



# On bottlenecks in grammaticalization: the case of *become*

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## Introduction

# Overview

- **Topic:** frequency, productivity, layering and bottlenecks in the grammaticalization of *become* (OE *becuman*).
- **The corpus**
- Global qualitative overview of the **grammaticalization of *become***
  - ◇ Starting point: intransitive verb “arrive, come (at/to a place/situation/state of affairs)” + goal-directed adjunct ([become + PP|Adv.location])
  - ◇ Outcome: change of state copula cxn [become + AdjP|NP|Pple|PP]'.
    - ▶ Cop-Cxn [Subj.[-Agent]<sub>NOM</sub> Cop SubjComp<sub>NOM</sub>];
    - ▶ Act of classification: Subj  $\in$  Class(SubjComp);
    - ▶ Cop is semantically subsidiary to SubjComp.
  - [◇ Other uses (mostly *become* “suit, fit”; *What has become of X*)]
- On ***become*'s bottleneck**
  - ◇ Quantitative overview
  - ◇ Principles: persistence, divergence, loss of association, lexicalization
  - ◇ Lexicalization of *become* “arrive”
  - ◇ Lexicalization of Cop *become*
- **Concluding notes**

## *Introduction*

# The corpus

- A primary corpus is used for frequency counts (relative and pmw).
  - ◇ ‘Balanced’ in quantity and dialect (Petré and Cuyckens 2008)
  - ◇ Material from YCOE, PPCME2, DOEC, MEC, HC, MEMT, ...

*Figure 1: The corpus*

<b>Period</b>	<b>Corpus size</b>
750-950	315000
951-1050	315000
1051-1150	200000
1151-1250	390000
1251-1350	290000
1351-1420	415000
1421-1500	405000
1501-1570	575000
1571-1640	650000
1641-1710	565000
1711-1780	2100000

- Additional material has been taken from these same sources as well as from the MED and ICAME 2004 sampler

*Grammaticalization of become*

# Chronology (1)

- **About 825/Pre-OE?:** *become* ‘arrive’ (DOE, Bosworth-Toller)
  - (1) *Cleopung min to ðe **becyme**.* (c825)  
“**[May]** my call **come to you.**”
  - (2) *We **becoman** on smeðne feld & rumne.* (c900)  
“**We arrived at a smooth and spacious field.**”
- **About 970:** *become* + AdjP (Petré & Cuyckens 2008)
  - (3) *He þy wyrs meahte þolian þa þrage, þa hio swa þearl **becom**.* (c950)  
“**[Boethius]** could endure this painful time the worse, as it **became so strong.**”
  - (4) *Us milde **bicwom** meahta waldend [...] þurh þæs engles word.* (c970)  
“The wielder of powers **became merciful to us** [...] through the angel’s word.”
- **About 1120:** *become* + NP (DOE, OED)
  - (5) *Ða Wyliscean kingas **becoman** his menn.* (?c1120)  
“The Welsh kings **became his vassals.**”

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## **Chronology (2)**

- **About 1325:** *become* + Adjectival Pple  
(6) *Vor some **bicome** cancrefrete, & some blinde oper wode.* (c1325(c1300))  
“For some **became** *cancer-eaten*, and some blind or mad.”
- **About 1500:** *become* + Verbal Pple (+ explicit agent/cause)  
(Interchangeable with *shall be*):  
(7) *þe hertys of þi subgit3 [...] sall **bycome** corumpyd by sweche thoghtes, þat byfore wer clene.* (a1500(?a1425))  
“The hearts of the servants [...] shall **be(come)** corrupted by such thoughts, that were previously clean.”

# Triggers of grammaticalization

- Several factors play a part in this development:
  - ◇ **Internal** development of *become*;
  - ◇ Attraction (through **analogy**) by the available set of copulas, particularly *weorðan*;
  - ◇ **External** influence from French

## Analogy with *weorðan*

- Attraction of *become* through the perceived similarity to the constructional profile of the verb *weorðan*. (Petré & Cuyckens 2008, Petré 2007)

(8)

a. *þa wæs geworden* to him sweg. (c970)

‘Then a sound had **come to him**.’

b. *Ær þam becwom hlisa* to him *þære cristenan æfestnesse*. (c925)

‘Earlier rumour had **come to him** of the Christian religion.’

(9)

a. *þæt tacen [...] on Ysrahela lande geworden wæs*. (c1100)

‘The sign [...] had **arrived at the land of Israel**’

b. *Ða becwoman we on þa londgemæro Medo & Persa* (c1000)

‘Then we **arrived at the territories of the Medes and the Persians**.’

- Initial similarity in spatial contexts leads to constructional association.
- This involves a reassignment to this other network of constructions (categorical inference, De Smet 2007; intraference, Croft 2000).
- Next, *become* copied the syntactic profile of *weorðan* ‘become’.

