

# The Loss of Negative Concord with Negative PPs

Richard Zimmermann

University of Geneva  
SHES 2019

18 May 2019

## Introduction

# Sentential Negation and Negative Concord

## Sentential Negation and Negative Concord

- Sentential Negation with negative particle *ne*, (1), co-occurrence of *ne* and negative adverb *not*, (2), gradual loss of *ne* (Jespersen 1917)

## Sentential Negation and Negative Concord

- Sentential Negation with negative particle *ne*, (1), co-occurrence of *ne* and negative adverb *not*, (2), gradual loss of *ne* (Jespersen 1917)

- |     |  |  |
|-----|--|--|
| (1) | he <b>ne</b> sculde beon ded             | ( <i>Layamon's Brut</i> , c. 1200)         |
| (2) | He <b>ne</b> shal <b>nouȝt</b> sechen.   | ( <i>Earliest Prose Psalter</i> , c. 1350) |
| (3) | They $\emptyset$ shall <b>not</b> mysse, | ( <i>A right merrie Comedie</i> , c. 1570) |

## Sentential Negation and Negative Concord

- Sentential Negation with negative particle *ne*, (1), co-occurrence of *ne* and negative adverb *not*, (2), gradual loss of *ne* (Jespersen 1917)

- (1) he **ne** sculde beon ded (*Layamon's Brut*, c. 1200)
- (2) He **ne** shal **nouȝt** sechen. (*Earliest Prose Psalter*, c. 1350)
- (3) They  $\emptyset$  shall **not** mysse, (*A right merrie Comedie*, c. 1570)

- Negative particle *ne* also (1) co-occurs with other negative elements, such as *never*, negative objects, etc. (2) before it is lost (Jack 1978):

## Sentential Negation and Negative Concord

- Sentential Negation with negative particle *ne*, (1), co-occurrence of *ne* and negative adverb *not*, (2), gradual loss of *ne* (Jespersen 1917)

- (1) he **ne** sculde beon ded (*Layamon's Brut*, c. 1200)
- (2) He **ne** shal **nouȝt** sechen. (*Earliest Prose Psalter*, c. 1350)
- (3) They  $\emptyset$  shall **not** mysse, (*A right merrie Comedie*, c. 1570)

- Negative particle *ne* also (1) co-occurs with other negative elements, such as *never*, negative objects, etc. (2) before it is lost (Jack 1978):

- (4) a. And þo .ij. sterres **ne** meeven **neuere** (*Mandevilles Travels*, c. 1371)
- b. for þey  $\emptyset$  synneden **neuere**. (*Wycliffe Sermons*, c. 1383)

## Sentential Negation and Negative Concord

- Sentential Negation with negative particle *ne*, (1), co-occurrence of *ne* and negative adverb *not*, (2), gradual loss of *ne* (Jespersen 1917)

- (1) he **ne** sculde beon ded (*Layamon's Brut*, c. 1200)  
 (2) He **ne** shal **nouȝt** sechen. (*Earliest Prose Psalter*, c. 1350)  
 (3) They  $\emptyset$  shall **not** mysse, (*A right merrie Comedie*, c. 1570)

- Negative particle *ne* also (1) co-occurs with other negative elements, such as *never*, negative objects, etc. (2) before it is lost (Jack 1978):

- (4) a. And þo .ij. sterres **ne** meeven **neuere** (*Mandevilles Travels*, c. 1371)  
 b. for þey  $\emptyset$  synneden **neuere**. (*Wycliffe Sermons*, c. 1383)
- (5) a. they **no** haveth [ **no** joye ] (*Alisaunder*, c. 1300)  
 b. On hyme ȝe  $\emptyset$  had [ **no** mercy ] (*Siege of Jerusalem*, c. 1500)

# Negative Concord with PPs

## Negative Concord with PPs

- (6) a. he **ne** mihte cysten þærof [PP for **nan** þing ] twelfe penegas.  
 he not might cost thereof for no thing twelve pennies  
 'he could not even get twelve pennies for it in any way'  
*(Peterborough Chronicle, c. 1125)*

## Negative Concord with PPs

- (6) a. he **ne** mihte cysten þærof [PP for **nan** þing ] twelfe penegas.  
 he not might cost thereof for no thing twelve pennies  
 'he could not even get twelve pennis for it in any way'  
 (*Peterborough Chronicle*, c. 1125)
- b. & sche  $\emptyset$  wolde [PP in **no** wise ] gon thens  
 and she would in no wise go thence  
 'and she would in no way depart from there'  
 (*Book of Margery Kempe*, c. 1438)

## Negative Concord with PPs

- (6) a. he **ne** mihte cysten þærof [PP for **nan** þing ] twelfe penegas.  
 he not might cost thereof for no thing twelve pennies  
 'he could not even get twelve pennies for it in any way'  
*(Peterborough Chronicle, c. 1125)*
- b. & sche  $\emptyset$  wolde [PP in **no** wise ] gon thens  
 and she would in no wise go thence  
 'and she would in no way depart from there'  
*(Book of Margery Kempe, c. 1438)*
- (7) a. [PP of **none** wintere ] ich **ne** recche  
 of no winter I not care  
 'Winter doesn't trouble me'  
*(Owl and Nightingale, c. 1250)*

## Negative Concord with PPs

- (6) a. he **ne** mihte cysten þærof [PP for **nan** þing ] twelfe penegas.  
 he not might cost thereof for no thing twelve pennies  
 'he could not even get twelve pennies for it in any way'  
*(Peterborough Chronicle, c. 1125)*
- b. & sche  $\emptyset$  wolde [PP in **no** wise ] gon thens  
 and she would in no wise go thence  
 'and she would in no way depart from there'  
*(Book of Margery Kempe, c. 1438)*
- (7) a. [PP of **none** wintere ] ich **ne** recche  
 of no winter I not care  
 'Winter doesn't trouble me'  
*(Owl and Nightingale, c. 1250)*
- b. [PP on **no** wise ] it  $\emptyset$  schuld be so in þis caas and in þis werk.  
 in no wise it should be so in this case and in this work  
 'In no way should it be so in this case and work'  
*(Cloud of Unknowing, c. 1395)*

