From ‘may’ to ‘must’ in late medieval Danish*

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The paper investigates the meanings of the modal verb MA/MÅ *in late Middle Danish, specifically the language at the time of the Reformation in the early 16th century. The goal is to identify the patterns of polysemy between different modal meanings (dynamic, permission, optative, etc.) and to identify the contexts where the change from dynamic possibility (‘can, may’) to dynamic necessity (‘must, have to’) happened. It is argued that this change occurred in contexts where open possibility was reinterpreted as inevitability, possibly through an intermediate stage of ‘prediction’. The development of* MA/MÅ *is compared to the history of English* must *and its West Germanic cognates.*

1 Introduction

The topic of this paper is the semantics of the modal verb MÅ ‘can, may; must’ in late medieval Danish. My primary aim is to identify the possible contexts where its meaning changed from ‘can, may’ (possibility) to ‘must’ (necessity). This semantic development appears to have begun in the 15th century, towards the end of the Middle Danish period. A similar change has been observed in another Germanic modal, namely the ancestor of English *must* and its cognates in other West Germanic languages, such as German *müssen* and Dutch *moeten*. However, as the change in Danish happened several centuries later than in these languages, in a period from which more written material survives, the Danish data may help shed light on the possible semantic pathways in West Germanic and in general. In addition, the paper contributes to the description of the grammar of late medieval Danish.

The paper is organised as follows. In the following section, I briefly outline the main facts and questions about the development of English *must* and its West Germanic cognates. In Section 3, I describe the semantic categories relevant for the corresponding Danish modal verb. Section 4 presents the late medieval Danish material and the method used to excerpt the examples, and

* Thanks are due to Lennart Westergaard, Kees Hengeveld, Olga Fischer, and Roland Pfau, who all helped improve this paper. The usual disclaimers apply.

Section 5 presents the results of the semantic analysis. In Section 6, I discuss the implications of these and how they may help us understand the West Germanic developments and the diachrony of modality more broadly. Section 7 concludes.

2 The road from possibility to necessity

2.1 Middle English MOT

The history of the English modal verbs has received much attention in the linguistic literature, and has been analysed as a paradigm example of grammaticalisation (Plank 1984; Bybee, Perkins & Pagliuca 1994), subjectification (Traugott 1989; Traugott & Dasher 2002), and formal category change (Lightfoot 1979; Warner 1993). In addition, the ancestor of Present-Day English (PDE) MUST has been much discussed by scholars of Old English (OE; *c.* 800–1050). In this strand of research, the primary focus has been on the semantic characterization of the OE ancestor, MOT.[1] An example from the OE translation of Genesis is given in (1):

(1) *Of ælcum treowe ðises orcerdes ðu* ***most*** *etan.*
of each.DAT tree.DAT this.GEN garden.GEN you MOT.2SG eat.INF
'Of every tree in this garden you may eat.' (DOE Corpus; Gen 2.16)

While it is generally agreed that the most adequate translation of OE MOT is usually PDE 'may', as in (1), there has been considerable debate about how to characterize its exact meaning in OE (see Yanovich (2016) for references and discussion).

In Middle English (ME; *c.* 1100–1500) the meaning of MOT shifted from 'can, may' to 'must'. This meaning may already be marginally attested in OE, but from early ME onwards it becomes the dominant one. How the meaning changed from 'can, may' to 'must' is not settled. It has been suggested that it was a reinterpretation from permission to obligation meaning in negated contexts, i.e. that the meaning 'not allowed to' was reanalysed as 'obliged not to' (Standop 1957; Goossens 1987; OED, s.v. *mote*, v.[1]). Another theory is that the older meaning was reinterpreted in contexts with "invited inferences of obligation" (Traugott & Dasher 2002: 126), i.e. in contexts where permission

[1] The PDE form *must* is historically the past-tense form of *mot*. I use small capitals when referring to lexemes rather than individual forms: MOT for OE/ME, MUST for PDE, and MUOZ for OHG/MHG. The OE forms are, with some spelling variation, PRS IND 1/3SG *mot*, 2SG *most*, PL *moton*, SBJV SG *mote*, PL *moten*; PST IND 1/3SG *moste*, 2SG *mostest*, PL *moston*, SBJV SG *moste*, PL *mosten* (cf. Campbell 1959: 343–346; Hogg & Fulk 2011: 305–306).

was used pragmatically to express obligation (cf. a PDE example like *you may leave now*, which may be used as a command).

