

The Saga of Three Mighty Modals:

A language learner's guide to understanding how English *must*, *may* and *can* develop from deontic to epistemic uses

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Functions of *can*

He can help us.

- (a) He **is able to** help us.
- (b) He **will** help us.

*He can help us,
if we ask.*

Functions of *can*

He can help you.

- (a) He **is able to** help you.
- (b) He **is permitted to** help you.

Okay, he can help you.

Functions of *may*

*They may leave
tomorrow.*

- (a) They **are permitted to** leave the next day.
- (b) **It is possible** they will leave the next day.

Functions of *may*

They may betray us.

- (a) *They are permitted to betray us.
- (b) It is possible they will betray us.

Functions of *must*

We must cross the river.

- (a) We **are able to** cross the river. (Old English)
- (b) We **have to** cross the river.

*We must cross the river
before the rain comes.*

Functions of *must*

She must be here.

- (a) She **has to** be here. (obligation: she has no choice)
- (b) She **has to** be here. (logical conclusion: the evidence is such)

She must be here.

*Gran's the only one she'd turn to
when she's in trouble.*

Students sometimes wonder and ask:



How come these modals
have so many functions?

Is there a learnability problem?

- Given that many modals have multiple functions, how do learners acquire these various form-function mappings?
- (Extended) Vygotskyan approach:
 - **SOCIAL ACTIVITIES** > Consolidation of form-function mappings through frequent use > Attention to form > Pattern recognition > Creative play
- **Formal Instruction:** Focus on form
- **Grammar Story approach:** Focus on form + Play

Our present focus

- The story of how modals acquire new functions over time.
- We first focus on the functions of *can*.
- Then we compare its functions with those of *may* and *must*.
- We highlight some robust diachronic patterns:
 - Deontic > epistemic uses
 - Paradigmatic change—structural analogy
 - ‘Cyclical’ (or rather ‘wave-like’)—in the sense that the semantic extensions are renewable, albeit through recruitment of new grammatical items/constructions
 - Crosslinguistically robust (Bybee, Perkins & Pagliuca 1994; Traugott & Dasher 2002)

Table 1. Development of English *can*

| Functions of <i>can</i> | Old English (OE) 5 th century-1066 | | Middle English (ME) 1066-1476 | | | Modern English (ModE) 1476-present | |
|-------------------------|--|------|----------------------------------|--------|------|---------------------------------------|--------------|
| | Early | Late | Early | Middle | Late | Early | Contemporary |
| mental ability | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| physical ability | | | | ✓ | ✓ | ✓ | ✓ |
| root possibility | | | | | | ✓ | ✓ |
| permission | | | | | | | ✓ |
| *obligation | | | | | | | |
| epistemic possibility | | | | | | | ✓ |

Table 1. Development of English *can*

mental ability > *physical ability* > *root possibility*

>

permission

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| mental ability | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| physical ability | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| root possibility | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| permission | | ✓ | | | | | ✓ |
| *obligation | | | | | | | |
| epistemic possibility | | | | | | | ✓ Negation & interrogation |

Learning grammar through 'play'

- We illustrate how students can engage in activities that can help them consolidate the concepts they have learned.
- Some possible formats include:
 - Illustrated grammar story books (8-12 pages)
 - Animations
 - Video productions

Overview of presentation

- Diachronic research on modals *can*, *may* and *must*.
- Illustration of diachronic findings on *can*.
- Video production on the evolution of the functions of *must*:
 - Background information: functions of *must*
 - Video-show: uses of *must* across time (OE, ME, ModE)
 - Students' comments: what have they learned?
- Why do Grammar Stories on modals?

Development of English *can*

Present-day English

- The uses of *can* in Present-day English can be illustrated by the following examples.

- (1) a. *He **can** speak three languages.* (mental ability)
b. *I **can** swim.* (physical ability)
c. *Smoking **can** cause cancer.* (root possibility)
d. ***Can** I use your computer?* (permission)
e. *That **can**'t be the time!* (epistemic meaning)

- Present-day English *can* derives from Old English *cunnan* 'to know (how to), to be mentally/intellectually able to'.

Old English Period (5th century-1066)

- The present form of Old English **cunnan** was **cannn** (> PDE **can**).
- Its preterit (past) form was **cūðe** (> PDE **could**).
- **Cunnan** in OE functions primarily as a transitive verb meaning ‘to know’ (Tanaka 1990: 91).