# Outline

# Outline

- 1 Investigate the loss of **ne** in different context

# Outline

- 1 Investigate the loss of **ne** in different context
- 2 Special focus on **negative PPs**

Introduction

Negative Concord with Negative PPs

Exploring the Differential Behavior of Negative PPs

Conclusion

Data Collection

The Loss of *ne*

The Loss of Negative Concord

## The Loss of Negative Concord with Negative PPs

## Corpora Used

## Corpora Used

- Data based on 168 Middle English text files; c. 1.5 million words of running texts in c. 120,000 sentence tokens

## Corpora Used

- Data based on 168 Middle English text files; c. 1.5 million words of running texts in c. 120,000 sentence tokens
  - PPCME2 (Kroch & Taylor 2000)
  - PCMEP (Zimmermann 2015)
  - P-LAEME (Truswell et al. 2018)

## Corpora Used

- Data based on 168 Middle English text files; c. 1.5 million words of running texts in c. 120,000 sentence tokens
  - PPCME2 (Kroch & Taylor 2000)
  - PCMEP (Zimmermann 2015)
  - P-LAEME (Truswell et al. 2018)
- Dating; coding for estimated date of composition, a specific year

## Corpora Used

- Data based on 168 Middle English text files; c. 1.5 million words of running texts in c. 120,000 sentence tokens
  - PPCME2 (Kroch & Taylor 2000)
  - PCMEP (Zimmermann 2015)
  - P-LAEME (Truswell et al. 2018)
- Dating; coding for estimated date of composition, a specific year
- Bridge prose gap in Helsinki M2 (1250-1350) with poetic records

## Corpora Used

- Data based on 168 Middle English text files; c. 1.5 million words of running texts in c. 120,000 sentence tokens
  - PPCME2 (Kroch & Taylor 2000)
  - PCMEP (Zimmermann 2015)
  - P-LAEME (Truswell et al. 2018)
- Dating; coding for estimated date of composition, a specific year
- Bridge prose gap in Helsinki M2 (1250-1350) with poetic records

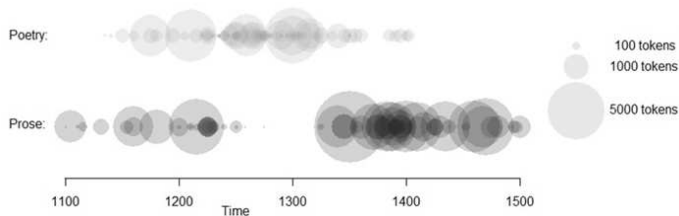
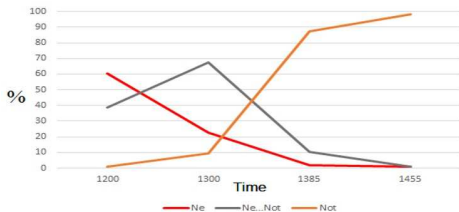
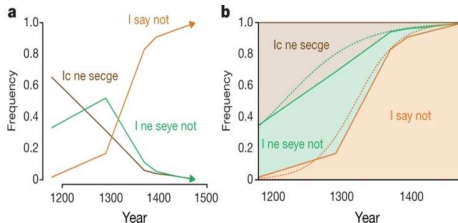


Figure 1: Representation of the temporal distribution of ME texts

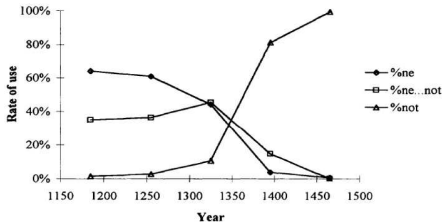
# Previous Measurements of *Ne* in Sentential Negation



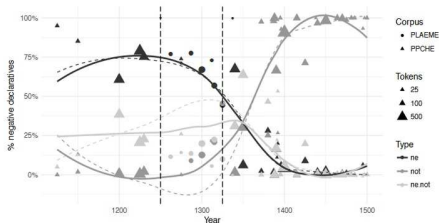
Based on Wallage 2008: 645, Table 1, N=5,556



Newberry et al. 2017: 225, N=5,475



Frisch 1997: 33, N=1,929



Truswell et al. 2018: 19 (N not reported)

Figure 2: Representations of the loss of *ne* based on four studies

# Sentential Negation Data

## Sentential Negation Data

- Sentential negation:
  - **ne**, **ne** + **not** vs.  $\emptyset$  **not** (n=8,512)

## Sentential Negation Data

- Sentential negation:
  - **ne**, **ne** + **not** vs.  $\emptyset$  **not** (n=8,512)
- Some remarks:
  - Includes fused and free-form **ne** (*nis* and *ne is*)
  - Includes expletive negation (e.g. after *doubt*, *unless*)
  - Some ambiguity with respect to *not* Q 'nought' and *not* NEG 'not'
  - Some ambiguity with respect to *ne* CONJ 'nor' and *ne* NEG 'not'
  - ...

## Sentential Negation Data

- Sentential negation:
  - **ne**, **ne** + **not** vs.  $\emptyset$  **not** (n=8,512)
- Some remarks:
  - Includes fused and free-form **ne** (*nis* and *ne is*)
  - Includes expletive negation (e.g. after *doubt*, *unless*)
  - Some ambiguity with respect to *not* Q 'nought' and *not* NEG 'not'
  - Some ambiguity with respect to *ne* CONJ 'nor' and *ne* NEG 'not'
  - ...
- Exclusion of examples with other negative items.