*Grammaticalization of become*  
**Development (1)**

- **Extension 1:** ‘happen; befall (+ Dative Object)’  
**Internally** through TIME IS SPACE metaphor.  
**?Through analogy** with *weorðan*:  
(10)
  - a. *Lyt sorgodon hwylc him þæt edlean æfter **wurde**.* (c1000)  
‘They little cared what retribution might **befall** *them* afterwards’
  - b. *Hie geseccað [...] hwæt godes opðe yfles him **becuman** sceal.* (c1000)  
‘They<sub>i</sub> tell [...] what good or evil shall **befall** *them*<sub>j</sub>.’



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## Development (2)

- **Extension 2:** ‘turn into’

**Internally** through metaphorical extension (properties and classes conceptualized as metaphorical places).

*With the preposition to:*

◇ ?Pre-OE: [Coming to a location]

(11) *Wit **becoman** to ðam walle* (c925)

‘We two **arrived at the wall.**’

◇ early OE: [Coming to a metaphorical location = Acquiring a property]

(12) *Se ðonne to halgum hade **becymð.*** (c894)

‘He then **comes to holiness.**’

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## Development (3)

- **Extension 2: 'turn into' (continued)**

- ◇ Late OE: [Leading to metaphorical location = Changing class-membership]
- ◇ Condition: Extension of the cxn to inanimate subjects via metonymical association of the person moving and the path along which he/she moves.

(13) *Se weig is sticol & neare, þe to þan ecen life belimpð, & nan mann þær to ne **becumð**, bute þurh mycel geswync.* (c1150)

“The way is harsh and narrow, that belongs to the eternal life, and nobody **comes thereto**, except through much labour.”

- ◇ Metaphorical path (“way of being”) leading to metaphorical goal can be identified with it.

(14) *þas tintrego [...] to þinre forwyrde **becumað*** (c1050)

‘These tortures [...] [**will**] **turn/lead into your destruction.**’

(15) *Traisun inwið þe gale heorte, [...] geað hit forðre & forðre & **bikimeð** ofte [...] in to þet fule sunne...* (c1230(c1200))

“Treason within the lustful heart, [...] it goes further and further and **turns/leads** often [...] *into that foul sin...*”

*Grammaticalization of become*  
**Development (4)**

**Extension 2:** ‘turn into’ (continued)

**Through analogy** with *weorðan*.

*With the preposition to:*

(16) *þa wæs geworden to him sweg.* (c970)

‘Then a sound **had come to him**’

(17) *Bearwas wurdon to axan and to yslan* (c1000)

‘Woods **turned into ashes and into embers.**’

## Grammaticalization of become

# Development (5)

- **Extension 3:** ‘become + AdjP’

**?Internally** through reanalysis of appositional adjectives.

(18) *Ðu mihtig becymst. to ðinum agenum rice. roderes wealdend. (c1000)*

‘You [will] (be)come mighty to your own kingdom, ruler of the sky.’

◇ However: what happened to the PP?

◇ Why was *cuman* not reanalysed (even in contexts without PP)?

(19) *And nu ðu sigefæst come, þu gebæde þe to Criste (c1000)*

‘And now [that] you **came** victorious, you prayed (yourself) to Christ.’

**Through analogy** with *weorðan*:

The collocation *becuman* + dative + *milde* ‘merciful’ has a frequent counterpart in which *weorðan* is used instead:

(20) *Us milde bicwom mehta waldend [...] þurh þæs engles word. (c970)*

‘The wielder of powers **became** *merciful to us* [...] the word of the angel.’

(21) *Þu me on mode milde weorðe æfter þinre spræce. (c970)*

‘You **will be** *merciful of mind to me* in harmony with your words.’

## Grammaticalization of become

# Development (6)

- **Extension 4: 'become + NP'**

First attestations restricted to *become man* 'human/a vassal (?OF)'

**?Internally** through

- ◇ morphosyntactic similarity between Adj and N?
- ◇ ?a resultative cxn (he **arrived** (being a) man)

**Through analogy**

- ◇ with *weorðan* (only rarely with NPs).

(22) *Soð god **bicom** for ure helpe soð mon.* (a1225(c1200))

'True God **became**, for our aid, [a] real man.'

(23) *Se ælmihtiga Godes sunu [...] **wearð** gesewenlic mann.* (c1020(c995))

'The almighty son of God **became** [a] visible man.'

**Through external** influence from Old French

(24) *E Gudlac mandé li aveit [...] Ke de Belin s'enor tendreit, E sis huem liges **devendreit**.* (c1275(c1155). *Le Brut*)

- > (25) *Þeos swiken gunnen ride; [...] & alle heore 3isles. [...] brohten; to Beline kinge. [...] & his men **bicome**.* (a1275(?c1200). *Layamon's Brut*)  
"These traitors started to ride; [...] and brought all their hostages to Belin King, [...] and became his vassals."

