

OPTIMALITY THEORY AND WORD ORDER CHANGE IN ENGLISH

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1. Introduction

This paper attempts to analyze English word order change within optimality theory (OT). It focuses mainly on the word order change from SOV to SVO, Verb-Second phenomenon (V2), and the loss of V2. Before presenting my analysis, let us briefly outline Van Kemenade's analysis (1987, 1997).

Van Kemenade (1987, 1997), based on Koster's analysis on Dutch (1975), argues that Old English (OE) is an SOV language with Verb-Movement in root clauses, as shown below:

(1) Ðæt he his stefne up ahof
that he his voice up lifted
'that he lifted up his voice'

(Pintzuk 1999: 49, Bede 154.28)

(2) Ða ge-mette he sceaðan
then met he robbers
'then he met robbers'

(Pintzuk 1999: 91, ÆLS 31.151)

A finite verb (Vf) is preceded by its complement in non-root clauses as

in example (1). In root clauses as shown in example (2), Vf appears as the second constituent of the clause, regardless of the grammatical function of the initial constituent.

Van Kemenade (1987, 1997) states that there occurred two important structural changes in Middle English (ME): the underlying word order change from SOV to SVO and the loss of V2. Let us look at them individually.

The underlying word order change from SOV to SVO was completed by 1200. Illustrative examples of a non-root clause and a root clause are given in (3) and (4), respectively. Note, however, that V2 was still alive, so that the movement of Vf to the head of CP was required in root clauses.

(3) gif Ðet tu wilnest were Ðe muche wlite habbe

if that you desire man that much beauty have

'If you want a beautiful husband'

(Van Kemenade 1987: 179, HM, 20.8)

(4) Ða ge-mette he sceaðan

then met he robbers

'then he met robbers'

(Pintzuk 1999: 91, ÆLS 31.151)

The second change relevant to English word order in ME is the loss of V2, which took place around 1400. This is shown in (5):

(5) Sothely Ðe ryghtwyse sekys Ðe Ioye and ...

truly the righteous seeks the joy and...

'Truly the righteous seeks the joy and ...'

(Van Kemenade 1987: 182, RR, 4,

24)

In example (5) with the topic *sothely*, the verb *sekys* does not occupy the second position of the clause.

This paper is organized as follows: in section 2, I introduce six relevant constraints to analyze the word order change from SOV to SVO, V2, and its loss. Section 3 shows how OT analyzes these word order changes. Section 4 draws a conclusion.

2. The relevant constraints

In order to account for the word order changes indicated above, I will introduce the following six constraints:

The first constraint that is relevant here is TP-SCOPE:

(6) TP-SCOPE: A topic must move to the position that c-commands the entire sentence.

The function of this constraint is to force a topic specified in the input¹ to move into the initial position of a clause.

The second constraint is TP-SPEC:

(7) TP-SPEC: A topic that is specified in the input must move to a specifier position.

More precisely, TP-SPEC requires a topic specified in the input to move to [Spec, CP], since [Spec, IP] has already been occupied by a subject and [Spec, VP] must be saved for checking, as shown in (11) below:

The third constraint that plays an important role here is OB-HD:

(8) OB-HD: A projection has a head.

(Grimshaw 1997: 374)

The fourth constraint is STAY, the function of which is to forbid movement:

(9) STAY: Trace is not allowed.

(Grimshaw 1997: 374)

The fifth constraint works in non-root clauses as shown below:

(10) PURE-EP: No adjunction takes place to the highest node in a subordinate extended projection; and no movement takes place into the highest head of a subordinate extended projection.

(Grimshaw 1997: 374)

The sixth and the last constraint is SATISFY:

(11) SATISFY: Morpho-syntactic features must be checked in a specifier position.²

(Speas 1997: 176)

This constraint forces a complement of Vf to move to [Spec, VP] for checking. According to Speas (1997), all phrases are base-generated head-initially. The interaction between SATISFY and STAY decides whether a head precede its complement or not in a language. I will assume, following Speas (1997), that a complement is always preceded by a head in its base- position and demonstrate that the word order change from SOV to SVO completed by 1200 can be attributed to

reranking of the constraints.

3. An analysis of English word order change within OT

3.1 An account of non-root clauses

Having introduced the relevant constraints, let us consider how the constraints interact with each other. I begin my exploration by analyzing the word order change from SOV to SVO observed clearly in non-root clauses and then turn to V2 and its loss in root clauses.