## Result: The Loss of *ne* as a Sentential Negator

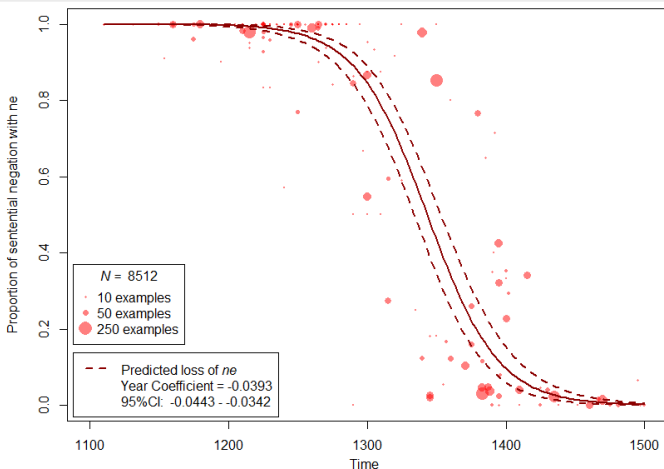


Figure 3: Logistic regression model predicting the occurrence of *ne* as a sentential negator ( (*ne* + *ne* ... *not*) vs. *not*) from time, random text intercepts, NC excluded, including *ne*-clitics, data points represent texts

# Previous Reflections on *Ne* in Negative Concord

## Previous Reflections on *Ne* in Negative Concord

- Investigation of NC vs. NPI *any* (e.g. Ingham 2006, Kallel 2007)

## Previous Reflections on *Ne* in Negative Concord

- Investigation of NC vs. NPI *any* (e.g. Ingham 2006, Kallel 2007)
- But no systematic investigations of NC vs. no NC (? that I know of)

## Previous Reflections on *Ne* in Negative Concord

- Investigation of NC vs. NPI *any* (e.g. Ingham 2006, Kallel 2007)
- But no systematic investigations of NC vs. no NC (? that I know of)

### An Open Question

I have not systematically examined the data for all negative concord constructions, but my impression is that the decline in the use of *ne* is concurrent with a decline in the use of negative concord in general. [...] I return to this point in the conclusion as an open problem for future research. (Frisch 1997: 33)

# Negative Concord Data

# Negative Concord Data

- Negative concord:

# Negative Concord Data

- Negative concord:
  - Negative subjects: **no** + **ne** vs. **no** +  $\emptyset$  (n=1,824)

# Negative Concord Data

- Negative concord:
  - Negative subjects: **no** + **ne** vs. **no** +  $\emptyset$  (n=1,824)
  - Negative object: **ne** + **no** vs.  $\emptyset$  + **no** (n=1,965)

# Negative Concord Data

- Negative concord:
  - Negative subjects: **no** + **ne** vs. **no** +  $\emptyset$  (n=1,824)
  - Negative object: **ne** + **no** vs.  $\emptyset$  + **no** (n=1,965)
  - Negative adverbs: **ne** + **neuere** vs.  $\emptyset$  + **neuere** (n=1,715)  
(*never, nowhere, no more, no longer, nevermore, neverft, ...*)

# Negative Concord Data

- Negative concord:
  - Negative subjects: **no** + **ne** vs. **no** +  $\emptyset$  (n=1,824)
  - Negative object: **ne** + **no** vs.  $\emptyset$  + **no** (n=1,965)
  - Negative adverbs: **ne** + **neuere** vs.  $\emptyset$  + **neuere** (n=1,715)  
(*never, nowhere, no more, no longer, nevermore, nevereft, ...*)
  - Multiple NC: **ne** + **multiple neg** vs.  $\emptyset$  + **multiple neg** (n=387)

## Negative Concord Data

- Negative concord:
  - Negative subjects: **no** + **ne** vs. **no** +  $\emptyset$  (n=1,824)
  - Negative object: **ne** + **no** vs.  $\emptyset$  + **no** (n=1,965)
  - Negative adverbs: **ne** + **neuere** vs.  $\emptyset$  + **neuere** (n=1,715)  
(*never, nowhere, no more, no longer, nevermore, nevereft, ...*)
  - Multiple NC: **ne** + **multiple neg** vs.  $\emptyset$  + **multiple neg** (n=387)
  - Negative PPs: **ne** + **in no X** vs.  $\emptyset$  + **in no X** (n=437)

## Example of Multiple Negative Concord

- (8) **Ne** Marien besceawunge, **ne** hire hlystinge to Godes worden,  
Nor Mary's be-show-ing, nor her listening to God's words,  
**næs** **næfre** on **nanre** oðre swa fullice geforðed  
not-was never in no other so fully accomplished  
'Nor was Mary's contemplation not her listening to God's words ever  
in any other person so fully accomplished' (CMKENTHO,136.74)

# The Loss of *ne* in Negative Concord

## The Loss of *ne* in Negative Concord

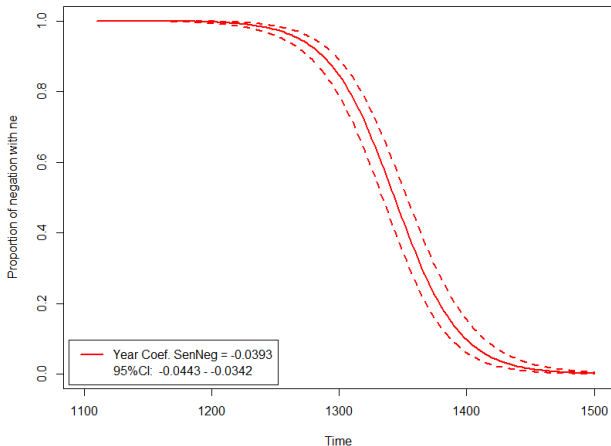


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# The Loss of *ne* in Negative Concord