(2) a. *Ic hine **cupe** cnihtwesende* (Beowulf, cited in Klaeber 1922: 372)
‘I **knew** him when he was a youth’

b. *men ne **cunnon**,*
hwyder helrunan hwyrftum scriþað (Beowulf, cited in Klaeber 1922: 162)
‘men **know** not
where such mysterious creatures of hell go in their wanderings’

OE *cunnan* can also be used with an infinitive, meaning ‘to know how to’.

- (3) a. *Men ne **cunnon** secgan to soðe* (Beowulf, cited in Klaeber 1922: 50)
‘Men **know** not **how to** say truly’
- b. *him bebeorgan ne **con*** (Beowulf, cited in Klaeber 1922: 1746)
‘He **knows** not **how to** defend himself’
- In other words, OE *cunnan* expresses **mental ability**, i.e. the power to learn or retain knowledge.

Middle English (1066-1476)

- Around 1300, **can** was found with predicates requiring **physical ability** (i.e. the ability to perform some physical act) (Bybee et al. 1994: 192).
- **Can** was extended to all types of activities and express **general ability** (i.e. meaning ‘to be able’).

(4) a. So yung þat sho ne **coupe Gon** on fote.

Havelok III (c. 1300)

b. I **kan** nat **love** a coward, by my feith!

The Nun's Tale, line 91
(late 14th c.)

c. To **can renne** withe speer.

Bk. Noblesse 76 (1475)

d. Sum off yaim **couth swome** full weill.

J. Barbour *Bruce* (Adv.) III. 431
[1489 (1380)]

Mental ability + physical ability → general ability

- Bybee et al. (1994: 192) suggest that *can* is often used where both mental and physical ability are required, since ‘most activities that require mental ability also require some physical ability’.

Modern English Period (1476-present)

- In Early Modern English, **can** expressing ability was further extended to indicate **root possibility**.
- (5) a. *Thou **cannest** not **haue** of Phocion a frende & a flaterer bothe to gether.*
N. Udall tr. Erasmus *Apophthegmes* 299a (1542)
- b. *And **can** you **blame** them? P. Stubbes*
Second Pt. Anat. Abuses sig. F5 (1583)
- c. *Ye **cannot drink** the cup of the Lord, and the cup of devils.*
Bible (A.V.) 1 Cor.x.21 (1611)
- d. *You **can** hardly **over-water** your Strawberry-Beds.*
J.Evelyn *Kalendarium Hortense* (ed.8) 33 (1691)

Ability > Root Possibility

- How does the change from ability to root possibility happen?
- According to Bybee, Perkins & Pagliuca (1994), the agent's ability to perform an act is determined not only by the agent, but also by the external world.
- For example, *I can ride that horse*, the agent's ability to ride that horse depends not only on the agent's ability, but also on the properties of the horse, since 'horse can be more or less difficult to ride'.
- *Can* indicating ability was then extended to 'predicate all sorts of enabling conditions – those internal to the agent as well as external conditions' (Bybee et al. 1994: 192).

Can is associated with less formal registers

- Early 16th century
 - *Can* indicating **possibility** was favoured in colloquial registers ‘in particular, in texts close to **spoken language**, such as diaries, private correspondence, trials and, to some extent, sermons’ (Rissanen 1999: 237-238)
- 16th & 17th century
 - *Can* indicating **possibility** gains ground at the expense of *may*.

Root possibility > epistemic necessity

- In early Modern English, *can* also developed an **epistemic meaning**.
- However, the epistemic use of *can* only occurs in **negations** and **interrogations** (Rissanen 1999: 237).

(6) a. *This **cannot be** but a great folly.*

([HC] Brinsley 45)

b. *And Nicodemus answered and sayde vnto him:
how **can** these thinges **be**?*

([HC] Tyndale John 3.9)

Could as a modal expressing epistemic necessity

- In Present-Day English (PDE), *can* still cannot express epistemic meaning in assertions.
- It is often the past form *could* that indicates epistemic meaning.