*Grammaticalization of become*  
**Development (6)**

- **Extension 5: 'become + Pple'**

**Internally:** through extension of AdjP to adjectival Pples.

◇ Initially, the cop-cxn [*become* Pple] had a resultative meaning, the Pple being equivalent to an adjective (with which it stands possibly in co-ordination) and expressing the result of some previous event/action

(6) *Vor some **bicome** cancrefrete, & some blinde oper wode.* (c1325(c1300))  
“For some **became** *cancer-eaten*, and some blind or mad.”

◇ Later on, the verbal content of the Cop shifts to the Pple, which became the main verb

(26) *In a world where society is becoming governed by technology, the personal touch is a sought after commodity* (Google)

◇ This development is probably still going on (not [yet] equivalent to *is being*)

*Grammaticalization of become*

# Semantic bleaching

- The grammaticalization of *become* involves (unsurprisingly) pragmatic enrichment (a) in its early stages and semantic bleaching (b) later on (see e.g. Hopper and Traugott 2003: 93-94; Heine and Kuteva 2002:2; Bybee 2003: ‘the more frequent, the more eroded of its original content’)

- ◇ [Early OE]: pragmatic enrichment

- > (Extension 2) ‘move from position A to position B’ > ‘move from state A into state B’ > ‘attain to state B’

- ◇ [Late OE]: semantic bleaching

- > (first only animate S) ‘come from A to B’ > ‘arrive in a certain condition at state B’ > ‘end up B’ > (extensions 3 & 4) ‘become B’

- > (extension to inanimate S) ‘result into’ → ‘develop into’ → ‘turn into’ > ‘end up B’ > (extensions 3 & 4) ‘become B’

- ◇ [Modern English]: semantic bleaching

- > ‘become *V-ed*’ > ‘be *V-ed*’

# Syntactic context expansion

- syntactic context expansion (not exhaustive) (Himmelman 2004):

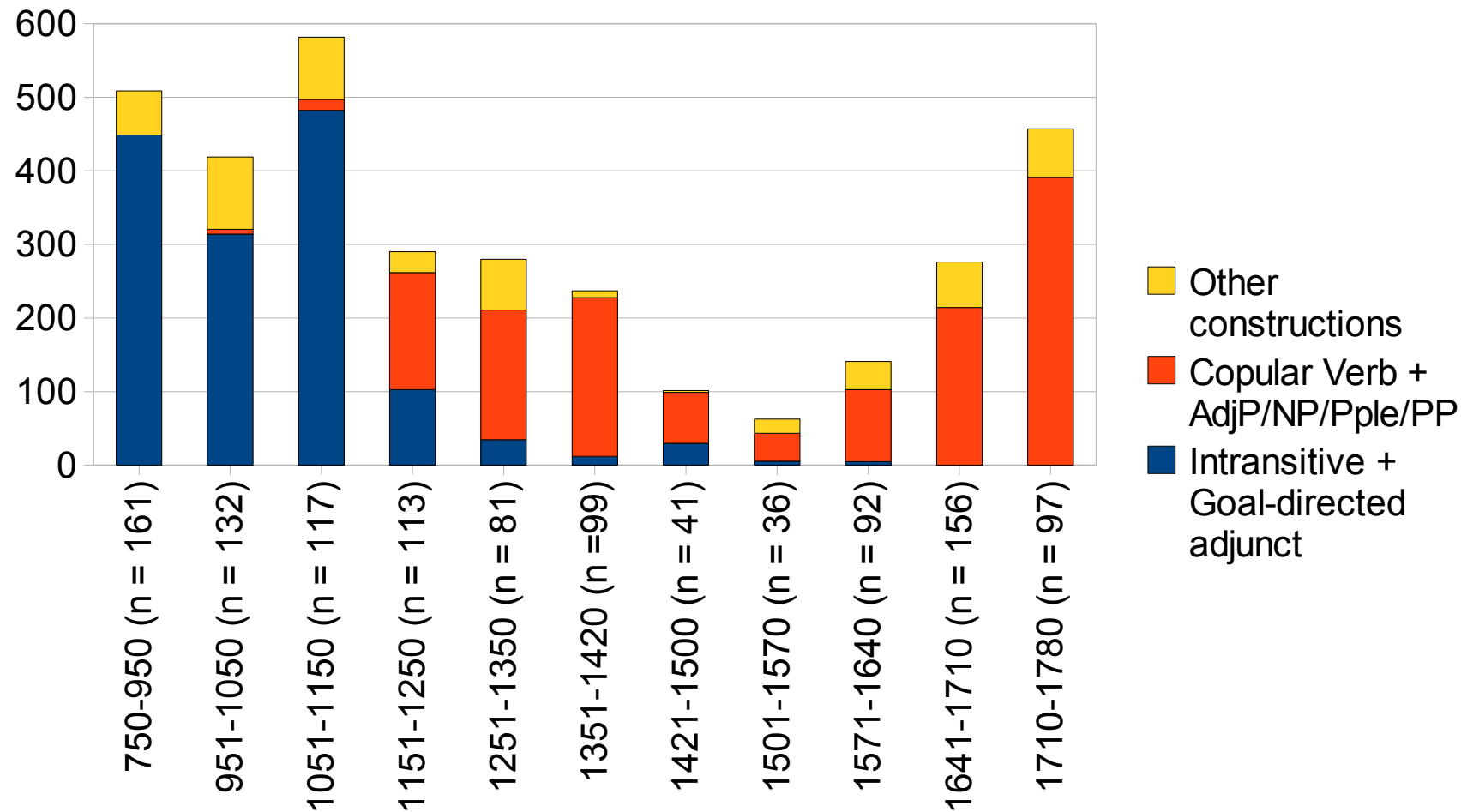
before 950            [*become* (PP<sub>on/to</sub>)]  
ca.950                > [*become* (PP<sub>on/to</sub>)|AdjP]  
ca.1100 >            [*become* (PP<sub>on/to</sub>)|AdjP|NP]  
ca.1400 >            [*become* AdjP(Pple (PP.Agent))|NP]  
ca.1500 >            [*become* AdjP|NP|Pple (PP.Agent)]