There are some potential problems for both the 'negation' theory and the 'invited inferences' theory. Firstly, permission ('be allowed to') was only one of the meanings of OE MOT and was not necessarily the primary one; the OED also gives 'have the opportunity to' and 'expression of wish' as possible meanings (s.v. *mote*, v.[1]). Secondly, it is not at all clear that the earliest attestations with the meaning 'must' were in fact used to express obligation. In some of the earliest ME texts, such as the 13th-century *Ancrene Riwle*, cf. (2), and Laȝamon's *Brut*, cf. (3), it rather seems to express a necessity which is due to the circumstances, not an obligation or requirement imposed by any authority.

(2) *alswa þe gode ancre ne fleo ha neauer se hechȝe,*
also the good anchoress NEG fly.SBJV she never so high

ha ***mot*** *lichten oðerhwiles dun to þeorðe of hire bodi.*
she MOT.SG descend sometimes down to the.earth of her body

'Likewise, the good anchoress, no matter how high she may fly [spiritually], she has to come down to the earth sometimes on account of her body.' (PPCME2; CMANCRIW-1,II.107.1322)

(3) *Ah heo* ***mot*** *nede beien, þe mon þe ibunden bið.*[2]
but he MOT.SG necessarily yield the man REL bound COP.3SG
'But the man who is bound necessarily has to yield/submit.' (Laȝamon *Brut* (Calig.) 1051; OED, s.v. *mote*, v.1)

Unfortunately, almost no texts survive from the period of transition from OE to ME (*c.* 1050–1150), so it is not possible to investigate in detail how the meaning of MOT developed in this period. What is clear, however, is that English was not alone in developing a necessity meaning in MOT/MUST. A similar change happened in its West Germanic cousins German, Dutch, and Frisian.

2.2 Continental West Germanic cognates

The cognate of OE MOT is attested across the West Germanic family, and its meaning at the earliest attested stages – to the extent that we know these – appears to have been similar to the OE meaning. The one which has been

[2] The spelling <heo> for 'he' is unusual (*heo* normally means 'she'), but occurs elsewhere in the text. *Pace* Traugott & Dasher (2002: 128–129), I would not analyse MOT in (3) as either deontic or epistemic. It is because of the physical restraints that a bound man cannot do anything but submit; in the terms of Nuyts and colleagues (cf. Section 3), this is quite clearly a dynamic meaning.

discussed most extensively in the literature is the Old High German (OHG, *c.* 800–1050) cognate MUOZ, which I will focus on here; the Dutch and Frisian cognates are mentioned briefly at the end of the section.

The meaning of OHG MUOZ has been described as one of freedom ("nichtbehindertsein"; Klarén 1913: 8) or metaphorical room or occasion ("Raum haben, Gelegenheit/Anlaß etc. haben"; Diewald 1999: 340) to realise a state of affairs. (4) is one of the OHG examples cited by Klarén:

(4)

Joh	*wárun*	*wir*	*gispánnan,*	*mit*	*séru*	*bifángan,*
and	were.1PL	we	tied	with	anguish.INS	oppressed

mit	*úbilu*	*gibúntan,*	*ni*	***múasun***	*unser*	*wáltan.*
with	wickedness.INS	bound	NEG	MUOZ.1PL	1PL.GEN	govern

'And we were tied down, oppressed by anguish, bound by wickedness, we could not govern ourselves.' (Referenzkorpus Altdeutsch; O 4.5.13–14)

In Middle High German (MHG, *c.* 1050–1350), however, the meaning of MUOZ shifts to one of necessity or compulsion ("gezwungensein"; Klarén 1913: 20). Klarén (1913) and Bech (1951) both explain this semantic change with reference to negation, although Klarén also suggests that pragmatics may have played a role. The precise steps are not explained in detail, but it seems clear enough that Klarén envisions a situation where MUOZ could be used as a more modest or polite way of expressing necessity.[3] These two explanations thus invoke mechanisms similar to the ones proposed for ME MOT – negation and pragmatics – although the details differ. Bech's 'negation' theory, notably, depends on a rather speculative paradigmatic interplay with the ancestor of *dürfen* (for critical discussions, see Fritz 1997: 88–89 and Lühr 1997).

