

System-Internal triggers of language change: The replacement of *th-* with *wh-* elements in Middle English

Richard Zimmermann

University of Geneva
9DSL

29 June 2016

Introduction

Temporal *th*-subordinators in early English

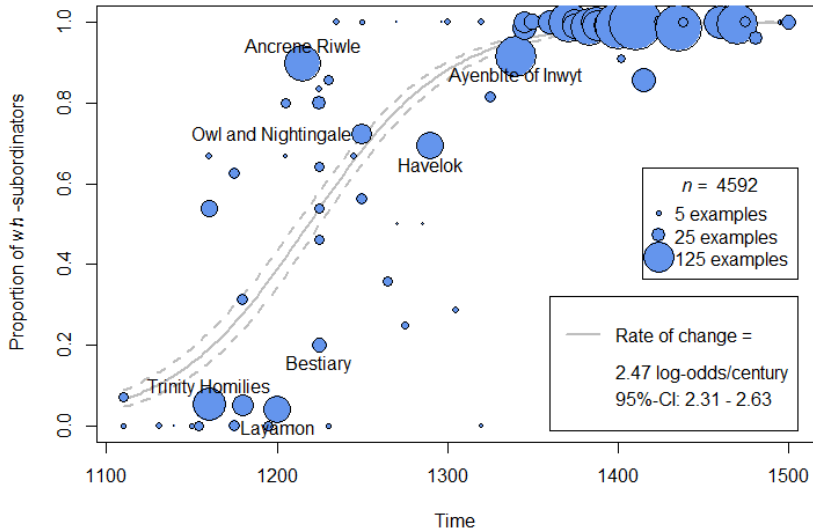
- (1) a. ... ðæt hit wære geendodu spæc
... that it were ended speech
ða se dom wæs gefylled.
then the judgment was fulfilled
'... that the law suit would be closed when the
judgment was carried out'
(codocu2, Ch_1445_[HarmD_18]:41.62)
- b. ... ac heo onwrihð hire æwelm
... but it reveals its source
þonne heo geoþenað hiore þeawas.
then it shows its habits
'... but it reveals its source when it shows its habits'
(coboeth, Bo:20.47.7.848)

Middle English variation between *th-* and *wh-*subordinators

- (2) a. Olibrius þe luðere, **þa** he þis iherde, changede
Olibrius the wicked then he this heard changed
his chere.
his expression
'Olibirus the wicked changed his expression when he
heard this
(CMMARGA,58.55, c. 1225 A.D.)
- b. Sothely, þise wordes, **when** I here thaym or redis
truly, these words, when I hear them or read
þam, stonyes me
them, stupefy me
'Truly, these words stupefy me when I hear them or
read them'
(CMROLLTR,45.918, c. 1350 A.D.)

Data sources

- ▶ Middle English period, c. 1100-1500 A.D.
- ▶ Corpora:
 - ▶ PPCME2 (Kroch and Taylor 2000)
 - ▶ PCMEP (Zimmermann 2015)
- ▶ every text has been assigned a specific year based on estimated date of composition
- ▶ syntax of clauses directly retrievable
- ▶ form of subordinators as a set of strings in a definition file:
THEN: +ta | +Ta | +da | +Tonne | +donne | +Denne | ...
WHEN: Hw*n* | hw*n | W*n* | w*n* | h*n* | \$Hw*n* | ...

Development of *wh*-subordination

Introduction

Explaining the change

Hypothesis Testing

Conclusion

The Change

Outline

Aim of the talk

Aim of the talk

- ▶ attribute the change in subordination to the loss of conditioning word order patterns
 - ▶ LFG model of word order after *then* and *when* in early English
 - ▶ explain how subordination change may follow

Aim of the talk

- ▶ attribute the change in subordination to the loss of conditioning word order patterns
 - ▶ LFG model of word order after *then* and *when* in early English
 - ▶ explain how subordination change may follow
- ▶ derive and test several hypothesis from this explanation
 - ▶ time course of word order change
 - ▶ alternative subordinating strategies

Explaining the change

Why may the subordination change have happened?

Why may the subordination change have happened?

