# Evidence for "underlying" XV word order in Early Old French

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#### VX and XV word orders in Old French

- (1) Rollant ad mis l'olifan a sa buche
   'Roland raised the ivory horn to his mouth.'
   (1100-ROLAND-V,133.1772)
- (2) Li reis Marsilie out sun cunseill finet
   'King Marsilla had adjourned his council.' (1100-ROLAND-V,5.53)

#### Decline of OV with multi-word objects, quantified vs. non-quantified



## Decline of OV with multi-word objects, by length, quantified and non-quantified combined



#### Grammatical analysis of the decline, I

- Does the decline of XV word orders involve competition between an XV grammar inherited from Latin and the modern French VX grammar?
- Or is there a discontinuity between Latin and French? In other words, does even the earliest French have only the VX grammar, and do the XV word orders reflect a decline in scrambling?

#### Grammatical analysis of the decline, 2

- Students of the decline of XV, including generative historical syntacticians, have favored the second view.
- However, there is a nagging feeling that Early Old French shows "too much" XV word order for a language with a VX grammar, even one with scrambling.

#### Decline of OV with one-word objects, quantified vs. non-quantified



#### Roadmap

- Evidence for statistical independence of grammatical processes
  - Synchronic: "Free" word order in Ancient Greek
  - Diachronic: Phrase structure change in the history of Yiddish
- Quantitative evidence for "too much"
   XV order in Early Old French

I. Statistical independence in word order patterns in Ancient Greek (Taylor 1994)

#### "Free" word order in Ancient Greek

SXV: Καμβύσης τὰ δῶρα ἐδέξατο Kambyse:s ta do:ra edeksato Kambuses the gifts received

SVX: Καμβύσης ἐδέξατο τὰ δώρα

VSX: ἐδέξατο Καμβύσης τὰ δῶρα

VXS: ἐδέξατο τὰ δῶρα Καμβύσης

XSV: τὰ δώρα Καμβύσης ἐδέξατο

XVS: τὰ δώρα ἐδέξατο Καμβύσης

| pattern | formula    |
|---------|------------|
| S,Xv    | (1-s)(1-p) |
| X , Y v | $(1-p)^2$  |
| S v X   | p(1-s)     |
| ΧvS     | s(1-p)     |
| ΧνΥ     | 2p(1-p)    |
| vS,X    | sp         |
| v X , Y | $p^2$      |

Formula for calculating distribution of clause types based on the probability of postposing of subjects and complements

|                      | subject postposing | NP compl. postposing | N   |
|----------------------|--------------------|----------------------|-----|
| 1 NP argument        | .27                | .44                  | 112 |
| 2 NP arguments       | .23                | .48                  | 109 |
| 3 NP arguments       | .29                | .41                  | 21  |
| 1  NP/1  PP argument | .28                | .48                  | 58  |

Probability of subject and NP complement postposing in four Homeric data sets

| pattern                               | formula    | observed distribution | expected distribution |  |  |  |  |
|---------------------------------------|------------|-----------------------|-----------------------|--|--|--|--|
| S X v                                 | (1-s)(1-p) | 41                    | 41                    |  |  |  |  |
| XYv                                   | $(1-p)^2$  | 7                     | 5                     |  |  |  |  |
| S v X                                 | p(1-s)     | 31                    | 31                    |  |  |  |  |
| X v S                                 | s(1-p)     | 13                    | 12                    |  |  |  |  |
| XvY                                   | 2p(1-p)    | 4                     | 8                     |  |  |  |  |
| v S X                                 | sp         | 8                     | 9                     |  |  |  |  |
| v X Y                                 | $p^2$      | 5                     | 3                     |  |  |  |  |
| Total N = 109 s = .23 p = .43         |            |                       |                       |  |  |  |  |
| N for clauses with subjects $= 93$    |            |                       |                       |  |  |  |  |
| N for clauses without subjects $= 16$ |            |                       |                       |  |  |  |  |
| $\chi^2 = 4.12,  {\sf p} > .8$        |            |                       |                       |  |  |  |  |

Best fit of observed and expected distribution of clauses with 2 arguments in Homer

| pattern                           | formula           | observed distribution | expected distribution |  |  |  |
|-----------------------------------|-------------------|-----------------------|-----------------------|--|--|--|
| S X Y v                           | $(1-s)(1-p)^2$    | 4                     | 5                     |  |  |  |
| S X v Y                           | 2p(1-s)(1-p)      | 10                    | 7                     |  |  |  |
| XYvS                              | $s(1\text{-}p)^2$ | 2                     | 2                     |  |  |  |
| S v X Y                           | $p^2(1\text{-}s)$ | 1                     | 3                     |  |  |  |
| XvSY                              | 2p(1-p)(1-s)      | 4                     | 3                     |  |  |  |
| v S X Y                           | $s(p^2)$          | 0                     | 1                     |  |  |  |
| Total N = 21 s = .29 p = .41      |                   |                       |                       |  |  |  |
| $\chi^2 = 3.66,  \mathrm{p} > .8$ |                   |                       |                       |  |  |  |