*Become's bottleneck*

# Quantitative overview (1)

*Figure 2: Frequencies pmw of major layers of use of become*



## Quantitative overview (2)

- Classical grammaticalization theory:

(27)  $A > A/B (> B)$  (Hopper and Traugott 2003: 122)

- Here

(28)  $A > A/B > B$

- Parallel to verbs of position > copular items

(29) *stand somewhere > stand (= be) firm > stand (= be) a defendant*

With position verbs, loss of the spatial meaning is a cross-linguistic tendency (Stassen 1997: 94-95).

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# Hypothesis

- A detailed qualitative and quantitative analysis of the uses of *become* can possibly shed more light on Figure 2.
- Four stages are involved:
  - (i) Initially **persistence** of spatial sense in newly emerging copular uses.
  - (ii) **Divergence** of original spatial use (and its semantic extensions) and copular use, which are now two separate layers. (Hopper 1991)
  - (iii)(a) Gradual **loss of association** between the two layers;  
(b) Concomitant uncertainty about the prototypical use of *become* results in **decrease of productivity** and **lexicalization** of both uses.
  - (iv)(a) Spatial cxn is **lost** due to lexicalization;  
(b) Copular use revives and the grammaticalization of *become* gets a **second imputus** (with the extension to participles)

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## (i) Persistence (1)

- The first constructs of the type [*become* Adj] are constructionally **vague**
- They can be interpreted as Cop-cxns with a 'genuine' SubjComp (30a), or spatial cxns containing an adjective in apposition (30b)/an adverb (30c).

(30) *Us milde **bicwom** meahta waldend [...] þurh þæs engles word.* (c970)

a. "The wielder of powers **became** *merciful to us* [...] through the angel's word."

b. "The wielder of powers **came** to us (being) merciful."

c. "The wielder of powers mercifully **came** to us."

- Readings b./c. remains readily available as long as constructs appear of the type [*become* PP.Location Adj.Apposition|Adv]:

(31) *Ðu mihtig **becymst**. to ðinum agenum rice. roderes wealdend. (c1000)*

'You [**will**] (**be**)**come** mighty to your own kingdom, ruler of the sky.'

(32) *3ef 3e doð me to deað. hit bið deore to godd. & ich schal bliðe **bicumen** to endelese blissen. (c1225 (?c1200))*

"If you put me to death, it will be dear to God, and I shall happy(ly) **attain/come to endless bliss.**"

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## (i) Persistence (2)

- The first constructs of the type [*become* NP] were maybe also vague.
- They could then either be interpreted as a Cop-cxn *become* + SubjComp or as a combination of *become* with a resultative secondary predicate, in which case the spatial sense “arrive” persisted.
- Such an interpretation is plausible in view of the **contextual features** related to arrival in early examples like (33) or (25).

(33) *And ða Wyliscean kingas coman to him & becoman* his menn. (?c1120)

- a. “And the Welsh kings **came to him** and **became** (being) his vassals.”
- b. “And the Welsh kings **came to him** and **arrived** (being) his vassals.”

