What can explain it?
The changing modals of York English

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Introduction
Modal auxiliaries form a small and well-defined syntactic class in English.

- MUST, MAY, MIGHT, SHALL, SHOULD, WILL, WOULD, CAN, COULD (marginally: OUGHT, NEED, DARE)

United **syntactically**, **semantically**, and **morphologically**:

- **syntactically**: occur in a single high structural position ($\approx T$)
- **semantically**: express modal meanings.
- **morphologically**: lack non-finite and agreeing forms, and have irregular “past” forms.

Often seen as the **canonical** expression of modality in English.
Some evidence that modals are **declining** in use, often being replaced by corresponding **semi-modals**:

- **MUST > HAVE TO**
  
  (Tagliamonte and Smith, 2006; Tagliamonte and D’Arcy, 2007)

- **WILL > BE GOING TO**
  
  (Berglund, 1997; Szmrecsanyi, 2003; Tagliamonte, 2002)

  (And expanding SIMPLE PRESENT for future: Cowper et al., 2015, in prep.)
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Do we find a parallel change with **CAN/BE ABLE TO**?

**No.**

**CAN** appears to be charting a **very different course** from other modals.
A starting point
A starting point

Google Books corpus: CAN diverging from all other modals.

Table 1: modals and semi-modals from 1800–2000 (Michel et al., 2011)

[From https://books.google.com/ngrams/, accessed 22/06/2017]
Research questions

• What are the facts?
  Can we see the same trajectory for can in a corpus of spoken English? Specifically: the York English Corpus (Tagliamonte, 1996-1998)

• What do the facts tell us?
  Do the changes in can reflect known paths of grammaticalization for deontic and epistemic modals? Is the class of modal auxiliaries in English being reorganized, or perhaps lost?
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  Is the class of modal auxiliaries in English being reorganized, or perhaps lost?
Outline of today’s talk

Introduction

The Study

Results

  Focus on dynamic modality

  Focus on epistemic modality

Discussion

  Grammaticalization

  The Modal System

Conclusions
The Study
The corpus

Analysis of the York English Corpus
(YEC: Tagliamonte, 1996-1998)

- Sociolinguistic interviews conducted in 1997
- Speakers range in age from 15–91 (Born 1906–1982)
- A variety of social, economic, and educational backgrounds represented

Extracted all tokens of modals and semi-modals expressing possibility (+ 60 characters preceding and following) using AntConc 3.4.3 (Anthony, 2014):

- CAN/CANNOT
- COULD
- BE ABLE TO
- MAY, MIGHT
All tokens coded for demographic properties of the speaker...

• Age
• Sex (M/F)
• Education (+/–)
• Job (blue collar, white collar, student)

...and for a range of grammatical properties.

• Subject type
• Subject animacy
• Clausal negation
• Question (question / statement / tag question / etc.)
• Modal interpretation / “flavour”
• Clause type (matrix / embedded / relative / etc.)
• Inflection (passive, progressive, perfect, other)
Coding

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Results
Overview

• Overall results
  • Use of modals by age
  • Significant interactions
  • Focus on effect of subject type: rise in generic subjects
• Dynamic (=ability) modality
  • Overall distribution of CAN, COULD, BE ABLE TO
  • Focus on effect of modal interpretation: 
    → rise in circumstantial uses
• Epistemic modality
  • Overall distribution of CAN, COULD, MAY, MIGHT
  • Focus on effect of modal interpretation: 
    → rise in quantificational uses
A caveat

Results presented here as though we are looking at a sociolinguistic variable (Labov, 1972).

(% CAN vs. % not-CAN)

But unlike traditional variants, modal auxiliaries are at best semi-overlapping in domains.

• Some meanings expressible only by some modals.
• Some syntactic contexts allow some modals but not others. (e.g. sequence of tense, counterfactuals)

Further, not all ways of expressing semantic possibility were included. (maybe, it is possible that, etc.)
3875 tokens for analysis.

- 4015 tokens overall.
- Removed tag questions, and clauses followed by tags.

Tokens analyzed using Goldvarb (Sankoff et al., 2005)
Overall results: distribution of possibility modals by age

- Might
- May
- Able
- Could
- Can

Age groups:
- >65
- 36-65
- ≤35

Chart showing the distribution of possibility modals across different age groups.

Legend:
- Blue: MIGHT
- Green: MAY
- Yellow: ABLE
- Orange: COULD
- Red: CAN
Overall results: significant interactions

Significant interactions, predicting the rate of can vs. all alternatives.

- Age x Sex
- Age x Subject type
- Negation x Questions
- Age x Questions
Overall results: significant interactions

Significant interactions, predicting the rate of `can` vs. all alternatives.

- Age x Sex
- **Age x Subject type**
- Negation x Questions
- Age x Questions

[You] can trace all sorts of history—different things in York.