Best fit of observed and expected distribution of clauses with 3 arguments in Homer

#### 2. Statistical independence in word order patterns in Early Yiddish (Santorini 1993)

#### Variation in the position of T in Yiddish, I

(I) ven der vatr es <u>leyent</u>if the father it reads

(2) ven der vatr <u>leyent</u> es if the father reads it

#### Variation in the position of T in Yiddish, 2

- (3) ven der vatr nurt doyts <u>leyent</u> if the father only German reads
- (4) ven der vatr <u>leyent nurt doyts</u> if the father reads only German

#### Noun phrase extraposition in Yiddish

- (1) ven der vatr nurt doyts leyen <u>kan</u> if the father only German read can
- (2) ven der vatr leyen <u>kan</u> nurt doyts if the father read can only German

#### Prepositional phrase extraposition in Yiddish

- (3) dz ikh reyn fun der ashin <u>verde</u> that I clean from the ash become
- (4) dz ikh reyn <u>verde</u> fun der ashin that I clean become from the ash

# Frequency of DP and PP postposing in the history of Yiddish (Santorini 1993:275)

| Date      | DP postposing      |               |       | Р         | P postposing  |       |
|-----------|--------------------|---------------|-------|-----------|---------------|-------|
|           | Postposed          | Not postposed | freq. | Postposed | Not postposed | freq. |
| 1400-1489 | 1                  | 12            | .08   | 9         | 12            | .43   |
| 1490-1539 | 7                  | 19            | .27   | 13        | 16            | .45   |
| 1540-1589 | 7                  | 24            | .23   | 52        | 21            | .71   |
| 1590-1639 | 10                 | 40            | .20   | 39        | 23            | .63   |
| 1640-1689 | 4                  | 19            | .17   | 17        | 30            | .36   |
| 1690-1739 | 1                  | 5             | .17   | 6         | 3             | .67   |
| 1740-1789 | 1                  | 2             | .33   | 8         | 7             | .53   |
| 1790-1839 | 0                  | 1             | .00   | 1         | 1             | .50   |
| 1840-1950 | no INFL-final data |               | —     | no INF    | L-final data  | —     |

# Frequency of DP and PP postposing in the history of Yiddish



How many instances of the word order in (b) are underlyingly T-final?

(b) Subj V XP ← ambiguous

R(ate of postposing) = P / (P + N)

$$\mathsf{P} = \mathsf{N} * \mathsf{R} / (\mathsf{I} - \mathsf{R})$$

$$a_{corr} = a + P$$

 $b_{corr} = b - P$ 

#### An example

- 3 instances of Subj V XP, 9 of Subj XP V
- How many of the 3 instances are T-final?
- P = N \* R / (I-R)
- N = 9, R = 0.28
- P = 9 \* 0.28 / 0.72 = 2.5
- So only 0.5 out of the 3 examples are T-final; the rest are T-medial

#### Rise of various sentence types in Yiddish, I (Santorini 1993:270-275)

| Date  | Unamb<br>med | Unamb<br>N | Amb<br>raw | Amb<br>N | Amb<br>corr |
|-------|--------------|------------|------------|----------|-------------|
| 1445  | 1            | 43         | 3          | 12       | 0.5         |
| 1515  | 7            | 79         | 13         | 26       | 6.8         |
| 1565  | 17           | 127        | 58         | 97       | 5.9         |
| 1615  | 12           | 150        | 41         | 70       | 17.0        |
| 1665  | 31           | 108        | 32         | 53       | 24.7        |
| 1715  | 40           | 88         | 21         | 32       | 10.0        |
| 1765  | 12           | 30         | 5          | 7        | 3.6         |
| 1815  | 133          | 136        | 58         | 61       | 57.0        |
| 1840+ | 152          | 152        | 69         | 69       | 69.0        |

#### Rise of various sentence types in Yiddish, 2



# Comparing rates of change of various sentence types in Yiddish (Santorini 1993:272-276)

|           | Slope | Chi-square | þ         |
|-----------|-------|------------|-----------|
| Unamb     | 1.11  | -          | -         |
| Amb, raw  | 0.36  | 17.14      | p < 0.001 |
| Amb, corr | 0.97  | 0.59       | n.s.      |

#### 3. XV vs. VX in Old French: Preliminaries

#### Preliminaries, I

- Sentences where a target XP is a clitic or an empty category are excluded since their base position is either fixed or not recoverable.
- Sentences where a target XP moves further left than T are excluded since their base position relative to the non-finite verb is not recoverable.
- With tensed sentences, only ones with non-finite VPs are considered to avoid interference from Vto-T or V-to-C movement.