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## (ii) Divergence (1)

- From c1200 onwards, the copular use of *become* becomes more and more entrenched and productive.
  - ◇ Examples: *burchmen* ‘citizens’, *dumb* ‘dumb’, *werrer* ‘the more aware’, *eremite* ‘hermit’, *hali menn* ‘holy men’, *al newe* ‘all new’, *waste* ‘a desert’, *wurpinge* ‘manure’.
- The verb has diverged into two separate layers.
- Until at least c1250 these layers preserved some semantic associations:
  - ◇ *Become* + *to*-PP used metaphorically in the sense “acquire a quality” is semantically equivalent to Cop *become* + Adj, as in (12), (32), (34)  
(34) *Do ðe hire ne wyle ilesten, hie **becumeð** to unmihte.* (a1225(c1200))  
“Those who do not want to listen to those things, they **attain to weakness** (= **become weak**)”
  - ◇ *Become* + *to*-PP used metaphorically in the sense “develop into” is semantically equivalent to Cop *become* + NP (see (41) below)

## (iii.a) Loss of association

- After c1225, adjectives in apposition do not co-occurrence with *become*.
- Modifiers appear with the noun *man* (a holy man, a very good man, ...), which make a resultative interpretation less likely.

(35) *Constantin is 3onge sone. ikrouned was þo king. & noble mon he **bicom.** & wis þoru alle þing. (c1325)*

“Constantine his young son was then crowned king, and he **became a noble man**, and a wise one in all things.”

- Other nominal SubjComps than *man* block a resultative interpretation.
- The number of inanimate subjects (↔ “arrive”) increases &
- *Become* occurs in contexts of sudden change (“immediately” in (36))

(36) *God him bad bi ðe tail he it nam, And it a-non a wond it **bi-cam.** (a1325(c1250)*

“God asked him to take it [= a snake] by the tail, and immediately it **became a wand.**”

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## **(iii.b) Loss productivity & lexicalization**

- As a consequence of the loss of the association, confusion arose about the prototypical meaning of *become*.
- The productivity rates of both uses decreased.
- Both of them are on the way to be lexicalized:
  - ◇ The locational use is more and more restricted to the idiom *Where is X become* 'where has he ended up, what has become of him'.
  - ◇ The copular use was is more and more restricted to the collocation *X became Y's man* "X became Y's vassal".



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# Lexicalization of *become* “arrive” (1)

- Already during the 13th ct., the range of possible applications for the locational sense is restricted in most texts and dialects.
- Productivity of prototypical spatial sense after 1350 occurs, but is exceptional:

(37) *The tidinges ther-of com to the two queenes that thei also **become** to the walles of the tower. (a1500(?c1450). Merlin)*

“The news of that event came to the two queens so that they also **came to the walls of the tower.**”

## Lexicalization of *become* “arrive” (2)

- In general, after the 13th ct., the locational use is more and more restricted to some paraphrase of ‘where he went we do not know’:

(38) *þe knyzt of þe grene chapel [...] halled out at þe hal dor, his hed in his hande [...] To quat kyth he **becom** knwe non þere. (c1400(?c1390))*  
“The knight of the green chapel [...] hurtles out at the hall-door, his head in his hand. *To what country* he **went** none there knew.”

- This is particularly clear in the increase of the idiom *Where is X become?*, first with its spatial meaning “where has X gone to” (37), but later mainly in the meaning “What has happened to X” (38).

(39) *þe kinges men nuste amorwe. were þe king was **bicome**. (a1325)*

“The king’s men didn’t know in the morning, where the king had **gone**.”

(40) *Where is þe mekenes and wisdom **be-com** of Seynt Gregore?*  
(c1450(c1425))

“What has happened to the meekness and wisdom of Saint Gregory?”