3.1.1 Old English

Let us first analyze OE non-root clauses using the four relevant constraints: OB-HD, STAY, PURE-EP, and SATISFY. The constraints TP-SCOPE and TP-SPEC are not relevant here, since all of the candidates vacuously satisfy them. Suppose that OE has the following ranking:

(12) PURE-EP, SATISFY >> STAY >> OB-HD

In ranking (12), PURE-EP and SATISFY are equally ranked, which outrank STAY, which is in turn undominated by OB-HD. The partial ranking of SATISFY over STAY implies that it is more important to move a complement of Vf to [Spec, VP] than to prohibit such movement. The following tableau of the sentence *Þæt he his stefne up ahof* demonstrates the correctness of ranking (12). Tableau (13) shows the key competitors:

(13)

<i>Pæt</i> ({ <i>up ahof</i> (<i>x,y</i>), <i>x=he</i> , <i>y=his stefne</i> , <i>tense=past</i>)	PURE-EP	SATISFY	STAY	OB-HD
a. ? [<i>CP Pæt</i> [<i>IP he e</i> [<i>VP his stefne_i up ahof t_i</i>]]]			*	*
b. [<i>CP Pæt</i> [<i>IP he ahof_j</i> [<i>VP his stefne_i up t_j t_i</i>]]]			**	
c. [<i>CP Pæt</i> [<i>IP he e</i> [<i>VP up ahof his stefne</i>]]]		*!		*

Candidate (a) has violations of STAY and OB-HD, since the complement *his stefne* moves to [Spec, VP] and the head of IP is not filled. The two violations, however, provide the best way to satisfy the top-ranked constraints. Candidate (b), with the movements of the complement and Vf to [Spec, VP] and the head of IP, respectively, violates STAY twice. Candidate (c), where no elements move, perfectly respects STAY. This candidate, however, fatally violates SATISFY. Tableau (13) correctly selects candidate (a) with the least serious violations as optimal.

3.1.2 Early Middle English

Let us turn to non-root clauses in Early Middle English (EME). Based on Van Kemenade's analysis (1987, 1997), the base change from SOV to SVO was completed by 1200, as example (3) illustrates. Given this analysis, ranking (12) is considered to have changed as in (14):

(14) PURE-EP, STAY>>SATISFY, OB-HD

In ranking (14), PURE-EP and STAY are tied, dominating SATISFY

and OB-HD. The partial ranking of STAY over SATISFY predicts that a complement of Vf would occupy its underlying position. The correctness of this ranking is shown in tableau (15):

(15)

<i>gif</i> <i>Þet</i> (<i>{wilnian</i> (<i>x,y</i>), <i>x tu</i> , <i>y= were Þe mucche wlite</i> <i>habbe,</i> tense= <i>present</i> <i>subjunctive</i>)	PURE -EP	STAY	SATISFY	OB- HD
a. [_{CP} <i>gif</i> <i>Þet</i> [_{IP} <i>tu e</i> [_{VP} <i>were Þe mucche wlite habbe</i> _i <i>wilnest t_i]]]</i>		*!		*
b. [_{CP} <i>gif</i> <i>Þet</i> [_{IP} <i>tu</i> <i>wilnest</i> _j [_{VP} <i>were Þe mucche</i> <i>wlite habbe</i> _i <i>t_j t_i]]]</i>		*!*		
c. ? [_{CP} <i>gif</i> <i>Þet</i> [_{IP} <i>tu e</i> [_{VP} <i>wilnest were Þe mucche wlite</i> <i>habbe</i>]]]			*	*

Tableau (15) rightly selects candidate (c) with SVO order and the least serious violations as optimal.

3.2 An OT account of root clauses

Having demonstrated that the word order change from SOV to SVO observed mainly in non-root clauses was caused by reranking of (12) to (14), let us turn to V2 and the loss of V2 in root-clauses using the five constraints, TP-SCOPE, TP-SPEC, OB-HD, STAY, and SATISFY.³

3.2.1 Old English

Suppose that in OE the five constraints are ranked as in (16):

(16) TP-SCOPE, TP-SPEC, OB-HD, SATISFY >> STAY

STAY is dominated by the four constraints, which are tied with each other. With the reverse ranking, any movement would be blocked by

STAY. Tableau (17) illustrates ranking (16):

(17)