- ▶ Loan syntax - Latin *quando* or Old French *quant* as sources
 - ▶ large-scale borrowing from French in Middle English uncontroversial
 - ▶ some Northern Middle English texts spell *wh*-words with *qu* (*quen* for *when*)

Why may the subordination change have happened?

- ▶ Loan syntax - Latin *quando* or Old French *quant* as sources
 - ▶ large-scale borrowing from French in Middle English uncontroversial
 - ▶ some Northern Middle English texts spell *wh*-words with *qu* (*quen* for *when*)
- ▶ Analogy - *wh*-items are rising across the board
 1. headed relatives (*the man the I see* → *the man who I see*)
 2. free relatives (*that he says is nice* → *what he says is nice*)
 3. locatives (*the place there he lives* → *the place where he lives*)
 4. appearance of *while* as a subordinator

Why may the subordination change have happened?

- ▶ Loan syntax - Latin *quando* or Old French *quant* as sources
 - ▶ large-scale borrowing from French in Middle English uncontroversial
 - ▶ some Northern Middle English texts spell *wh*-words with *qu* (*quen* for *when*)
- ▶ Analogy - *wh*-items are rising across the board
 1. headed relatives (*the man the I see* → *the man who I see*)
 2. free relatives (*that he says is nice* → *what he says is nice*)
 3. locatives (*the place there he lives* → *the place where he lives*)
 4. appearance of *while* as a subordinator
- ▶ **Loss of disambiguating word order**

Subordinate clause readings

- (4) Ac ure drihten eft of deaþe heo aræreþ,
but our Lord again of death them raises-up

So he alle men deþ, **þonne** domes dai cumeþ.
as he all men does, then doomsday comes

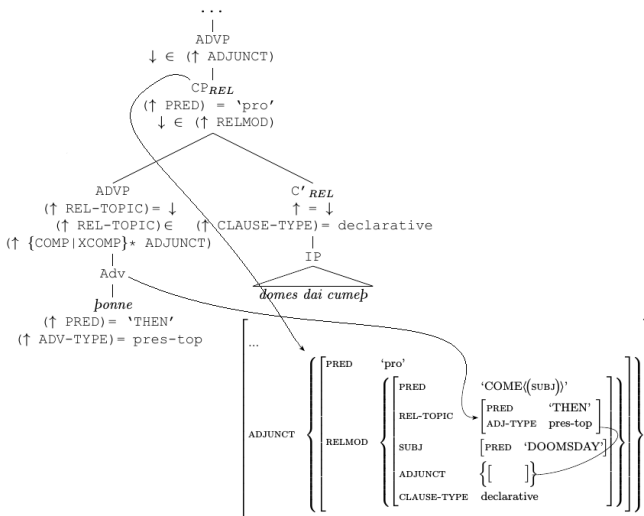
‘But our Lord raises them up from death again, as he does
all men, when doomsday comes’

not: # ‘He raises them up. And then Domesday comes’
(BodySoul,185.7.13.FragE)

Temporal subordinate clauses as free relatives

- ▶ Temporal subordinate clauses are treated as free relatives (Geis 1970; Grimshaw 1977; Bresnan and Grimshaw 1978).
- (5) I saw Mary in New York when [_{IP} she claimed [_{CP} that [_{IP} she would leave.]]]
- (i) high construal: at the time that she made the claim
 - (ii) low construal: at the time of her presumed departure (from: Haegeman 2010, 635, her example (21))

Analysis



Main clause reading

- ▶ Verb-second order after *þanne* signaled an adverbial reading

(6) þa com Henri abbot

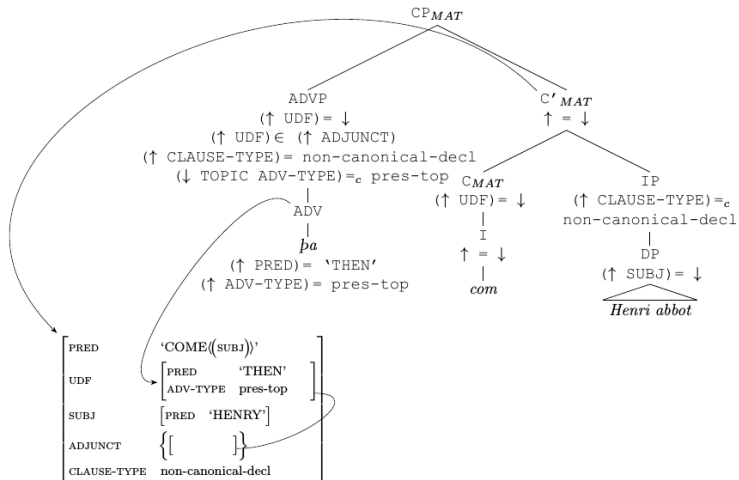
then came Henry abbot

'Then abbot Henry came'