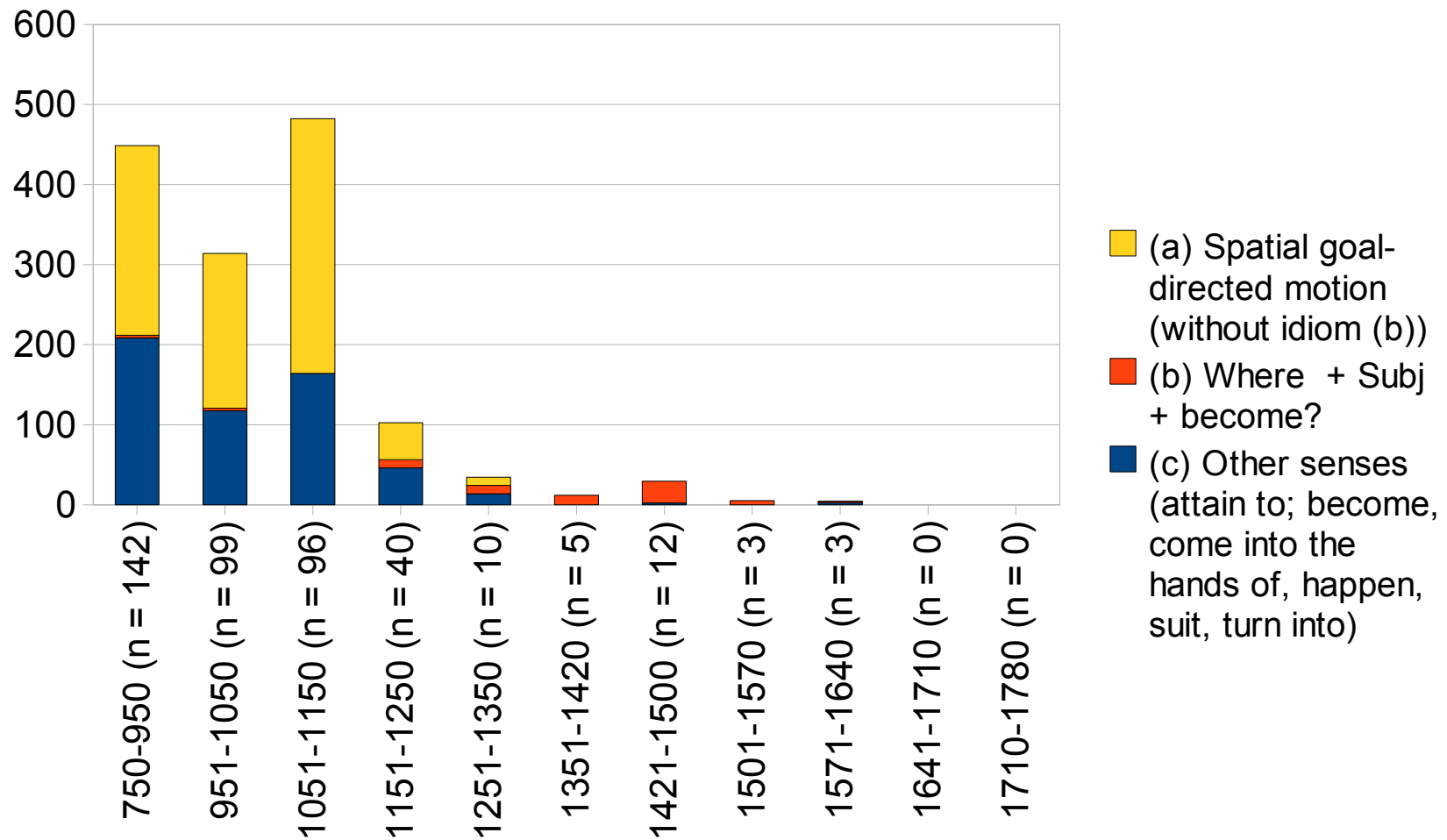
## Lexicalization of *become* “arrive” (3)

- In other uses the spatial sense of “arrive” is also lost, and *become* is used metaphorically
  - ◇ *become* “turn (in)to, become” (easily replacable by Cop *become*)  
(41) *þoru3 is wicke pruyte **Bi-cam** to a luper feond. (c1300)*  
“Through his wicked pride [he] **turned into** a vile devil.”  
(Recall that, with an inanimate subject, the locational sense is more easily preserved)
  - ◇ “happen, arise”  
(42) *So grete hunger **bicome** amonges ham, þat þai deide wonder. (c1400)*  
“Such a great hunger **arose** amongst them, that they died in great numbers.”
  - ◇ “develop into”  
(43) *And a riuer went out of Eden to water the garden, and from thence it was parted and **became** into foure heads. (1611)*

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# Lexicalization of *become* “arrive” (4)

Figure 3: Frequencies pmw of layers of [become + PP|Adv.location]



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# Lexicalization of Cop *become* (1)

- Parallel to the lexicalization process of the locational meaning, the copular use of *become* decreases in productivity too.
- Productivity is measured here (in a representative corpus) by:
  - ◇ the formula of Baayen and Lieber (1991)

(41)