A somewhat different semantic pathway is envisioned by Paul (2002 [1897]), Fritz (1997), and Diewald (1999), who all assume a direct shift from 'occassion' to 'compulsion'. Paul writes that since the meaning 'in die Lage kommen, etwas zu tun' (have/get occasion to do something) is already independent on the will of the subject, the shift to 'have to' happened directly through foregrounding of the notion that the subject had no control over the situation (Paul 2002 [1897], s.v. *müssen*). Fritz (1997: 89–94) gives essentially the same explanation and provides examples of contexts where the change may

[3] "Die folge war natürlich eigentlich nicht notwendig, aber auch für solche fälle, wo sie wenigstens von dem sprecher so betrachtet werden konnte, war *muoz* von den verwendbaren verben das geeigneteste, diesen begriff zu bezeichnen, besonders wenn der sprecher in bescheidenerer form ausdrücken wollte, dass seiner ansicht nach ein zwang existierte" (Klarén 1913: 10). Similarly, in a short Festschrift article on MUOZ, Bréal (1903: 28) suggests that "au lieu d'exprimer nettement une contrainte ou une nécessité, le langage a préféré présenter l'obligation sous une forme adoucie".

have happened. Finally, Diewald (1999: 340–344) questions the role played by negation in particular and instead proposes that the development happened in contexts where the meaning 'can, have occasion' was used "euphemistically" for 'have to'. Diewald gives a modern example from a book review, cited in (5) here, to illustrate how Present-Day German *können* can also be used in this way:

(5)

Er	*tut*	*es*	*mit*	*Qualitäten,*	*nach*	*denen*	*man*	*in*	*Erstlingen*
he	does	it	with	qualities	after	REL.PL.DAT	one	in	debuts.DAT

unserer	*Jahre*	*lange*	*suchen*	***kann**.*
our.PL.GEN	years	long	search	can.SG

'He [the author] does it with qualities which one may search for very long in contemporary debuts.' (*Die Zeit* 06.05.92; cited from Diewald 1999: 342)

The point is that the relevant qualities are rare in contemporary debut novels, and that the search for them can thus be expected to take long; consequently, one will also *have to* search for a long time in order to find them. Diewald assumes that OHG MUOZ must have been used in contexts similar to (5), where a necessity reading was inferred and eventually conventionalised.

Just as for English, there are thus competing explanations for the development of necessity meaning in MUOZ, the ancestor of German *müssen*. However, there is general agreement that the necessity meaning had already become the most frequent one by the beginning of the MHG period (Klarén 1913: 20–21; Bech 1951: 16; Diewald 1999: 342). As a result – again similarly to the English situation – the development seems to have taken place at a time with only limited surviving textual material. This also appears to be the case for Old Dutch (Old Low Franconian) and Old Frisian, where both the meanings 'can, may' and 'must' are attested (ONW, s.v. *moeten*; von Richthofen 1840, s.v. *mot*; Hofmann & Popkema 2008, s.v. ^{1}*mōta*).[4] The simplest hypothesis would of course be that the meaning 'must' in these languages developed out of 'can, may' in a way similar to English and German, but I am not aware of any studies of this particular question in the history of the Dutch and Frisian cognates.

[4] According to the entry in the ONW, however, the meaning 'must' is only attested in the *Mittelfränkische Reimbibel*, a 12th-century Bible paraphrase from which three fragments in different dialects survive. The three examples given for the meaning 'must' are all from the B and C fragments, the ones generally considered to be (Central Franconian) OHG rather than Old Low Franconian. Whether this is a coincidence or whether it does not occur in the A fragment ought to be investigated.