(I) Je les ai \_\_\_\_\_vu(s) \_\_\_\_ I them have seen (2) Qui veux-tu voir ? who want you to-see (3) Je les veux \_\_\_\_\_ voir \_\_\_\_\_ I them want to-see

 Object > (Subject) > Finite V > Nonfinite V
 (1) Sa grant honur a grant dol ad turnede (f. sg.) 'He has turned his great honor to great sorrow.' (10XX-ALEXIS-V,29.282)

(Subject) > Object > Finite V > Nonfinite V
(2) Li amiralz .X.escheles ad justedes (f. pl.) 'The admiral arranged ten batallions.' (1100-ROLAND-V,234.3228)

(Subject) > Finite V > Object

 (1) Nostres Sires savoit tout bien
 'Our Lord knew everything well.' (1190-BORON-R,9.110)

 (2) si avroiz molt grant aventage
 'So you would have a very great advantage.' (1170-YVAIN-R,41.1361)

(Subject) > Object > Finite V

 (I) Uns viels prestre la porte garde
 'An old priest is guarding the door' (II6X-MARIE-DE-FRANCE-R, I6.276)

(2) et vos enor et joie rande
 'and God give you honor and joy'
 (1170-YVAIN-R,162.5687)

#### Preliminaries, 2

Old French texts contain occasional examples of OVT(ense) word order, strikingly similar to the word order in German subordinate clauses:

 (I) Quant I' ostes ce escouté eut when the army that heard had (II90-BORON-R,38.579)

(2) als das Heer das gehört hatte when the army that heard had

#### Preliminaries, 3

However, the resemblance to German is only superficial. In Old French, OVT(ense) word order always arises from leftward movement of a VP to an A-bar position.

Seignur servir bien deit l'um tel lord serve well ought one such (1120-BRENDAN-R,55.666)

Pre-Tense VPs always precede any clitics associated with the finite verb.

des que vos tant dit m' an avez since that you so-much told me of-it have (1170-YVAIN-R,151.5230)

Pre-Tense VPs may be either OV or VO. In the latter case, they superficially violate the Final-Over-Final Constraint.

Ainz que trovét nule rien ait before that found any thing has (1120-BRENDAN-R,70.1085)

#### VO vs. OV word order: Avoir + participle

- (1) Rollant ad mis l' olifan a sa buche
   'Roland raised the ivory horn to his mouth.' (1100-ROLAND-V,133.1772)
- (2) Li reis Marsilie out sun cunseill finet
   'King Marsilla had adjourned his council.' (1100-ROLAND-V,5.53)

#### VO vs. OV word order: Modal + infinitive

# (I) Je veul avoir mon loyer 'I want to have my pay.' (127X-CASSIDORUS-P,164.1546)

(2) Kar ne poeit le jur choisir
 'For he cannot choose the day.'
 (116X-MARIE-DE-FRANCE-R,111.2262)

#### VO vs. OV word order: Other nonfinite clauses

# (1) é pursievre David cessad 'and he ceased to pursue David' (1150-QUATRELIVRE-P,47.1793)

### (2) Le abét e tuz baiser enprent 'He begins to kiss the abbot and everyone.' (1120-BRENDAN-R,47.464)

 Early Old French has "too much" XV

#### XV vs. VX word order in clauses with full DP direct and indirect objects in Early Old French (up to 1250)

|                         | V > DO | DO > V | Row Totals | Estimated DO scrambling |
|-------------------------|--------|--------|------------|-------------------------|
| V > IO                  | 40     | 2      | 42         | .048                    |
| IO > V                  | 5      | 5      | 10         |                         |
| Column Totals           | 45     | 7      | 52         |                         |
| Estimated IO scrambling | .11    |        |            |                         |

Expected DO,IO > V order =  $.11^*.048^*52 = .28$ Observed DO,IO > V order = 5 Chi-square =81.14

#### XV vs. VX word order in clauses with a full DP direct object and a clause-level PP in Early Old French (up to 1250)

|                         | V > DO | DO > V | Row totals | Estimated DO scrambling |
|-------------------------|--------|--------|------------|-------------------------|
| V > PP                  | 237    | 54     | 291        | .19                     |
| PP > V                  | 24     | 38     | 62         |                         |
| Column totals           | 261    | 92     | 353        |                         |
| Estimated PP scrambling | .092   |        |            |                         |