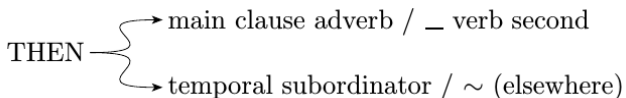
not: # 'when abbot Henry came'

(CMPETERB2,54.370)

Analysis



Decline of Verb-Second after *then*



- ▶ The conditioning factor weakens; verb-second declines;

Change in constraints on adjunction

$CP_{MAT} \rightarrow$ ADVP CP_{MAT}
 $\downarrow \in (\uparrow \{COMP \mid XCOMP\}^* \text{ADJUNCT})$ $\uparrow = \downarrow$
 $(\downarrow \text{ADV-TYPE}) \neq \text{pres-top}$

- (7) a. *Where, Mary kissed John.
b. Somewhere, Mary kissed John.
- (8) a. *Never, Mary kissed John.
b. Sometimes, Mary kissed John.

Main clause reading without Verb-Second

- (9) And **thenne** the kyng retornyd ayenne
And then the king returned again
'And then, the king returned again'
(Context makes it clear that not # 'when the king
returned')
(CMGREGOR,114.448)

Consequence: Structural ambiguity

- ▶ Ambiguity between interpretations
- (10) **Tho** the screwe was overcome; Sori he was and wo.
then/when the villain was overcome, sorry he was and woe
- (i) '**Then** the villain was overcome. He was sorry and miserable.'
 - (ii) '**When** the villain was overcome, he was sorry and miserable.'
- (Fridesw,43.55)

Solution: Replace the conditioning factor

- ▶ A designated subordinator is used to respond to the loss of of Verb-Second. In this way the grammar preserves a salient contrast.
(e.g., Labov 1994, 119) (Principle of Contrastiveness)

Subordination with *when*

- ▶ *when* only allows subordinator readings because it does not have a `pres-top` feature

(11) *lexical entry for 'when'*

hwan Adv (↑ PRED) = 'WHEN'
 (↑ ADVP-TYPE) = wh

- ▶ This allows straight-forward competition between *when* and subordinator usage of *then* but not between *when* and adverbial usages of *then*

Computational explicitness

- ▶ Demonstration in grammar engineering software XLE

Summary

- ▶ To preserve the contrast between main clause adverbs and temporal subordinators, a *wh*-item was recruited
- ▶ A kind of repair strategy.
- ▶ In an grammar “environment” with functional ambiguity, a designated grammatical item has a large “fitness” and will therefore become more frequent.
- ▶ Can be thought of as a **syntactic chain shift**: the loss of a syntactic conditioning factor promotes another linguistic change to prevent a merger of two linguistic categories that would otherwise have taken place.
- ▶ Language-internal motivation for change.

Hypothesis Testing

Time course

- ▶ **H1 - Chronology:** The advantage of a *wh*-based temporal subordinator arises only through a declining distinctness of conditioning word order patterns. The decline in Verb-Second after *then* should predate the introduction of *when* as a temporal subordinator, but only narrowly.

H1 Procedure

- ▶ Compare the proportion of *wh*-based subordinators in temporal clauses against a measurement of verb-second after *then*.
- ▶ Presence of verb-second: *then* and finite verb must be immediately adjacent; only negation can intervene; the finite verb precedes a non-empty subject anywhere within the same clause; only *then* is contained in the adverb phrase