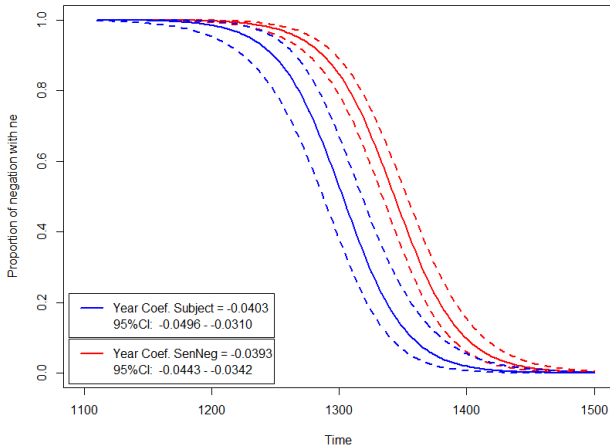


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

## The Loss of *ne* in Negative Concord

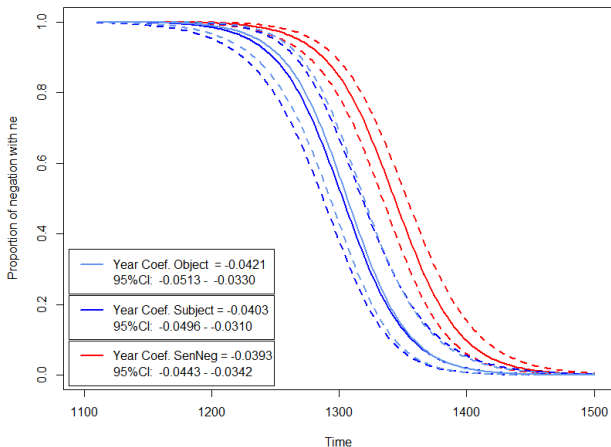


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# The Loss of *ne* in Negative Concord

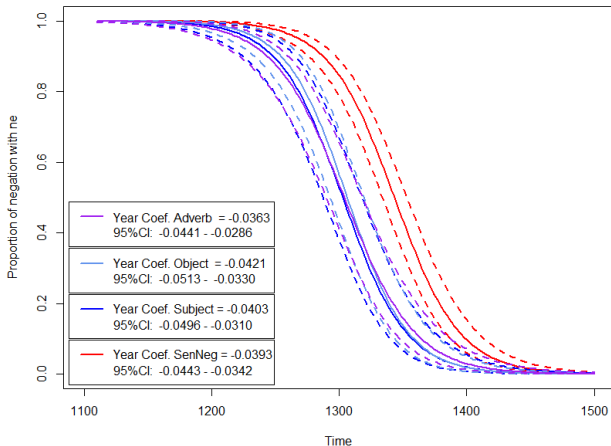


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# The Loss of *ne* in Negative Concord

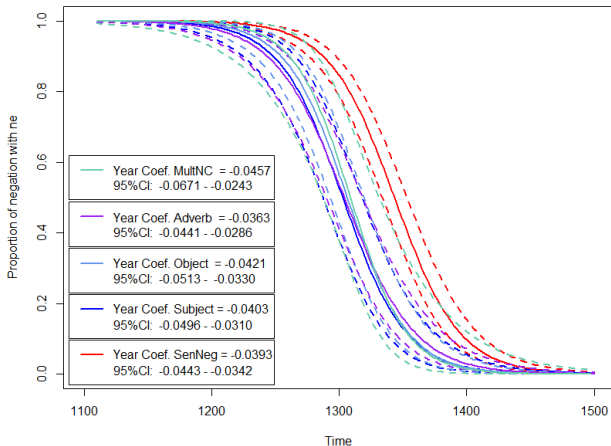


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# The Loss of *ne* in Negative Concord

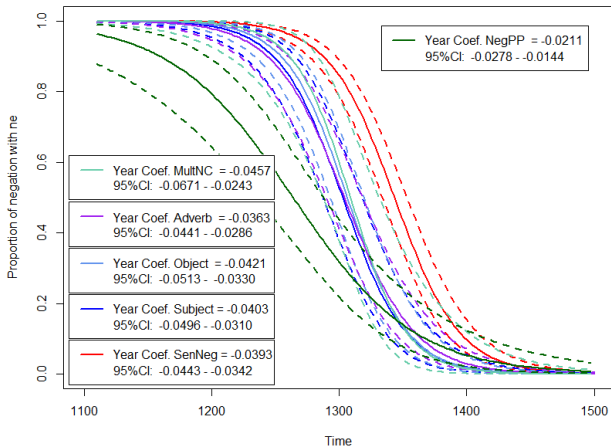


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# The Loss of *ne* in Negative Concord

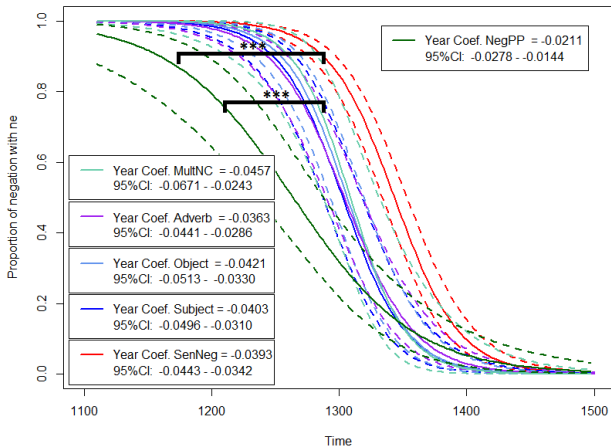


Figure 4: Logistic regression models of finding *ne* over time in six contexts; parallel lines indicate identical rates of change

# Summary

## Summary

- Negative Concord with *ne* declines earlier than sentential negation *ne* ( $p < 0.05$ ), but the effect is not very strong (c. 30-40 years earlier)

## Summary

- Negative Concord with *ne* declines earlier than sentential negation *ne* ( $p < 0.05$ ), but the effect is not very strong (c. 30-40 years earlier)
- *Ne* declines **at the same rate of change** as a sentential negator and in negative concord (Likelihood Ratio Test,  $p > 0.24$ ) ...