Expected DO, PP > V order =  $.092^* . 19^* . 353 = 6.0$ Observed DO, PP > V order =  $\boxed{38}$  Chi-square = 169.8

#### XV vs. VX word order in clauses with full DP direct and indirect objects in later Old French (1250-1400)

|                         | V > DO | DO > V | Row totals | Estimated DO scrambling |
|-------------------------|--------|--------|------------|-------------------------|
| V > IO                  | 41     | 3      | 44         | .068                    |
| IO > V                  | 6      | 1      | 7          |                         |
| Column totals           | 47     | 4      | 51         |                         |
| Estimated IO scrambling | .13    |        |            |                         |

Expected DO,IO > V order =  $.13^*.068^*51 = .44$ Observed DO,IO > V order = 1 Chi-square = 0.6966

#### XV vs. VX word order in clauses with a full DP direct object and a clause-level PP in later Old French (1250-1400)

|                         | V > DO | DO > V | Row totals | Estimated DO scrambling |
|-------------------------|--------|--------|------------|-------------------------|
| V > PP                  | 200    | 58     | 258        | .22                     |
| PP > V                  | 3      | 3      | 6          |                         |
| Column totals           | 203    | 61     | 264        |                         |
| Estimated PP scrambling | .015   |        |            |                         |

Expected DO, PP > V order =  $.015^*.22^*264 = .88$ Observed DO, PP > V order = 3 Chi-square = 5.21

#### References

- Martineau, France, Anthony Kroch et al. 2010. MCVF corpus of historical French. Modéliser le changement: Voies de français. <u>http://</u> www.voies.uottawa.ca/
- Santorini, Beatrice. 1993. The rate of phrase structure variation in the history of Yiddish. Language variation and change 5:257-281.
- Taylor, Ann. 1994. The change from SOV to SVO in Ancient Greek. Language variation and change 6:1-37.

#### Finis

#### Avoir + participle with object agreement

### (1) Li emperere ad pris<u>e</u> sa herberge (f. sg.) 'The emperor has taken his lodging.' (1100-ROLAND-V,182.2486)

## (2) Vos li avez tuz ses castels tolu<u>z</u> (m. pl.) 'You have taken all his castles from him.' (1100-ROLAND-V,16.208)

Avoir + participle with object disagreement

 (1) Li nostre deu i unt fai<u>t</u> felonie (m. sg. - f. sg.)
 'Our gods have committed a felony there.' (1100-ROLAND-V,188.2595)

(2) ... avoit tous les autres vainc<u>u</u> (m. sg. - m. pl.)
 '... (the emperor) had vanquished all the others.'
 (137X-PRISE-R,.639)

Avoir + participle with agreeing and disagreeing clitic objects

- (1) Forment l'(= la prison) ont ferm<u>ee</u> et serr<u>ee</u> (f. sg.)
   'They closed and sealed it securely.'
   (1190-BORON-R,25.398)
- (2) tuz les i ad perdut (m. pl. m. sg.)
  'He lost them all there.'
  (1100-ROLAND-V,152.2053)

#### Decline of OV word order by clause type



#### Object-participle agreement by DP type



#### Avoir + participial small clause

(1) s' avoient les espees traites desos les capes (f. pl.)
 'So they had their swords drawn under their capes.'
 (122X-AUCASSIN-14-P,.21)

 (2) N' ot drap vestu fors la chemise. (m. sg.)
 'He had no clothes on except for his shirt.' (116X-MARIE-DE-FRANCE-R,99.2003) Possible cases of *avoir* + participial small clause with postposed DP

(1) out vestu<u>e</u> sa brunie (f. sg.)
 'He had put on his body armor.'
 (1100-ROLAND-V,29.364)

 (2) s' avoient bien <u>lïez</u> de cordes les piez (m. pl.)
 'So they had their feet tightly bound with cords.' (1170-YVAIN-R,125.4314)

#### Decline of OV word order in clauses with *avoir* + participle



## Decline of OV word order: agree-marked versus neutralized *avoir* + participle



#### Decline of OV word order by clause type: all *avoir* + participle versus others



#### Cases of raising of a nonfinite verb across an adverb

 (1) En celui temps Bruthus avoit congneu<u>e</u> charnelment Ynogen sa femme (f. sg.)
 'During this time Brutus had had intercourse with his wife Ynogen.'

(I33X-PERCEFOREST-P,87.443)

 (2) il n' avoit pas mis encores son consel ensamble
 'He had not yet assembled his council.' (1373-FROISSART-P,402.8059)

## Frequency of the raising of nonfinite verbs over adverbs by date



#### Decline of OV word order by clause type: all *avoir* + participle versus others



#### www.ling.upenn.edu/~kroch/handouts/digs16.pdf