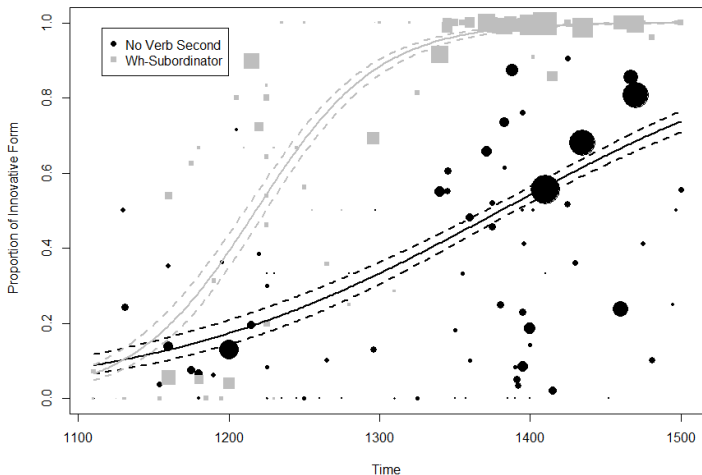
(12) **þen maizt** þou synge of loue lele.
then might you sing of love loyal
'Then you may sing of faithful love'
(HowHearMass,134.208.69.[Stanza_18])

- ▶ Absence of verb second: *then* and finite verb (or negated finite verb) must not be immediately adjacent; *then* precedes a non-empty subject and precedes the finite verb in any order; only *then* is contained in the adverb phrase

(13) Whon he haþ waschen **þen he** walkes
when he has washed then he walks
'When he has done the ritual cleansing, then he walks on'
(HowHearMass,143.533.221.[Stanza_46])

Results

- ▶ 2,037 examples of V2; 2,097 examples of No-V2



Evaluation

- ▶ Substantial variation in word order after adverbial *then* (black dots)
- ▶ Nevertheless, a significant decline of verb-second after adverbial *then* is measurable in Middle English
- ▶ The point of origin of the two changes fall roughly together; the loss of verb-second begins just before the rise of *wh*-subordination
- ▶ For example, for 1100 A.D., the regression model predicts 8.2% absence of verb second after *then*; but only a 3.6% probability of finding a *wh*-subordinator
- ▶ The timing of the changes is compatible with the hypothesis that the loss of verb second promoted the change in subordinator form
 - The data supports hypothesis 1

Cues other than word order

- ▶ **H2 - Alternative subordinating strategies:** The interpretation of *then* does not necessarily rely on word order cues. Alternative constructions are available that force a subordinating reading. Therefore, *th*-based subordinators should prevail more robustly when alternative subordinating strategies are used.

H2 Procedure

- ▶ Compare the proportion of *wh*-based subordinators in temporal clauses in contexts with and without alternative subordinating strategies.
- ▶ The independent variable 'presence of alternative subordinating strategy' is positive in the following three cases:

Case 1 - Overt complementizers

- ▶ when *then* or *when* co-occur with a complementizers like *that*, only subordinate readings are possible; thus main clause adverbial readings are explicitly ruled out

- (14) a. Anon, **ðo** **ðe** he lokede upen him, he agann
at-once, when that he looked upon him, he began
to wepen,
to weep
'Right away, when he looked at him, he began to weep'
(CMVICES1,111.1358)
- b. and **when** **pat** he come þider, þe Porter wende þat it
hade bene his owen lorde.
(CMBRUT3,67.2009)

Case 2 - Correlative constructions

- ▶ The subordinator locates the event in discourse, a resumptive relates the following event (Links and Kemande 2013)

- (15) a. **panne** man forgiet þat he seien sholde.
then one forgets what he say should
panne beð his tunge also hit cleued were
then is his tongue as-if it stuck were.
'When a person forgets what he should say, then his tongue is as if it were stuck.' (CMTRINIT,73.1005)
- b. **hwēn** hit alles kimeð forð
when it in-all comes forth
penne is hit geoleu atter
then is it yellow venom
'When it finally comes out, then it is yellow venom'
(CMANCRIW-1,II.70.785)