(7) a. *There could be something wrong with the light switch.*

(Quirk et al. 1985: 233)

b. *This could be the all important round.*

(S.10.3.99 from Palmer 1990: 185)

Hypothetical possibility > epistemic possibility

- According to Goossens (1996: 15), the epistemic use of *could* derived from its hypothetical possibility use, which arose in Middle English (Andrews 1993: 38).

(8) *So god as gawayn gaynly is halden,
And cortaysyse is closed so clene in hymselfen,
Couth not lyztly haf lenged so long with a lady
Bot he had craued a cosse bi his courtaysye ...*

(*Sir Gawain* 2420, Andrews 1993: 42)

‘As gallant as Gawain rightly is considered,
If chivalry is contained so completely in himself,
[He] **could not** easily have lingered so long with a lady
Unless he had craved a kiss for his courtesy ...’

Hypothetical possibility > epistemic possibility

(9) a. *but that I am forbid...*

*I **could** a tale vnfolde whose lightest word*

Would harrow vp they soule,

(*Hamlet* 630, Andrews 1993: 44)

b. *you **could** for a neede study a speech of some dosen or
sixteene lines, which I would set downe and insert in't,
could ye not?*

(*Hamlet* 1471-3, Andrews 1993: 44)

c. *Had I but time, as this fell sergeant Death*

*Is strict in his arrest, o I **could** tell you*

(*Hamlet* 3555-6, , Andrews 1993: 44)

Hypothetical possibility > epistemic possibility

- Goossens (1996: 15) proposes that ‘hypothetical possibility gradually shades off into epistemic’ and provides a hypothetical context below in which *could* can mean ‘perhaps’.

(10) ... *and considering that the trip was too sharp for such a big horse as this handsome son of le Sage he has acquitted himself extremely well. Sagacity **could** be the one to give Pinturischio most to do if they meet next Thursday.*

(A32, 66-70 from Goossens 1996: 15)

Permission (19th century)

- The use of *can* indicating **permission** is a 19th-century development (Traugott 1989:36; Rissanen 1999:237). The following examples are from the *OED*.

(11) a. *Can I speak with the Count?*

(*Falcon*, Tennyson 1879)

b. *Father says you can come.*

(*Dog with Bad Name*, , xv.156 , T.B. Reed 1894)

c. *No one can play the organ during service time without the consent of the Vicar.*

(*Church Times* 3 Feb. 136/3, 1905)

Root possibility > Permission

- According to Bybee et al. (1994: 193), the **permission** use of **can** developed out of its root possibility use as in (5).
- They also suggest that the permission use can be regarded as **a special instance of root possibility**, since ‘The general enabling conditions expressed by root possibility include both physical conditions and social conditions, and **permission is simply the presence of social enabling conditions**’.