3 The meanings of MÅ

3.1 Background

The diachronic development of the Danish modal verb MÅ shows both similarities with and differences from OE/ME MOT and OHG/MHG MUOZ. It is similar in that an older possibility modal has developed a necessity meaning. The difference is that the Danish development happened several centuries later, and that it has only affected some of the uses of MÅ. In this section, I first give a sketch of the uses of the Middle and Present-Day Danish modal, and then present the semantic classification I have used for the analysis. This classification is largely based on the framework used by Nuyts and colleagues in their investigations of the Dutch modal verbs (Nuyts et al. 2010; Byloo & Nuyts 2011; Nuyts & Byloo 2015). It is in many ways similar to the approach to modality found in the Danish functional tradition (e.g. Bech 1951; Hansen & Heltoft 2011; Obe 2013). Studies from these two research traditions can thus easily be compared, although the terminology occasionally differs.

3.2 Middle Danish MA

The modal system of early Middle Danish (MDa) is treated briefly in Bjerrum's (1966) grammar of the Scanian Law in the 13th-century manuscript B 74,4° (Royal Library of Sweden). Bjerrum finds that the modal verbs at this stage did not have any formal oppositions between possibility and permission, which were both expressed by MA 'can, may, be allowed to', or between necessity and obligation, which were both expressed by SCAL 'must, have to, be obliged to' (Bjerrum 1966: 53; see also Hansen & Heltoft 2011: 785–786). With the terminology of Nuyts et al. (2010), we may say that early MDa MA and SCAL expressed both *dynamic* and *directive* meanings.[5] Table 1, inspired by the figures in Hansen & Heltoft (2011: 783–784) and Obe (2013: 47), is a simple illustration of this situation.

[5] Note that this terminology deviates somewhat from standard practice, where 'directive' is used for a type of speech act. Nuyts et al. (2010) use the term for a type of modal meaning which is usually referred to as 'deontic modality' in the literature. The authors restrict the term 'deontic' to uses where a state of affairs is evaluated in moral terms without expressing permission or obligation. This meaning category is irrelevant in the present investigation. The same goes for epistemic and evidential meanings, which I have not found in the excerpted MDa material.

Table 1: Modals in early Middle Danish (13th c.)

Dynamic	**Directive**
possibility **MA**	permission **MA**
necessity SCAL	obligation SCAL

The situation appears to have been relatively stable for MA until the end of the MDa period. Obe (2013) investigates the semantics of the modal verbs in three MDa texts, and finds only possibility (6) and permission (7) uses of MA in the oldest of these. This text, a translation of the *Lucidarius*, is from a mid-15th-century manuscript, but the language of the text appears to represent an earlier stage, perhaps from the mid-14th century (cf. Obe 2013: 69 and references there).

(6)

Hwat	*er*	*guth*	*oc*	*hwar*	*skal*	*man*	*vnderstandæ*	*hanum*	*men*	*wy*
what	is	God	and	how	shall	one	understand	him	when	we

moæ	*hanum*	*ey*	*see?*
MA.PL	him	NEG	see

‘What is God, and how is he to be understood when we cannot see him?’ (*Lucidarius*, AM76,8°; cited from Obe 2013: 71)

(7)

Maa	*presten*	*ey*	*en*	*steth*	*weth*	*altæreth*	*syæ*	*al*	*messen?*
MA.SG	priest.DEF	NEG	one	place	at	altar.DEF	say	all	mass.DEF

‘Is the priest not allowed to say the whole mass in one place at the altar?’ (*Lucidarius*, AM76,8°; cited from Obe 2013: 78)

Towards the end of the 15th century, however, the system appears to be changing. In the youngest of Obe’s texts, the *Chronicle of Charlemagne* from *c.*1480, the emerging modal KAN is replacing MA in the dynamic possibility use, and MA now occurs with dynamic necessity meaning alongside SCAL, cf. Table 2. In addition, MA has developed a ‘wish’ sense (not included in Table 2) which I will refer to as ‘optative’ below.

Table 2: Modals in late Middle Danish (late 15th c.)

Dynamic	Directive
possibility KAN / **MA**	permission **MA**
necessity **MA** / SCAL	obligation SCAL

Obe analyses 17 of the 77 examples of MA in the *Chronicle of Charlemagne* as expressing dynamic necessity. She points out that MA and SCAL are distributed differently across clause types, but concludes that the material is too limited for any definite statements about the difference between them (Obe 2013: 190–192). As for the change from dynamic possibility to necessity in MA, she suggests that this may have happened in contexts where the possibility was reinterpreted as more or less certain (2013: 195–196). Obe's explanation is thus similar to the ones proposed for German by Fritz (1997) and Diewald (1999), cf. Section 2.2 above.