## Summary

- Negative Concord with *ne* declines earlier than sentential negation *ne* ( $p < 0.05$ ), but the effect is not very strong (c. 30-40 years earlier)
- *Ne* declines **at the same rate of change** as a sentential negator and in negative concord (Likelihood Ratio Test,  $p > 0.24$ ) ...
- ... **except** with negative PPs - negative concord seems to be lost substantially more slowly with negative PPs than elsewhere (Likelihood Ratio Test,  $p < 0.01$ ).

## Summary

- Negative Concord with *ne* declines earlier than sentential negation *ne* ( $p < 0.05$ ), but the effect is not very strong (c. 30-40 years earlier)
- *Ne* declines **at the same rate of change** as a sentential negator and in negative concord (Likelihood Ratio Test,  $p > 0.24$ ) ...
- ... **except** with negative PPs - negative concord seems to be lost substantially more slowly with negative PPs than elsewhere (Likelihood Ratio Test,  $p < 0.01$ ).
- What might be the reason for this divergence?

## Exploring the Differential Behavior of Negative PPs

# Noise?

## Noise?

- There are potential sources of measurement error.

## Noise?

- There are potential sources of measurement error.

(9) than I **solde**, as I seyde before, [ that thou  $\emptyset$  were  
a mony-maker [PP for **noo** suche causes ] ] (CMAELR4,3.70)

## Noise?

- There are potential sources of measurement error.

(9) than I **no**de, as I seyde before, [ that thou  $\emptyset$  were  
a mony-maker [PP for **noo** suche causes ] ] (CMAELR4,3.70)

(10) ... ðe sune ðe  $\emptyset$  drat his fader, [PP **naht** for **none** pine ],  
the son who feared his father not for no pain  
ac drat him ðat ...  
but feared him that  
'... the son who didn't fear his father for any pain, but feared him  
because ...' (CMVICES1,63.690)

## Noise?

- There are potential sources of measurement error.

(9) than I **olde**, as I seyde before, [ that thou  $\emptyset$  were  
a mony-maker [PP for **noo** suche causes ] ] (CMAELR4,3.70)

(10) ... ðe sune ðe  $\emptyset$  drat his fader, [PP **naht** for **none** pine ],  
the son who feared his father not for no pain  
ac drat him ðat ...  
but feared him that  
'... the son who didn't fear his father for any pain, but feared him  
because ...' (CMVICES1,63.690)

(11) ... þo / [ þet  $\emptyset$  habbeþ drede / [PP of **na3t** ] ] (CMAYENBI,32.519)

## Noise?

- There are potential sources of measurement error.

- (9) than I **olde**, as I seyde before, [ that thou  $\emptyset$  were  
a mony-maker [PP for **noo** suche causes ] ] (CMAELR4,3.70)
- (10) ... ðe sune ðe  $\emptyset$  drat his fader, [PP **naht** for **none** pine ],  
the son who feared his father not for no pain  
ac drat him ðat ...  
but feared him that  
'... the son who didn't fear his father for any pain, but feared him  
because ...' (CMVICES1,63.690)
- (11) ... þo / [ þet  $\emptyset$  habbeþ drede / [PP of **na3t** ] ] (CMAYENBI,32.519)

→ Slight inflation of 'No NC' structures, especially in early stages

## Noise?

- There are potential sources of measurement error.

- (9) than I **olde**, as I seyde before, [ that thou  $\emptyset$  were  
a mony-maker [PP for **noo** suche causes ] ] (CMAELR4,3.70)
- (10) ... ðe sune ðe  $\emptyset$  drat his fader, [PP **naht** for **none** pine ],  
the son who feared his father not for no pain  
ac drat him ðat ...  
but feared him that  
'... the son who didn't fear his father for any pain, but feared him  
because ...' (CMVICES1,63.690)
- (11) ... þo / [ þet  $\emptyset$  habbeþ drede / [PP of **na3t** ] ] (CMAYENBI,32.519)

→ Slight inflation of 'No NC' structures, especially in early stages

→ Unlikely to be important enough to cause the divergence

# A Meaning Difference?

## A Meaning Difference?

- A sporadic investigation of negative PPs in Old English (Taylor et al. 2003)

## A Meaning Difference?

- A sporadic investigation of negative PPs in Old English  
(Taylor et al. 2003)

(12) Crist, þe heofon and eorðan [PP of **nanan** þingan ]  $\emptyset$  geworhte  
Christ who heaven and earth of no thing worked  
'Christ who created heaven and earth out of nothing'  
(coeust, LS\_8\_[Eust]:60.59)

## A Meaning Difference?

- A sporadic investigation of negative PPs in Old English (Taylor et al. 2003)

(12) Crist, þe heofon and eorðan [PP of **nanan** þingan ]  $\emptyset$  geworhte  
Christ who heaven and earth of no thing worked  
'Christ who created heaven and earth out of nothing'  
(coeust, LS\_8\_[Eust]:60.59)

- (i) *nothing* conceptualized as a something, an actual physical quantity:  
"nothingness", "emptiness" - [Not  $\exists$ ]  
→ avoid *ne*

## A Meaning Difference?

- A sporadic investigation of negative PPs in Old English (Taylor et al. 2003)

(12) Crist, þe heofon and eorðan [PP of **nanan** þingan ]  $\emptyset$  geworhte  
Christ who heaven and earth of no thing worked  
'Christ who created heaven and earth out of nothing'  
(coeust, LS\_8\_[Eust]:60.59)

- (i) *nothing* conceptualized as a something, an actual physical quantity:  
"nothingness", "emptiness" - [Not  $\exists$ ]  
→ avoid *ne*
- (ii) it is not the case that ... something - Not ...  $\exists$

# Truth-conditionally relevant?

## Truth-conditionally relevant?

(13) *Modern English*

- a. She saw nothing. → She saw blackness in front of her eyes.
- b. She saw nothing. → She didn't see a single thing.