{ <i>gemetan</i> (x,y), z=topic, x= <i>he</i> , y= <i>sceaðan</i> , z= <i>Pa</i> , tense=past}	TP-SC OPE	TP-SP EC	OB- HD	SATISFY	STAY
a. ? [_{CP} <i>Pa</i> _i <i>ge-mette</i> _j [_{IP} <i>he</i> <i>t</i> _j [_{VP} <i>sceaðan</i> _k <i>t</i> _j <i>t</i> _k <i>t</i> _i]]]					****
b. [_{CP} <i>Pa</i> _i <i>ge-mette</i> _j [_{IP} <i>he</i> <i>t</i> _j [_{VP} <i>t</i> _j <i>sceaðan</i> <i>t</i> _i]]]				*!	***
c. [_{CP} <i>Pa</i> _i <i>e</i> [_{IP} <i>he</i> <i>gemette</i> _j [_{VP} <i>sceaðan</i> _k <i>t</i> _j <i>t</i> _k <i>t</i> _i]]]			*!		***
d. [_{IP} <i>Pa</i> _i [_{IP} <i>he</i> <i>e</i> [_{VP} <i>gemette</i> <i>sceaðan</i> <i>t</i> _i]]]		*!	*!	*!	*
e. [_{CP} <i>Pa</i> _i <i>e</i> [_{IP} <i>he</i> <i>e</i> [_{VP} <i>gemette</i> <i>sceaðan</i> <i>t</i> _i]]]			*!*	*!	*

Candidate (a) involves four STAY violations, since the topic *Pa*, the verb *ge-mette* and the complement *sceaðan* move to their respective positions. Such violations, however, have the benefit of satisfying the higher-ranked constraints. Candidate (b), where the complement remains in situ, has one SATISFY and three STAY violations. Candidate (c) lacks the head of CP, resulting in one OB-HD and three STAY violations. Candidate (d) satisfies TP-SCOPE by adjoining the topic to IP, but it fatally violates TP-SPEC, OB-HD, and SATISFY. Candidate (e) respects TP-SPEC and TP-SCOPE by moving the topic to [Spec, CP], but incurs two OB-HD violations due to the lack of the heads of IP and CP. Tableau (17) demonstrates that candidate (a) is a winner and the others are all losers under the ranking in (16). Actually, candidate (a) is grammatical in OE grammar.

3.2.2 Early Middle English

Let us turn to EME root clauses. Note, however, that the surface structure of root clauses in EME is the same as that in OE. Compare example (2) in OE and example (4) in EME. Both of them have the following schematic structure, with the topic in the initial position ([Spec, CP]) and Vf in the second position (the head of CP). (18) leaves out traces to simplify exposition:

(18) [CP topic Vf [IP subject [VP complement]]]

This comes from the fact that the word order change from SOV to SVO does not directly affect the loss of V2 that had existed after 1200. Thus, the movement of Vf to the head of CP masks the interaction between SATISFY and STAY. I assume, following Van Kemenade (1987, 1997), that example (2) and example (4) have different structures by analogy with non-root clauses shown in examples (1) and (3). Given this assumption, the ranking in (16) can be considered to have changed by 1200 to the following:

(19) TP-SCOPE, TP-SPEC, OB-HD>>STAY>>SATISFY

In EME, STAY is ranked over SATISFY, which is the reverse ranking of the one proposed for OE. The following tableau shows how a grammatical sentence is chosen as optimal:

(20)

{ <i>ahof</i> <i>up(x,y)</i> , z=topic, x= <i>Pauls</i> , y= <i>his heafod</i> , z= <i>Pa</i> , tense=past}	TP-SCO PE	TP-SP EC	OB- HD	STAY	SATISFY
a. [_{CP} <i>Pa</i> _i <i>ahof</i> _j [_{IP} <i>Paulus</i> <i>t</i> _j [_{VP} <i>his</i> <i>heafod</i> _k <i>t</i> _j <i>up t</i> _k <i>t</i> _i]]]				****	
b. ? [_{CP} <i>Pa</i> _i <i>ahof</i> _j [_{IP} <i>Paulus</i> <i>t</i> _j [_{VP} <i>t</i> _j <i>up</i> <i>his heafod t</i> _i]]]				***	*
c. [_{CP} <i>Pa</i> _i <i>e</i> [_{IP} <i>Paulus</i> <i>ahof</i> _j [_{VP} <i>his heafod</i> _k <i>t</i> _j <i>up t</i> _k <i>t</i> _i]]]			*!	***	
d. [_{IP} <i>Pa</i> _i [_{IP} <i>Paulus</i> <i>e</i> [_{VP} <i>ahof up his</i> <i>heafod t</i> _i]]]		*!	*!	*	*
e. [_{CP} <i>Pa</i> _i <i>e</i> [_{IP} <i>Paulus e</i> [_{VP} <i>ahof up</i> <i>his heafod t</i> _i]]]			*!*	*	*

As tableau (20) shows, candidate (b), where the complement stays in situ, is optimal in EME.