3.3 Present-Day Danish MÅ

The change from dynamic possibility to necessity which begun in the 15th century eventually ran its course, and MA has largely replaced SCAL in this function.[6] However, unlike English MUST and its West Germanic cognates, Danish MA (present-day spelling MÅ) has never lost its permission meaning. Instead, Present-Day Danish MÅ is polysemous, as shown in Table 3.

Table 3: Modals in Present-Day Danish

Dynamic	Directive
possibility KAN	permission **MÅ**
necessity **MÅ**	obligation SKAL

The two variants of MÅ are clearly distinct and the polysemy does not appear to be a problem for language users. This may to a large extent have to do with their distribution, which is partly complementary. In negative, interrogative, and conditional clauses, dynamic necessity is expressed by BEHØVE 'need', and

[6] As Lennart Westergaard (p.c.) points out to me, Nielsen (2015: 211–213, 494) actually finds about 11% dynamic SKAL in a corpus of present-day spoken Danish. However, Nielsen's semantic classification differs in several respects from the one I use here, and at least some of his dynamic examples might also be classified as expressing future or intention meanings.

hence MÅ in these contexts can only have permission meaning. On the other hand, in combination with an adverbial expressing direction, only the necessity meaning is possible (e.g. *jeg må hjem* 'I have to go home'). Apart from this, there are also certain particles, such as the positive polarity item *godt* (roughly equivalent to Dutch *wel* or German *schon*), which may only cooccur with one of the two variants of MÅ.

The semantic system of the Present-Day Danish modals has been the object of a number of studies, many of them in German or English, to which I refer for more detailed treatments (Jensen 1987; Brandt 1999, 2002; Boye 2001; Hansen & Heltoft 2011: 765–819). In the remainder of this section, I describe the meaning categories relevant for my investigation of 16th-century Danish, most of which are still found in Present-Day Danish. I have used contemporary examples to illustrate them where there were no unambiguous attestations in the MDa material. As mentioned above, the semantic classification broadly follows the one used by Nuyts and colleagues (for details, see in particular Byloo & Nuyts 2011: 13–24), but a few differences between the Dutch and Danish systems will also be pointed out.

3.4 Semantic categories

3.4.1 Dynamic possibility and necessity

Dynamic meanings express that an event can or has to occur because of how the discourse world (including the participants) is constituted, in other words independently of whether someone wants the event to occur or not. For their description of Dutch, Byloo & Nuyts (2011) and Nuyts & Byloo (2015) distinguish three subtypes, depending on whether the modal meaning depends on the first argument participant ('participant-inherent'), is conditioned by the circumstances ('participant-imposed'), or is inherent in the state of affairs as a whole ('situational'). All three subtypes occur in Present-Day Danish necessity MÅ, cf. (8a–c). (8a) expresses an inner compulsion that certain people have, (8b) expresses a necessity imposed on the speaker/writer by a particular circumstance – the flight being cancelled – and (8c) expresses an inevitability for the state of affairs *it* + *go wrong* to obtain, i.e. the event will necessarily occur.

(8) a. *Visse mennesker* ***må*** *bare prøve grænser af!*
some people MÅ just try limits off
'Some people just have to push the limits!' (KorpusDK)

b. *Mit fly var aflyst, så jeg* ***måtte*** *vente til kl. 18.35.*
my flight was cancelled so I MÅ.PST wait until clock 6.35.
'My flight was cancelled, so I had to wait until 6.35 p.m.' (KorpusDK)

c. *I begyndelsen så floden fredelig ud, men vi opdagede*
in beginning.DEF looked river.DEF calm out but we discovered

*hurtigt, at det **måtte** gå galt.*
quickly COMP it MÅ.PST go wrong

'In the beginning the river looked calm, but we soon discovered that it was bound to go wrong.' (KorpusDK)