[People you-see, they] can’t even learn to disagree without falling out[.]
Overall results: significant interactions

Significant interactions, predicting the rate of can vs. all alternatives.

- Age x Sex
- Age x Subject type
- Negation x Questions
- Age x Questions

Subject Type: 1st person / 2nd person / 3rd person / generic

- Generic you and non-specific / indefinite / generic they:
  - [Y]ou can trace all sorts of history- different things in York.
  - [P]eople you-see, they can ’t even learn to disagree without falling out[.]
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  - [Y]ou can trace all sorts of history- different things in York.
  - [P]eople you-see, they can’t even learn to disagree without falling out[.]
Overall results: interaction of Age x Subject Type

- 3rd + NPs
- Generic
- 2nd
- 1st

% CAN

>65  36-65  ≤35

15/45
Overall results: increase with generic subjects

**CAN** is increasing with **generic** subjects:

- **generic you**
  - But now **you** can’t even see into the river because all the trees have grown[.]
  - **[Y]ou** can trace all sorts of history - different things in York.
- **generic / indefinite / nonspecific they**
  - **[P]eople you-see, they** can’t even learn to disagree without falling out[.]

...and (to a lesser extent) with **third person** subjects.

- **referential pronouns**: **he, she, it, they**
- **NP/DP subjects**
  - **[T]eachers** can never ever work videos.
Breakdown by modal interpretation

Overall analysis used 3 standard categories of interpretation:

• Epistemic: possible based on what we know
  
  She might be home.

• Deontic: possible based on rules, i.e. permitted
  
  You may have a cookie.

• Dynamic: possible based on abilities or circumstances
  
  She can walk. (also "other": rhetorical, fixed expressions, sufficiency modals)

Next: Looking for patterns within these categories.
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(Also “other”: rhetorical, fixed expressions, sufficiency modals)

**Next:** Looking for patterns *within* these categories.
Results

Focus on dynamic modality
Ability subsystem

**Relevant forms:** CAN, COULD, BE ABLE TO

**Tokens:** 2940

- **Physical ability:**
  - I *can* still play piano ’cos I play it up with the chapel.

- **Mental ability:**
  - And I *can* understand why they get bored.

- **Circumstantial:**
  - You *can* go to York and you can get a job at the railway.
  - They *can* basically charge what they like.

- **Desire:**
  - I *can’t* listen to myself on tape.
Ability: significant interactions

- Age x Modal interpretation
- Age x Subject type
- Age x Questions
- Age x Sex
Ability: significant interactions

- Age x Modal interpretation
- **Age x Subject type**
- Age x Questions
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Ability: significant interactions

- Age x Modal interpretation
- Age x Subject type
- Age x Questions
- Age x Sex
Ability: Age x Modal interpretation

% CAN

Desire
Circumst.
Mental
Physical

>65 36-65 ≤35
Ability: Overall

**Can** increases most in **circumstantial** uses:

- **Circumstantial**
  - You **can** go to York and you can get a job at the railway.
  - They **can** basically charge what they like.
  - And of course, now she ‘s in York, I **can** see her any time.
  - They **can** go in the microwave, warm them up.

- Parallel increases for all other interpretive categories.
  (Desire appears to increase most sharply, but only 68 tokens)

Effect of **subject type** mirrors the overall results.
Results

Epistemic
Epistemic subsystem

Relevant forms: CAN, COULD, MAY, MIGHT

Tokens: 477

- Pure epistemic:
  - It must have been murder for my mother. Can’t have been so good for me now I come to think of it.

- Quantificational (“sometimes”):
  - [the North Sea] can be so rough it sort of goes along sideways
  - So that can be really tedious, marking. I don’t like marking.

- Potential:
  - [the northern premier league] is about the best league you can be in.
  - But never know, might go back to it sometime.
Epistemic: significant interactions

- Age x Modal interpretation
- Age x Subject type
- Age x Negation
Epistemic: significant interactions

- Age $\times$ Modal interpretation
- Age $\times$ Subject type
- Age $\times$ Negation
Epistemic: significant interactions

- Age x Modal interpretation
- Age x Subject type
- Age x Negation
  - can only epistemic when negative
Epistemic: significant interactions

• Age x Modal interpretation
• Age x Subject type
• Age x Negation
  • CAN only epistemic when negative
Epistemic: Age x Modal interpretation

- Potential
- Quantification
- Epistemic
**Epistemic: Overall**

**CAN** increases most in **quantificational** uses:

- **Quantificational (“sometimes”)** (n = 87)
  - [the North Sea] can be so rough it sort of goes along sideways
  - So that **can** be really tedious, marking. I don’t like marking.
  - Sometimes they’re alright but other times you **can** go and there’s nothing you fancy.
  - Yes well, overtime was available, you could do, two or three hours before or after your shift

Other interpretive categories show no significant change.