Figure 1. Development of *can*

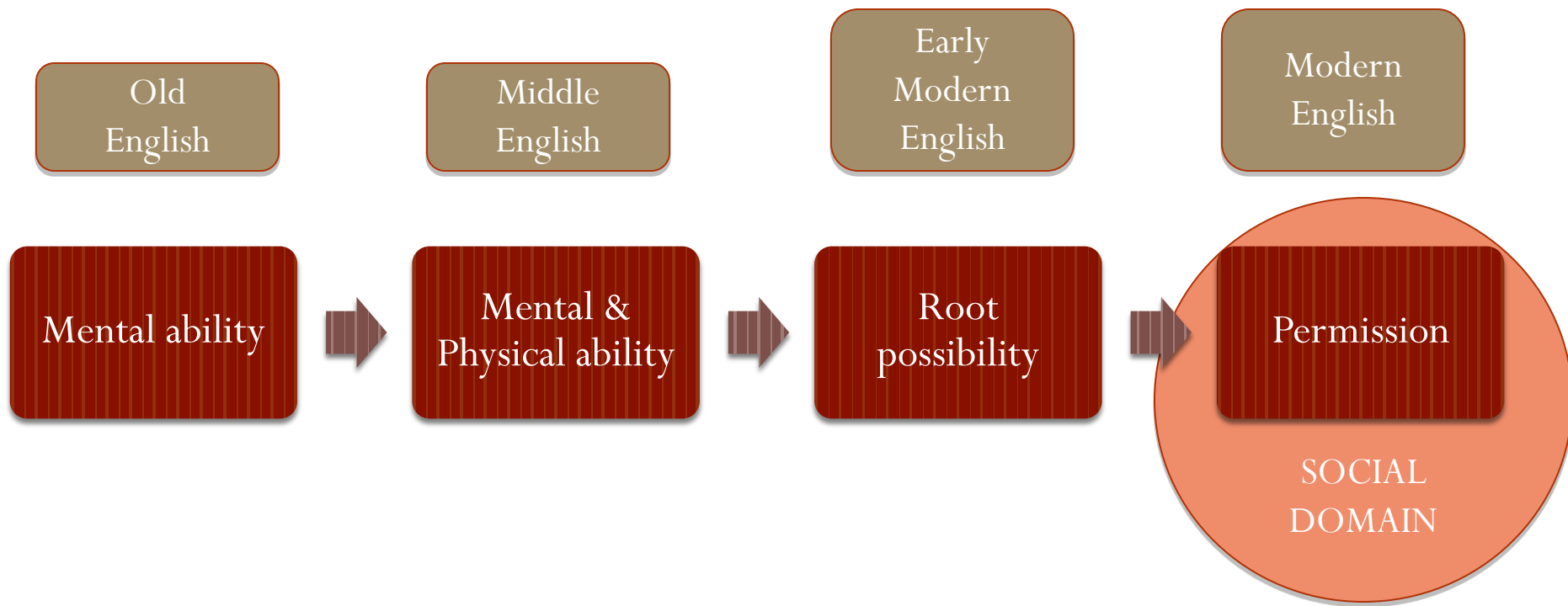


Figure 2. Development of *may*

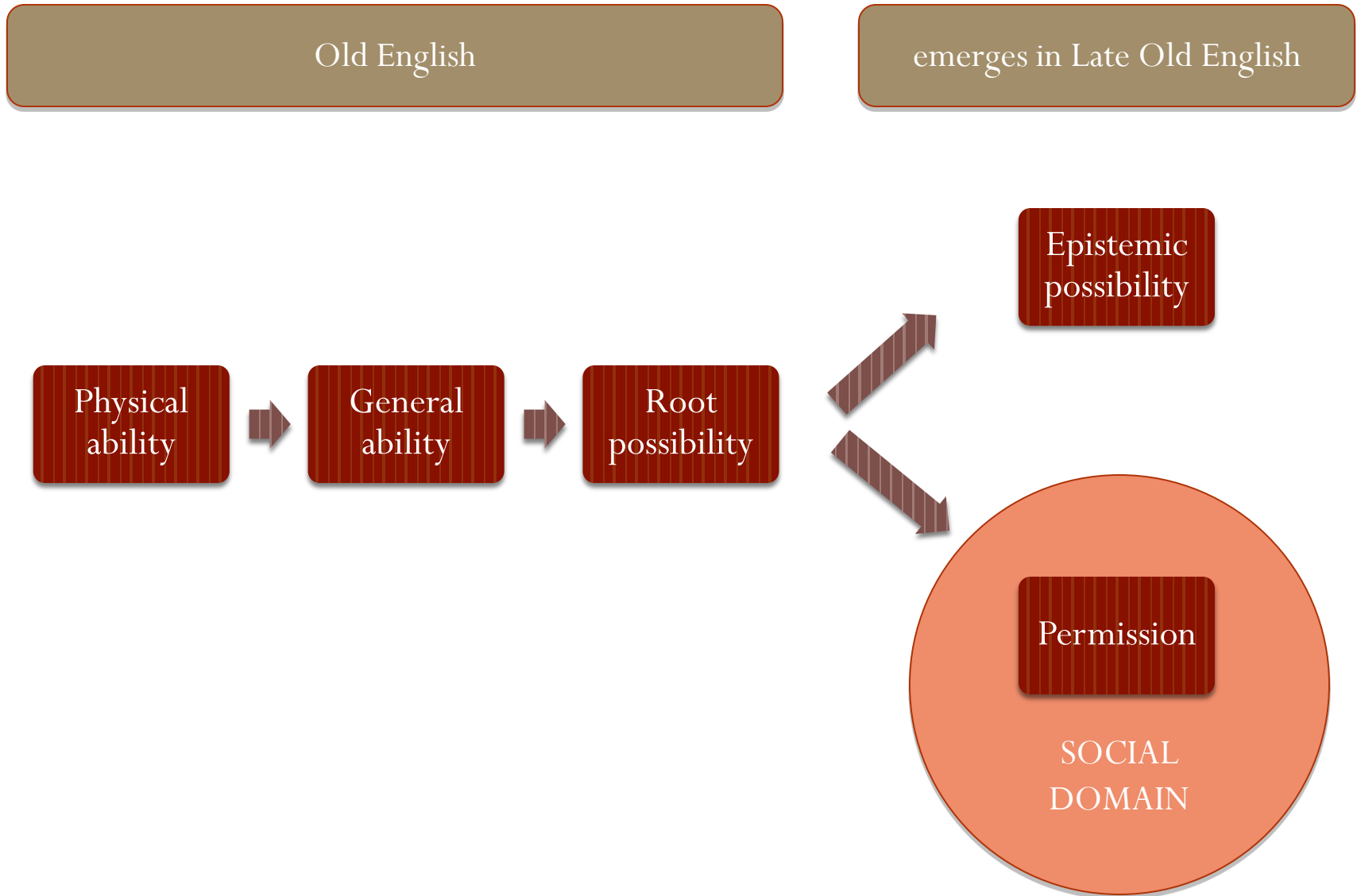


Figure 3. Development of *must*

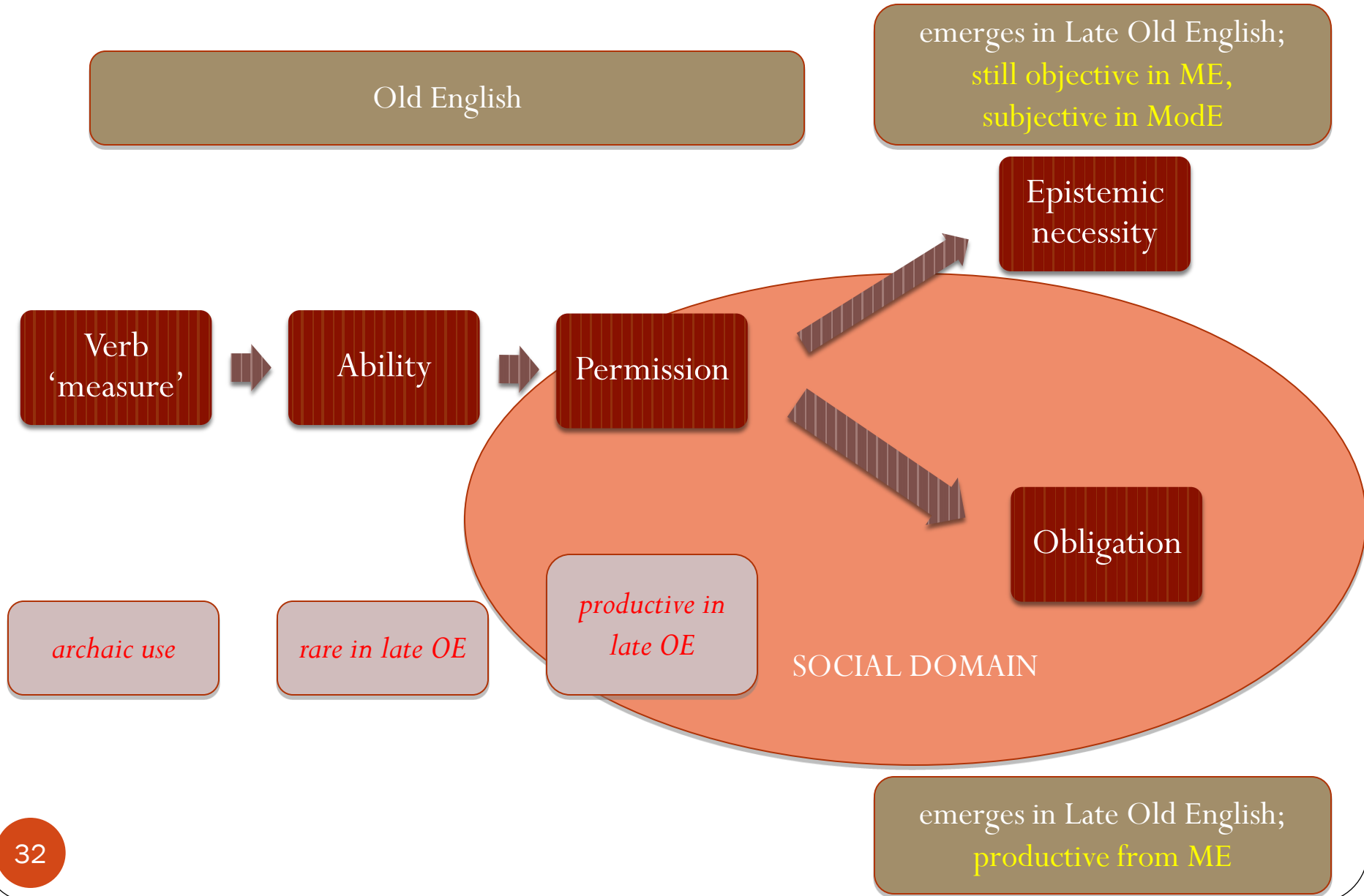


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| mental ability | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| physical ability | | | | ✓ | ✓ | ✓ | ✓ |
| root possibility | | | | | | ✓ | ✓ |
| permission | | | | | | | ✓ |
| *obligation | | | | | | | |
| epistemic possibility | | | | | | | ✓ |

Table 2. Development of English *may*

| Functions of <i>may</i> | Old English (OE) 5 th century-1066 | | Middle English (ME) 1066-1476 | | | Modern English (ModE) 1476-present | |
|-------------------------|--|--|----------------------------------|---------------------------|---------------------------|---------------------------------------|--------------|
| | Early | Late | Early | Middle | Late | Early | Contemporary |
| physical ability | ✓ | ✓ | | | | | |
| general ability | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| root possibility | | > emerge | ✓ | ✓ | ✓ | ✓✓✓ | ✓ |
| permission | | > emerge | ✓ | ✓ | ✓ | ✓✓ | ✓ |
| *obligation | | | ✓ | ✓ | ✓ | ✓ | ✓ |