The Present-Day Danish examples in (8) all express dynamic necessity, whereas MDa MA, at least originally, expressed possibility. In my MDa material, both participant-imposed (9a) and situational (9b) examples of the possibility meaning are found. In (9a) the source of the possibility is the magical properties of the stone; in (9b) the possibility is inherent in the situation as a whole.[7]

(9) a. *Och paa then sten **maa** man wedherligæ see hwat hwer man*
and on that stone MA one openly see what every man

sigher om oss i all werdhen.
says about us in all world.DEF

'And on that stone [i.e. a magical gemstone] one can see openly what everyone in the whole world is saying about us.' (JPræst 5)

b. *Tha swarede iomfru maria Hwor **maa** theth wære forti*
then replied virgin Mary how MA it be because

ieg kom aldri i mantz fælie.
I came never in man.GEN company

'Then the Virgin Mary replied, "How can this be? Because I have never been in the company of a man".' (JesuB. 6)

The overwhelming majority of examples in the material belong to the former subtype, i.e. participant-imposed dynamic modality, as in (9a). I will treat the two subtypes together in the following.

3.4.2 Permission

Unlike dynamic meanings, directive meanings express permission or obligation, i.e. that an event is permitted or required to occur by someone; this source may

[7] For information on the MDa references and texts, see Section 4. The spelling of the modal verb varies in the oldest sources, but eventually <maa> becomes the norm, since 1948 written <må>. For the sake of convenience, I will use MA to refer to the MDa verb and MÅ for its present-day descendant.

be the speaker, some other person or institution, the legal system, etc. In (10) it is the religious authorities.

(10) *quijnnerne* ***maate*** *ey bedhe theres bøner i mønsteret vthen*
women.DEF MA.PST NEG pray their prayers in temple.DEF unless

the wore giffte.
they were.PL married

'The women were not allowed to pray in the temple unless they were married.' (JesuB. 4)

This type of meaning is often termed 'deontic' in the modality literature (cf. fn. 5). I will simply use the term 'permission' in the following, as MA is not found with obligation meaning in the material.

3.4.3 Optative

The term 'optative' is traditionally used for verbal moods expressing hopes, wishes, and related meanings. I will use the term here for instances of MA with precisely this function (similarly to Bybee et al. (1994), who also do not restrict the term to mood inflections). Byloo & Nuyts (2011: 58) mention a similar use of Dutch *mogen*, the cognate of Danish MA/MÅ, but also find that it is rare in their contemporary Dutch material. Optative MÅ in Present-Day Danish appears to be less marginal. It is included as one of the primary meanings by Jensen (1987: 96–99), Hansen & Heltoft (2011: 769), and the standard dictionary DDO (s.v. *måtte*[2], sense 4). It is often found in main clauses after illocutionary particles like *gid* 'I hope', as in (11), but it also occurs in complement clauses of 'wish' predicates and in final clauses, as in the MDa example in (12). There are no main clause examples like (11) in the MDa material.

(11) *Gid du* ***må*** *falde overbord og blive spist af fiskene.*
PTCL you MÅ fall overboard and AUX eaten by fish.PL.DEF
'I hope you'll fall overboard and get eaten by the fish.' (KorpusDK)

(12) *Wdreck thin handt then fattige till gode, at thin miskwndt*
extend your hand DEF.SG poor to benefit COMP your mercy

oc welsignilse ***maa*** *fulkommis.*
and blessing MA fulfil.PASS

'Reach out your hand for the benefit of the poor man, in order that your mercy and blessing will/may be fulfilled.' (HelieKr. 7)

Note that Bybee et al. (1994) reserve the term ‘optative’ for main clause uses. (12) would presumably be classified as an example of ‘subordinating modality’ in their terms. I follow Jensen (1987: 99) in taking the meaning of MA/MÅ in subordinate clauses like (12) to be essentially the same as in (11).

