>-movement</td>
</tr>
<tr>
<td>g. 1600</td>
<td>Contraction of negation</td>
<td>(POSSIBLY NOT A SYNTACTIC CHANGE)</td>
</tr>
<tr>
<td>h. 1630s</td>
<td>Development of negative auxiliaries</td>
<td>Negative features of clause realized by Merge in <em>T</em></td>
</tr>
<tr>
<td>i. later 17th century</td>
<td>Development of <em>do</em>-support</td>
<td><em>T</em> loses obligatory feature triggering <em>v</em>-movement</td>
</tr>
</tbody>
</table>

NET EFFECT OF TRANSFORMING ENGLISH FROM A TYPOLOGICALLY 'STANDARD' WEST GERMANIC LANGUAGE INTO THE UNUSUAL SYSTEM OF MODERN ENGLISH