## Truth-conditionally relevant?

(13) *Modern English*

- a. She saw nothing. → She saw blackness in front of her eyes.
- b. She saw nothing. → She didn't see a single thing.

(14) *Middle English*

- a. We wolde **not** suffir so meche [PP for **no** good in erthe ].  
'I would not suffer as much [as you are] for any good in this world'  
(CMKEMPE,129.3021)

## Truth-conditionally relevant?

(13) *Modern English*

- a. She saw nothing. → She saw blackness in front of her eyes.
- b. She saw nothing. → She didn't see a single thing.

(14) *Middle English*

- a. We wolde **not** suffir so meche [PP for **no** good in erthe ].  
'I would not suffer as much [as you are] for any good in this world'  
(CMKEMPE,129.3021)
- b. ... dieuel  $\emptyset$  rixi on ðe [PP for **none** senne ]  
'... devils rule inside of you despite [the fact that you have] no sin'  
(CMVICES1,39.454)

## Truth-conditionally relevant?

(13) *Modern English*

- a. She saw nothing. → She saw blackness in front of her eyes.
- b. She saw nothing. → She didn't see a single thing.

(14) *Middle English*

- a. We wolde **not** suffir so meche [PP for **no** good in erthe ].  
'I would not suffer as much [as you are] for any good in this world'  
(CMKEMPE,129.3021)
- b. ... dieuel  $\emptyset$  rixi on ðe [PP for **none** senne ]  
'... devils rule inside of you despite [the fact that you have] no sin'  
(CMVICES1,39.454)

(15) *Italian*

- a. Ha creato la terra dal nulla. → creation out of nothing, one negation
- b.  $\neq$  Non ha creato la terra dal nulla. → from **something**, double negation

## Truth-conditionally relevant?

### (13) *Modern English*

- a. She saw nothing. → She saw blackness in front of her eyes.
- b. She saw nothing. → She didn't see a single thing.

### (14) *Middle English*

- a. We wolde **not** suffir so meche [PP for **no** good in erthe ].  
'I would not suffer as much [as you are] for any good in this world'  
(CMKEMPE,129.3021)
- b. ... dieuel  $\emptyset$  rixi on ðe [PP for **none** senne ]  
'... devils rule inside of you despite [the fact that you have] no sin'  
(CMVICES1,39.454)

### (15) *Italian*

- a. Ha creato la terra dal nulla. → creation out of nothing, one negation
- b.  $\neq$  Non ha creato la terra dal nulla. → from **something**, double negation

### (16) *French*

- a. Il est venu avec rien. → came empty-handed, one negation
- b. \* Il n'est venu avec rien. (needs *pas*, then double negation)

## A path leading nowhere?

## A path leading nowhere?

- The hypothesis of systematic meaning differences is unlikely to be correct:

## A path leading nowhere?

- The hypothesis of systematic meaning differences is unlikely to be correct:
  - Sentences without *ne* but implausible interpretation as “nothingness”

## A path leading nowhere?

- The hypothesis of systematic meaning differences is unlikely to be correct:
  - Sentences without *ne* but implausible interpretation as “nothingness”

(17) ond he [PP mid **nængum** ðingum ]  $\emptyset$  mihte hire geþoht oncerran  
and he with no things might her thought change  
'And he could not make her change her mind by any means'  
(comart3,Mart\_5\_[Kotzor]:Ju23,A.8.1039)

## A path leading nowhere?

- The hypothesis of systematic meaning differences is unlikely to be correct:
  - Sentences without *ne* but implausible interpretation as “nothingness”

(17) ond he [PP mid **nængum** ðingum ] ∅ mihte hire geþoht oncerran  
and he with no things might her thought change  
'And he could not make her change her mind by any means'  
(comart3,Mart\_5\_[Kotzor]:Ju23,A.8.1039)

% *nothing* conceptualized as a something, an actual physical quantity:

“nothingness”, “emptiness” -

[Not ∃]

→ so why is there no *ne* ?

## A path leading nowhere?

- The hypothesis of systematic meaning differences is unlikely to be correct:
  - Sentences without *ne* but implausible interpretation as “nothingness”

(17) ond he [PP mid **nængum** ðingum ]  $\emptyset$  mihte hire geþoht oncerran  
and he with no things might her thought change  
'And he could not make her change her mind by any means'  
(comart3,Mart\_5\_[Kotzor]:Ju23,A.8.1039)

% *nothing* conceptualized as a something, an actual physical quantity:

“nothingness”, “emptiness” -

[Not  $\exists$ ]

→ so why is there no *ne* ?

- Why unique to PPs?