| epistemic possibility | | Rare, but earlier than permission (can be subjectless) | ✓ (can be subjectless) | ✓ (can be subjectless) | ✓ (can be subjectless) | ✓ | ✓ |

Table 3. Development of English *must*

| Functions of <i>must</i> | Old English (OE) 5 th century-1066 | | Middle English (ME) 1066-1476 | | | Modern English (ModE) 1476-present | |
|--------------------------|--|----------|----------------------------------|-------------------------|-------------------------|---------------------------------------|-------------------|
| | Early | Late | Early | Middle | Late | Early | Contemporary |
| ability | rare | rare | | | | | |
| permission | | √√ | restricted | restricted | rare | | |
| obligation | | > emerge | > emerge | √ | √ | √ | √ |
| *epistemic possibility | | | | | | | |
| epistemic necessity | | rare | deontic/ epistemic | > emerge (objective) | > emerge (objective) | √ (subjective) | √ (subjective) |

Development of modal *can*

(expanding on Bybee et al. 1994)

- The sense of *can* has gone through the following stages:

(i) **mental** enabling conditions **exist in the agent**

(ii) enabling conditions **exist in the agent**

(iii) enabling conditions **exist**

(iv) **social** enabling conditions **exist (in the situation)**

(v) enabling conditions **exist in some possible world**

Ability

Root possibility

Permission

Epistemic possibility

-- for the completion of the main predicate situation

Development of modal *may*

- The sense of *may* has gone through the following stages:

- (i) **physical** enabling conditions **exist in the agent**
- (ii) enabling conditions **exist in the agent**
- (iii) enabling conditions **exist (in the situation)**
- (iv) **social** enabling conditions **exist (in the situation)**
- (v) enabling conditions **exist in some possible world**

Ability

Root possibility

Permission

Epistemic possibility

-- for the completion of the main predicate situation

Development of modal *must*

The sense of *must* has gone through the following stages:

- (i) enabling conditions **exist in the agent**
- (ii) enabling conditions **exist (in the situation)**
- (iii) **social** enabling conditions **exist (in the situation)**
- (iv) **social expectations/obligations** **exist (in the situation)**
- (v) evidential information **exists**

Ability

Root possibility

Permission

OBLIGATION

INFERENCE

-- for the completion of the main predicate situation

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