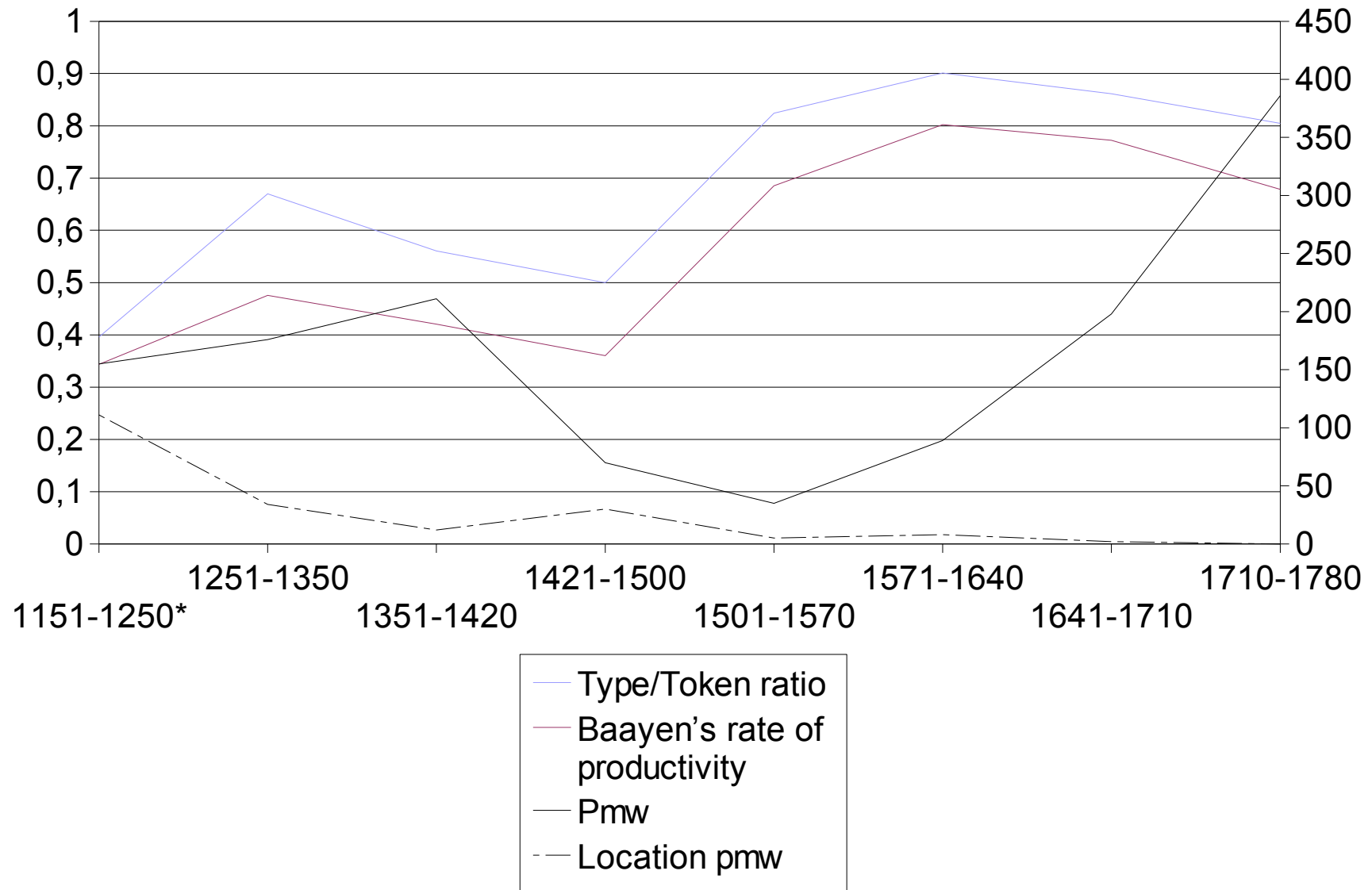
$$\phi = \frac{n_1}{N}$$

- ◇ The Type/Token ratio  
(see Figure 4 next slide)
- Initially, this process of lexicalization does not bring along a decrease in token frequency, but by the end of the 15th century, both token frequency and productivity rate are at their lowest since the end of the 12th ct.

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# Lexicalization of *Cop become* (2)

Figure 4: Productivity *Cop become* ~ frequency [become + PP|Adv.location]



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## Lexicalization of Cop *become* (3)

- The lexicalization process is also materialized in the increase of the fixed collocation *become man* (lexicalization).

*Figure 5: share of man*

	1151-1250*	1251-1350	1351-1420	1421-1500	1501-1570	1571-1640	1641-1710	1710-1780
<b>Tokens</b>	96	103	107	100	108	91	101	87
<b>Share of 'man'</b>	57%	15%	24%	34%	5%	2%	4%	0%

- In the course of the 16th century, the token frequency and the productivity rate of *become* go up again.
- Also in the 16th century, *become* extends to a passive use with Pples.

## *Become's bottleneck*

# Explanation

- Speakers are confused avoid using *become*. The verb is “in crisis”.
- The decrease in productivity runs parallel for both Cop and [*become* + PP|Adv.location].
- There still seems to be unidirectionality: lexicalization of [*become* + PP|Adv.location] leads to its loss prior to a possible loss of Cop *become*.
- After the spatial meaning is lost, speakers cannot have any longer any doubts as to the prototypical sense of *become*, which is now clearly the copular use.
- The copular use increases again.
- The grammaticalization process is picked up again and syntactic expansion to the passive occurs, in which no link (semantic nor formal) whatsoever remains with the locational use.
  