3.4.4 Eventuality

One meaning needs to be distinguished for Danish MA/MÅ which does not correspond to any of Byloo & Nuyts’s categories for Dutch *mogen*. Following Jensen (1987: 105) and DDO (s.v. *måtte*^{2}, sense 5), I will use the term ‘eventuality’. Unlike the optative use, eventuality MA/MÅ is found only in subordinate clauses, but is not restricted to ‘wish’ contexts. Its function appears to be to indicate that the state of affairs expressed in the subordinate clause is hypothetical. Jensen gives examples of relative, conditional, concessive, and degree clauses. She characterises this use of MÅ as belonging especially to the written language (“ein typisch schriftsprachliches Phänomen”; Jensen 1987: 105), but also acknowledges that it is not merely a stylistic device. In many cases, the presence or absence of MÅ influences the meaning of a clause. In (13), for instance, removing MÅ would result rather in the meaning ‘everyone who wants to live there’, where it is presupposed that there are people who want to live in the new district. With MÅ, the existence of any such people is merely hypothetical:

(13)	*Det*	*vil*	*sige,*	*at*	*der*	*kan*	*blive*	*boliger*	*for*	*enhver,*	*der*	***måtte***
	that	will	say	COMP	there	can	be	houses	for	anyone	REL	MÅ.PST
	have	*lyst*	*til*	*at*	*bo*	*der.*						
	have	desire	for	to	live	there						

‘This means that there may be housing for anyone who would want to live there [in a new district in Copenhagen].’ (KorpusDK)

Jensen’s investigation is not quantitative, so she provides no information on the frequency of this use in her present-day material. In my MDa material, it turns out to be very marginal. It occurs in only one of the four texts, and the examples all allow a dynamic reading as well.

3.4.5 Prediction (future)

In their study of Dutch *mogen*, Byloo & Nuyts (2011: 56) mention a rare ‘future’ use which is systematically ambiguous with the dynamic category. In the MDa material a similar use is found, which I will refer to as ‘prediction’ in the following. A dynamic reading is usually possible as well, but in a few cases, such as (14), the prediction meaning seems to be unambiguous:

(14)	*Er*	*thet*	*so,*	*at*	*ther*	*er*	*ingen*	*knwder*	*poo,*	*tha*	*fonger*	*hwn*	*aldri*
	is	it	so	COMP	there	are	no	knots	on	then	gets	she	never

flere	*børn,*	*men*	*er*	*ther*	*fult*	*knuder*	*po,*	*tha*	***mo***	*hwn*	*fonge*
more	children	but	are	there	full	knots	on	then	MA	she	get

it	*barn*	*for*	*hwor*	*knwde.*
a	child	for	every	knot

‘Is it so that there are no knots on it [the umbilical cord], then she will get no more children, but are there knots on it, then she will get a child for every knot.’ (KvUrteg. 17)

The example in (14) concerns the prediction of future childbirths by examining the umbilical cord, and the context suggests that the clause with MA is indeed a prediction about what is going to happen, not merely a statement about a possibility. This analysis receives further support from the German version of the text, which has a periphrastic future with *werden*.[8]

3.4.6 ‘Other’

Finally, a few examples were put in the dustbin category ‘other’. These include one clause which is corrupt according to the editor, as well as a few where MA clearly occurs in idiomatic expressions. For these, I concluded that it was impossible to decide what meaning, if any, MA contributes to the construction as a whole.

4 Method and material

4.1 Text selection and search method

I analysed the use of MA in four Danish texts from the early 16th century, i.e. from the time of the Reformation and the earliest printed sources. The early 16th century is generally taken to mark the end of the Middle Ages in Scandinavia, and the symbolic boundary between MDa and Early Modern Danish (*ældre nydansk*) is often drawn here or with the publication of the first complete Bible in Danish (*Christian 3.s danske Bibel*) in 1550.

There are no ready-made historical corpora of Danish comparable to, e.g., the PPCME2 for ME or the Referenzkorpus Altdeutsch for OHG. However, a large number of searchable text editions have been made available online in

[8] *Siend aber rüntzlin od(er) knoͤpff dar an/ so* ***würt*** *sie nach de(m)selben kind so vil kinder mache(n) so vil der nabel ru(n)tzlen od(er) knoͤpff hat.* (‘But are there folds or knots on it, then she will bear as many children after this one as the navel has folds or knots.’) (Rößlin 1513 [1910]: 74).

recent years, most of them published by the Society for Danish Language and Literature. I have used texts published on *Arkiv for Dansk Litteratur* (ADL), a portal of Danish literary texts from the Middle Ages to the beginning of the 20th century, and tekstnet.dk, a collection of digital editions of medieval and early modern texts. The texts from tekstnet.dk are single-witness editions which do not modernise the spelling or punctuation;[9] the texts from ADL are generally based on earlier editions, some of which modernise the punctuation and silently emend typographical errors. I chose a text from ADL which included editorial notes in order to be able to check if anything had been emended in the excerpted examples.