# The Adjunct-Complement Distinction

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ 'clearly adjunct' vs. → 'not necessarily adjunct'

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ 'clearly adjunct' vs. → 'not necessarily adjunct'
- Clearly Adjunct: N= 162

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ 'clearly adjunct' vs. → 'not necessarily adjunct'
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
  - Clearly Adjunct: N= 162
    - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
  - Clearly Adjunct: N= 162
    - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) bei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
  - Clearly Adjunct: N= 162
    - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) bei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) bei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) þei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:
- (20) and cam [PP too **noo** purposse ], neyther by water ne by londe.  
(CMGREGOR,221.2156)

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) þei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:
- (20) and cam [PP too **noo** purpose ], neyther by water ne by londe.  
(CMGREGOR,221.2156)
- Affected by or involved in action:

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ ‘clearly adjunct’ vs. → ‘not necessarily adjunct’
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) þei may [PP be **no** wey ] forzetyu hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:
- (20) and cam [PP too **noo** purposse ], neyther by water ne by londe.  
(CMGREGOR,221.2156)
- Affected by or involved in action:
- (21) Therfor shuldest thou speke [PP with **no** man ] (CMAELR4,4.109)

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ 'clearly adjunct' vs. → 'not necessarily adjunct'
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) þei may [PP be **no** wey ] forzetyn hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:
- (20) and cam [PP too **noo** purposse ], neyther by water ne by londe.  
(CMGREGOR,221.2156)
- Affected by or involved in action:
- (21) Therfor shuldest thou speke [PP with **no** man ] (CMAELR4,4.109)
- Other, more ambiguous instances:

## The Adjunct-Complement Distinction

- Code all 437 negative PPs for  
→ 'clearly adjunct' vs. → 'not necessarily adjunct'
- Clearly Adjunct: N= 162
  - manner (*in no way*), instrument (*by no means*) ...
- (18) sauuen ow seoluen [...] **ne** muze ze [PP on **nane** wise ]  
(CMANCRIW-1,II.78.910)
- (19) þei may [PP be **no** wey ] forzetyu hym. (CMKEMPE,70.1592)
- Not necessarily Adjunct: N= 275
  - Goals of movement:
- (20) and cam [PP too **noo** purposse ], neyther by water ne by londe.  
(CMGREGOR,221.2156)
- Affected by or involved in action:
- (21) Therfor shuldest thou speke [PP with **no** man ] (CMAELR4,4.109)
- Other, more ambiguous instances:
- (22) he had mette [PP with **none** adventures ] (CMMALORY,650.4284)

## Result of Adjunct - Complement Distinction

## Result of Adjunct - Complement Distinction

- the coding reduces the divergence, but does not eliminate it

## Result of Adjunct - Complement Distinction

- the coding reduces the divergence, but does not eliminate it
  - adjuncts behave like other context, rate of change not significantly different (but: small sample size!)

## Result of Adjunct - Complement Distinction

- the coding reduces the divergence, but does not eliminate it
  - adjuncts behave like other context, rate of change not significantly different (but: small sample size!)
  - complements (non-necessary adjuncts) still change at a different rate (Likelihood Ratio Test  $p < 0.01$ ).

## Result of Adjunct - Complement Distinction

- the coding reduces the divergence, but does not eliminate it
  - adjuncts behave like other context, rate of change not significantly different (but: small sample size!)
  - complements (non-necessary adjuncts) still change at a different rate (Likelihood Ratio Test  $p < 0.01$ ).
- distinction difficult to implement across all examples

## Result of Adjunct - Complement Distinction

- the coding reduces the divergence, but does not eliminate it
  - adjuncts behave like other context, rate of change not significantly different (but: small sample size!)
  - complements (non-necessary adjuncts) still change at a different rate (Likelihood Ratio Test  $p < 0.01$ ).
- distinction difficult to implement across all examples
- why exactly should the distinction matter?

## P+ Bare Quantifier

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) *ælc þing ∅ wyrð* [<sub>PP</sub> to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) *ælc þing ∅ wyrð* [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) ælc þing ∅ wyrð [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

(24) a. he ∅ wole bringin on and tuenti [PP to **nouht** ]  
(ProvAlf,227.50.669.B33)

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) ælc þing  $\emptyset$  wyrð [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

(24) a. he  $\emptyset$  wole bringin on and tuenti [PP to **nouht** ]  
(ProvAlf,227.50.669.B33)

b. Wendest þou i  $\emptyset$  were ded [PP for **nout** ] ? (HarrowHell,10.99.56)

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) ælc þing  $\emptyset$  wyrð [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

- (24) a. he  $\emptyset$  wole bringin on and tuenti [PP to **nouht** ]  
(ProvAlf,227.50.669.B33)
- b. Wendest þou i  $\emptyset$  were ded [PP for **nout** ] ? (HarrowHell,10.99.56)
- c. al þat  $\emptyset$  was [PP for **noȝt** ]. (CORP145SELT.1728)

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation
  - they exists from Old English times on:

(23) ælc þing  $\emptyset$  wyrð [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

(24) a. he  $\emptyset$  wole bringin on and tuenti [PP to **nouht** ]  
(ProvAlf,227.50.669.B33)

b. Wendest þou i  $\emptyset$  were ded [PP for **nout** ] ? (HarrowHell,10.99.56)

c. al þat  $\emptyset$  was [PP for **nozt** ]. (CORP145SELT.1728)

- Example with *ne* (different construction?):

## P+ Bare Quantifier

- the 'P + naught' construction: *bring / become / be / come to nothing*
- a frequent formulation; usually without sentential negation

- they exist from Old English times on:

(23) ælc þing  $\emptyset$  wyrð [PP to **nauhte** ]  
(coboeth,Bo:34.82.28.1579)

- Middle English examples:

(24) a. he  $\emptyset$  wole bringin on and tuenti [PP to **nouht** ]  
(ProvAlf,227.50.669.B33)

b. Wendest þou i  $\emptyset$  were ded [PP for **nout** ] ? (HarrowHell,10.99.56)

c. al þat  $\emptyset$  was [PP for **noȝt** ]. (CORP145SELT.1728)