- Finally: Danger of *ad hoc* explanation? A similar process has taken place in the case of *wax* (developing a Cop sense out of an original sense “grow”). However, during its crisis, *wax* disappears completely (both original layer and Cop), possibly because of lower overall frequency.
- Of course, more cases need to be found.



# Concluding notes

- Many studies assume that increased frequency of a construction is prima facie evidence of grammaticalization (Hopper and Traugott 2003: 129).
- This case study shows that the reverse is not true: constructions that do not follow such a typical increase of frequency can still be in the process of being grammaticalized.
- The cause for a “pause” in frequency increase and furthered grammaticalization seems to be found in the specific form layering takes on in this case study.
- Layering thus is not really a principle of grammaticalization (as in Hopper 1991), but maybe rather an independent (even “interfering”) mechanism.
- This case may be an isolated one, but the fact that there is a cross-linguistic tendency for position verbs > Cops to lose their original spatial sense suggests it is not.
- More case studies involving atypical frequency stories should be found to falsify/verify this hypothesis (any information on already existing ones is very much appreciated)

# References

- Baayen, H. and R. Lieber (1991) Productivity and English derivation: A corpus-based study. *Linguistics* 29: 801-843.
- Croft, William. (2000). *Explaining language change: an evolutionary approach*. London: Longman.
- De Smet, Hendrik. (2007) *In search of syntactic reanalysis: A usage-based approach*. Preprints of the Department of Linguistics 261. Department of Linguistics, University of Leuven.
- Bybee, Joan. 2003. 'Mechanisms of Change in Grammaticization'. In: Brian D. Joseph, Richard D. Janda. *The handbook of historical linguistics*. 602-623. Oxford: Blackwell.
- Heine, Bernd and Tania Kuteva. 2002. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.
- Himmelmann, Nikolaus P. 2004 'Lexicalization and grammaticization: opposite or orthogonal'. In: Björn Wiener, Walter Bisang and Nikolaus Himmelmann (eds.). *What makes Grammaticalization? A Look from its Fringes and its Components* (Series Title: Trends in Linguistics. Studies and Monographs 158), 19-40. Berlin: Mouton de Gruyter.
- Hopper, Paul J. (1991). 'On some principles of grammaticization'. In E.C. Traugott and B. Heine, eds. *Approaches to Grammaticalization. Volume I: Focus on Theoretical and Methodological Issues*. Amsterdam/Philadelphia: John Benjamins. 17-35.
- Hopper, Paul J. and Elizabeth C. Traugott. 2003 [1993]. *Grammaticalization. 2nd ed. (Cambridge textbooks in linguistics)*. Cambridge: Cambridge University Press.
- Petré, Peter. (2007) How *become* waxed and *wax* became a copula. Fifth Studies on the History of the English Language Conference (SHEL), Athens, 4-6 October 2007.
- Petré, Peter & Hubert Cuyckens. (2008). The Old English copula *weorðan* and its replacement in Middle English. In: *English historical linguistics 2006. Volume I Historical syntax and morphology*. Maurizio Gotti, M. Dossena & R. Dury (eds.). Amsterdam: John Benjamins.
- Pustet, Regina. (2001). Copulas. *Universals in the Categorization of the Lexicon*. Oxford: Oxford University Press.
- Stassen, Leon. (1997). *Intransitive Predication*. Oxford: Oxford University Press.

# Corpora

DOEC: *Dictionary of Old English Corpus* (<http://www.doe.utoronto.ca/pub/corpus.html>)

HC: *Helsinki Corpus* (<http://khnt.hit.uib.no/icame/manuals/HC/INDEX.HTM>)

ICAMET 2004: *Innsbruck Middle English Prose Corpus* ([http://anglistik1.uibk.ac.at/ahp/projects/icamet/prose\\_corpus/index.html](http://anglistik1.uibk.ac.at/ahp/projects/icamet/prose_corpus/index.html))

MEC: *Middle English Compendium* (<http://quod.lib.umich.edu/c/cme/browse.html>)

MED: *Middle English Dictionary* (<http://quod.lib.umich.edu/m/med/>)

MEMT: *Middle English Medical Texts corpus* (2005). Compiled by Irma Taavitsainen, Päivi Pahta and Martti Mäkinen. University of Helsinki. John Benjamins.

PPCME2: *Penn Parsed Corpus of Middle English, 2nd edition* (<http://www.ling.upenn.edu/hist-corpora/PPCME2-RELEASE-2/>)

YCOE: *York parsed Corpus of Old English* (<http://www-users.york.ac.uk/~lang22/YCOE/YcoeHome.htm>)

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