Case 3 - Relativization

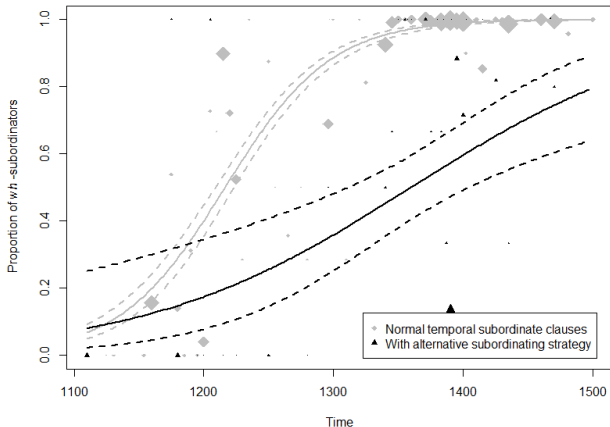
- ▶ *then* can be modified by a relative clause with a temporal relative adverb; therefore “double occurrences” of *then then* or *then when* force a subordinate interpretation

- (16) a. swa hit wæs **þa þa** David sloh Goliam
so it was then when David slew Goliath
'so it happened when David killed Goliath
(ELUCID,141.175)

- b. **Thenne when** the lady was delyverd, the kyng
commaunded two knyghtes and two ladyes to take the
child bound in a cloth of gold
(CMMALORY,6.149)

Results

- ▶ 4,178 ordinary temporal subordinate clauses; 414 examples with alternative subordinating strategy



Evaluation

- ▶ clear contrast between temporal clauses with and without alternative subordinating strategies: clauses with additional disambiguating devices show a considerably more conservative pattern
- ▶ A model with 'presence of alternative subordinating strategies' predicts the realization of the subordinator as a *th-* or *wh-*item significantly better than a model with 'year' as the only independent variable
 - The data supports hypothesis 2

Conclusion

From *th-* to *wh-*subordinators

- ▶ There is a rise in temporal *wh*-subordination in Middle English
- ▶ The change is empirically measurable even in poetic records (Parsed Corpus of Middle English Poetry)
- ▶ It was suggested that the development of *when* as a subordinator can in part be attributed to the loss of conditioning word order patterns (syntactic chain shift)
- ▶ This is not a strictly deterministic conceptualization. Other factors may be relevant too:
 - ▶ French and Latin influence
 - ▶ Analogy with other areas of the language system in which *wh*-items become dominant
- ▶ Overall, there seems to be good empirical reason to support the idea that the loss of a conditioning factor can contribute to a subsequent change; system-internal motivation for language change

Thank you for your attention!

“[I]t is obvious that the simple labels internally-motivated and externally-motivated language change do not do justice to the complex and intricate relationship between how speakers act linguistically in their community and the postulated abstract level of structure which is taken to provide the basis for speakers behaviour. ” (Hickey 2012)

- Bresnan, J. and Grimshaw, J. (1978), 'The syntax of free relatives in english', *Linguistic Inquiry* **9.3**, 331-391.
- Geis, M. L. (1970), *Adverbial subordinate clauses in English*, PhD Dissertation, MIT Press, Cambridge, MA.
- Grimshaw, J. (1977), *English Wh-Constructions and the Theory of Grammar*, PhD Dissertation, University of Massachusetts, Amherst.
- Haeberli, E. (2005), Clause type asymmetries in old english and the syntax of verb movement, in M. Batllori, M.-L. Hernanz, C. Picallo and F. Roca, eds, 'Grammaticalization and parametric change', Oxford University Press, Oxford, pp. 267-283.
- Haegeman, L. (2010), 'The internal syntax of adverbial clauses', *Lingua* **120.3**, 628-648.
- Kemenade, A. v. and Los, B. (2006), Discourse adverbs and clausal syntax in old and middle english, in 'The Handbook of the History of English', Wiley-Blackwell, Oxford, pp. 224-248.
- Kroch, A. and Taylor, A. (2000), *Penn-Helsinki Parsed Corpus of Middle English*, <http://www.ling.upenn.edu/hist-corpora/PPCME2-RELEASE-3> (Accessed 10 April 2013), 2 edn, Department of Linguistics, University of Pennsylvania.
- Labov, W. (1994), *Principles of Linguistic Change. Volume 1: Internal Factors*, Wiley-Blackwell, Oxford.
- Links, M. and Kemande, A. v. (2013), 'correlative constructions in earlier english: the þa ... þa construction', *Paper delivered at SHES11, Nijmegen, June 2013*.
- Zimmermann, R. (2015), *The Parsed Corpus of Middle English Poetry*.