- Example with *ne* (different construction?):

(25) he **ne** bouȝe [PP to **nonen** ].  
'he doesn't bow down to anyone' (CMAYENBI,68.1281)

## Result - Bare Quantifiers Removed

## Result - Bare Quantifiers Removed

- elimination of 125 instances with bare quantifiers after prepositions, N=312

## Result - Bare Quantifiers Removed

- elimination of 125 instances with bare quantifiers after prepositions, N=312
- those PPs lose NC at a rate not significantly different than other contexts

## Result - Bare Quantifiers Removed

- elimination of 125 instances with bare quantifiers after prepositions, N=312
- those PPs lose NC at a rate not significantly different than other contexts

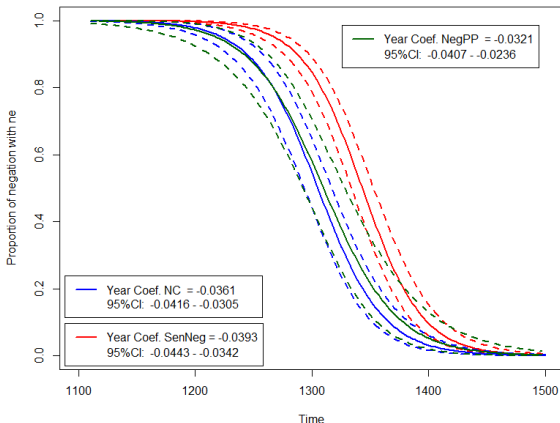


Figure 5: Sent. Neg., NC, and negative PPs with bare Qs removed 20 / 22

## Clustering of properties

## Clustering of properties

- (26) a. Earthquakes have reduced the city to nothing.

## Clustering of properties

- (26) a. Earthquakes have reduced the city to nothing.  
b. % Earthquakes haven't reduced the city to anything.

## Clustering of properties

- (26) a. Earthquakes have reduced the city to nothing.  
b. % Earthquakes haven't reduced the city to anything.

→ meaning difference:

reduce to something, namely rubble, ruins, empty space

## Clustering of properties

- (26) a. Earthquakes have reduced the city to nothing.  
b. % Earthquakes haven't reduced the city to anything.

→ meaning difference:

reduce to something, namely rubble, ruins, empty space

→ not an unambiguous adjunct (degree, goal)

## Clustering of properties

- (26) a. Earthquakes have reduced the city to nothing.  
b. % Earthquakes haven't reduced the city to anything.

→ meaning difference:

reduce to something, namely rubble, ruins, empty space

→ not an unambiguous adjunct (degree, goal)

→ formulaic 'to naught' construction, bare quantifier

## Conclusion

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset$  + Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences
  - 3 Adjunct-complement distinction

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences
  - 3 Adjunct-complement distinction
  - 4 Special 'to naught' construction without *ne*

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences
  - 3 Adjunct-complement distinction
  - 4 Special 'to naught' construction without *ne*
- All sentential negation and negative concord structures can be used to measure the loss of *ne*

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset +$  Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences
  - 3 Adjunct-complement distinction
  - 4 Special 'to naught' construction without *ne*
- All sentential negation and negative concord structures can be used to measure the loss of *ne*
  - This should increase the sample size to well over 10,000 examples.

## Discussion

- The negative particle *ne* is lost at the same rate as a sentential negator and in negative concord structures except for negative PPs, where the change seemingly slows down
- Specifically, larger than expected number of  $\emptyset$  + Negative PP structures at early period.
- Most likely explanation a cluster of factors
  - 1 Measurement error
  - 2 Meaning differences
  - 3 Adjunct-complement distinction
  - 4 Special 'to naught' construction without *ne*
- All sentential negation and negative concord structures can be used to measure the loss of *ne*
  - This should increase the sample size to well over 10,000 examples.
  - Probably the most important morpho-syntactic change of the fourteenth century.

Thank you very much for your attention!

## References

- Frisch, Stefan (1997) The Change in Negation in Middle English: A NEGP Licensing Account. *Lingua* **101**, 21-64.
- Ingham, Richard (2006) Negative Concord and the Loss of the Negative Particle Ne in Late Middle English *Studia Anglica Posnaniensia* **42**, 77-96.
- Jack, George B. (1978) Negative Concord in Early Middle English. *Studia Neophilologica* **50**, 2939.
- Jespersen, Otto (1917) *Negation in English and Other Languages*. Copenhagen: Hoest & Son.
- Kallel, Amel (2007) The loss of negative concord in Standard English: Internal factors. *Language Variation and Change* **19**, 2749.
- Kroch, Anthony and Ann Taylor (2000) *Penn-Helsinki Parsed Corpus of Middle English, Second Edition*. Department of Linguistics, University of Pennsylvania.
- Newberry, Mitchell G., Christopher A. Ahern, Robin Clark and Joshua B. Plotkin (2017) Detecting evolutionary forces in language change. *Nature* **551**, 223-6.
- Taylor, Ann, Anthony Warner, Susan Pintzuk and Frank Beths (2003) *The York-Toronto Helsinki Corpus of Old English Prose (YCOE)*. Oxford Text Archive.
- Truswell, Robert, Rhona Alcorn, James Donaldson and Joel Wallenberg (2018) *A Parsed Linguistic Atlas of Early Middle English*. Manuscript, University of Edinburgh.
- Wallage, Phillip (2008) 'Jespersen's cycle in Middle English: Parametric Variation and Grammatical Ccompetition.' *Lingua* **118**: 643-674.
- Zimmermann, Richard (2015) *The Parsed Corpus of Middle English Poetry*. [www.pcmep.net](http://www.pcmep.net).