3.2.3 Late Middle English

Let us examine root clauses in Late Middle English (LME). According to Van Kemenade (1987, 1997), V2 was lost by 1400, as example (5) shows. It follows that ranking (19) was reranked as in (21) by 1400:

(21) TP-SCOPE>>STAY>>OB-HD, SATISFY>>TP-SPEC

In ranking (21), TP-SCOPE dominates STAY, so that a topic movement

is required. TP-SPEC and OB-HD are, however, dominated by STAY. Thus, a topic cannot move to [Spec, CP], contrary to OE and EME grammars. The following tableau illustrates this:

(22)

{ <i>sekys</i> (x,y), z=topic, x= <i>Ðe rygthwyse</i> , y= <i>Ðe Ioye</i> , z= <i>sothely</i> , tense=present}	TP-SCOPE	STAY	OB-HD	SATISFY	TP-SPEC
a. [_{CP} <i>Sothely</i> _i <i>sekys</i> _j [_{IP} <i>Ðe rygthwyse</i> <i>t</i> _j [_{VP} <i>Ðe Ioye</i> _k <i>t</i> _j <i>t</i> _k <i>t</i> _i]]]		*****			
b. [_{CP} <i>Sothely</i> _i <i>sekys</i> _j [_{IP} <i>Ðe rygthwyse</i> <i>t</i> _j [_{VP} <i>t</i> _j <i>Ðe Ioye</i> <i>t</i> _i]]]		***		*	
c. [_{CP} <i>Sothely</i> _i e [_{IP} <i>Ðe rygthwyse</i> <i>sekys</i> _j [_{VP} <i>Ðe Ioye</i> _k <i>t</i> _j <i>t</i> _k <i>t</i> _i]]]		***	*		
d. ? [_{IP} <i>Sothely</i> _i [_{IP} <i>Ðe rygthwyse</i> e [_{VP} <i>sekys</i> <i>Ðe Ioye</i> <i>t</i> _i]]]		*	*	*	*
e. [_{CP} <i>Sothely</i> _i e [_{IP} <i>Ðe rygthwyse</i> e [_{VP} <i>sekys</i> <i>Ðe Ioye</i> <i>t</i> _i]]]		*	**	*	

Candidate (d) with the topic *sothely* adjoined to IP is optimal in LME. This results in the loss of V2.

4. Conclusion

This paper has analyzed the word order changes within OT and illustrated the applicability of OT to historical syntax. I have proposed that in non-root clauses, OE and EME have the rankings in (12) and (14), respectively. The rankings lead us to the conclusion that the word order change from SOV to SVO can be attributed to reranking between SATISFY and STAY: OE ranks SATISFY over STAY,

requiring a complement to move to a specifier position in order for features to be checked. EME, however, has the reverse ranking, resulting in SVO.

Turning to the discussion of root clauses, I have supposed that OE, EME, and LME have the rankings in (16), (19), and (21), respectively. OE and EME ranks TP-SCOPE and TP-SPEC highest, producing V2. V2, however, was lost, since ranking (19) had changed as in (21) with the partial ranking of STAY over TP-SPEC.

Let us point out some advantages of analyzing the English word order changes within OT: first, language change can be accounted for by the interaction of constraints: the change from SOV to SVO, V2 pattern, and the loss of V2 can be accounted for within the single set of constraints.

Secondly, the rankings in root clauses provide us a new insight: the rankings has become stricter and stricter through time. More specifically, ranking (16) for OE has only one solid line between TP-SCOPE, TP-SPEC, OB-HD, and SATISFY on the one hand, and STAY on the other. EME has two solid lines as shown in (19). LME fixes the hierarchy of the five constraints even more strictly, though OB-HD and SATISFY are tied. Further research is needed to determine whether such tendency is found in other constructions.

ENDNOTES

¹ For the definition of the input, I follow Grimshaw (1997) and Grimshaw and Samek-Lodovici (1998).

² Note that in my analysis, the base-position of a subject is assumed to be [Spec, IP], rather than [Spec, VP], because [Spec, VP] must be saved in order for features to be checked.

³ In this analysis, subjects are limited to full-NPs.

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