(only 11 epistemic uses of CAN in YEC overall)
In the York English Corpus:

- Use of can is increasing in apparent time.
- Overall: increasing with third person and generic subjects.
- Ability: increasing circumstantial uses
- Epistemic: increasing quantificational uses

Change towards more impersonal meanings.

Trajectory towards increased epistemic use, but of atypical kind (quantificational).
Discussion
Do the observed changes in *can* match known grammaticalization paths for modals?

What does this tell us about the organization of the modal system as a whole?
Discussion

Grammaticalization
Grammaticalization in modal systems

Well established trajectories of grammaticalization:

- **Ability → Permission**
  - Confirmed here: CAN has fully displaced MAY to express permission in the YEC.
  - By contrast, no evidence that BE ABLE TO is grammaticalizing.

- **Root → Epistemic**
  - CAN not obviously moving *directly* from deontic → epistemic

A new path for CAN?

- **Ability → Epistemic** (Quantificational)
Explaining grammaticalization

Several different types of explanation for grammaticalization:

- **Abstraction** of meanings; loss of thematicity
  - Semantic “bleaching” → loss of thematic arguments
  - Well established for *can* in transition from Old English *cunnan* “to know how”

- “*Moving up the tree*”
  (e.g. Roberts and Roussou, 2003; Cournane, 2015)
  - Root modality associated with *lower* position than epistemic modality (Hacquard, 2006)
  - Maps on to paths of modal change, via trends in acquisition (Cournane, 2015)

- From lower to higher **semantic types** (e.g. von Fintel, 1995)
**Ability → Epistemic: Upwards Reanalysis?**

**CAN** differs from all other modals in resisting epistemic interpretations ...except when negative.

- Confirmed in YEC: only 11 epistemic uses for **CAN**, all negative.
  - ...we thought “This can’t be it, this can’t be it.”
  - ...to be on the receiving end of that, you-know, it can’t be comfortable for them at all.
- But also uncovers a separate class of **quantificational** epistemic uses (Brennan, 1997), which are increasing sharply for **CAN**:
  - the North-Sea [...] it can be so rough it sort-of goes along sideways
  - some of the service can be a big dodgy sometimes
  - They can be quite expensive, can’t they?
The **impersonalization** of **can** is **ongoing** in the YEC:

- **Ability subsystem**: increase in **Circumstantial** meanings
  - Circumstantial meanings reflect what is possible based on **external facts**, not the abilities of any specific person.
    - You **can** go to York and you can get a job at the railway.
  - Not subject-oriented in the same way physical/mental ability are: **impersonal**.
- **Overall**: increase in **can** with **Generic** subjects
  - Reflects same trend: without syntactic reanalysis, uses of **can** that are not about the abilities of any specific person.
The impersonalization of can is ongoing in the YEC:

- Ability subsystem: increase in Circumstantial meanings
  - Circumstantial meanings reflect what is possible based on external facts, not the abilities of any specific person.
    - You can go to York and you can get a job at the railway.
  - Not subject-oriented in the same way physical/mental ability are: impersonal.

- Overall: increase in can with Generic subjects
  - Reflects same trend: without syntactic reanalysis, uses of can that are not about the abilities of any specific person.
Do the observed changes in CAN match known grammaticalization paths for modals?

Yes.

But with complications:

- Not all changes are obviously part of upwards reanalysis.
- Development of epistemic meanings, but of an unusual type.
Discussion

The Modal System
Among modals, CAN has long been exceptional:

- **Semantically**
  - CAN is the only dynamic modal, and lagged behind other modals in the development of deontic and epistemic uses.

- **Morphosyntactically**
  - CAN is the only modal with a transparent past tense equivalent (**could**)
    - WOULD is past tense, but no longer means “was going to”
    - SHOULD not transparently past tense (**shall** in decline)
  - CANNOT is the only non-contracted negative form.
  - CAN exceptionally lacks so-called “British do” in the YEC
    - But if I wanted to come home in the evening I **could do**.
From exceptionality to a split?

The current study adds another exceptional property:

- While other modals are in decline, the frequency of *can* is increasing.

What does this tell us about the organization of the modal system as a whole?

An intriguing possibility: *can*’s marginal status in the modal system as a whole is preserving it from an otherwise general decline in the system.

Speculation: *can* is increasingly not treated as part of the modal auxiliary system.
Conclusions
Conclusions and Future Directions

• CAN is not declining in favour of BE ABLE TO. ...despite what we might expect based on changes in MUST and WILL.

• Instead CAN is increasing in apparent time. Focus today:
  • Increase with generic subjects
  • Increase in circumstantial uses
  • Increase in quantificational uses

• Overall, these reflect known trends in the grammaticalization of modals, but with some new detail.

• Suggesting a split in the English modal system as a whole.
Thank you!


Cowper, Elizabeth, Daniel Currie Hall, Bronwyn M. Bjorkman, Rebecca Tollan, and Neil Banerjee. in prep. Investigating the past of the futurate present. Ms. Based on a talk given at DiGS 17.