This is obviously a rather limited corpus, but since my main goal here is to identify possible contexts for the semantic change, I decided that it was reasonable to limit myself to a small selection of texts. The texts were chosen to represent different genres and audiences: a medical handbook for midwives and pregnant women, a fictitious description of India, a collection of apocryphal legends, and a political treatise addressed to the mayor of Copenhagen. I describe each of the four texts in more detail below.

The texts from tekstnet.dk were downloaded from the GitHub repository of the Society for Danish Language and Literature (github.com/dsldk), where the texts can be accessed in full. The text from ADL was downloaded directly from the website adl.dk. I searched the text files for possible spellings of MA with AntConc (Anthony 2014) and exported the concordances to a spreadsheet. Irrelevant hits were then removed manually; these consisted mainly of examples of the adverb *maa ske* 'perhaps' (present-day spelling *måske*). I then coded the concordances for meaning category (dynamic, permission, etc.), modal force (possibility, necessity), and presence of negation or other adverbs. The results of this analysis are presented in Section 5 below.

4.2 Description of the material

The four texts are known as *Kvinders Urtegård*, *Jon Præst*, *Jesu Barndoms Bog*, and *Om kranke og fattige Mennesker*. The first two are from manuscripts from the early 16th century, the other two are from early prints. They are all prose texts, but represent different genres and levels of formality.

Kvinders Urtegård (The herb garden of women) is a Danish adaptation of *Der Schwangern frawen vnd hebammen roszgarten* by Eucharius Rößlin (Strasbourg 1513), the first printed handbook on childbirth and midwifery. The Danish version survives in a manuscript in the Royal Library in Copenhagen. It

[9] I have, however, slightly adjusted the examples below for readability: Abbreviations are expanded silently (in the tekstnet.dk editions they are italicised), and the pilcrow <¶> is replaced by a virgule </>.

includes a translation of the German text along with an appendix, translated from other sources, containing astrological advice for pregnant women.

Jon Præst (John the Presbyter) is a description of India, written in the form of a letter from John the Presbyter, the legendary Christian king of India, to Manuel Komnenos, the Byzantine emperor from AD 1143 to 1180. The letter is obviously fabricated ("uden tvivl et falsum"; Nielsen 2015) and describes such wonders as the Fountain of Youth, a palace made entirely of gold, and a variety of gemstones with magical powers. The text survives in a manuscript and a printed version, both of them adaptations of a Swedish text, which in turn is a translation from Latin. The Danish, Swedish, and Latin texts are published synoptically in Karker (1978). For my investigation, I used the edition of the manuscript Thott 585,8° by Nielsen (2015), but compared it with the other versions where relevant. According to the editor, Thott 585,8° is from *c.*1500, but the language of *Jon Præst* is somewhat older.

Jesu Barndoms Bog (The book of the infancy of Christ) is a chapbook with apocryphal legends about the childhood of Christ and the lives of Mary and her parents, Anne and Joachim. The print is by Govert van Ghemen (Copenhagen 1508). It was meant for popular consumption and is written in a plain and unassuming style with many direct quotations. According to the earlier editors (Jacobsen & Paulli 1915), most of the text is based on the rhymed *Marienleben* by the Carthusian Philipp von Seitz, a monk living in southern Styria in the early 14th century. However, the Danish version is probably not a direct translation from the German. Some Danish words appear both in historically older and younger forms, so it seems to have gone through a number of recensions before the Ghemen print. One of the earlier versions was most likely in verse, as there are remnants of rhyme scattered throughout the text, e.g. *lad ihesus komme til* ***lære*** *theth motte komme til stor* ***ære*** 'let Jesus go to school, that would result in great honour' (Jacobsen & Paulli 1915: xxx–xxxvii).

Om kranke og fattige Mennesker (On the diseased and destitute) is a treatise by the Carmelite friar Paulus Helie (Poul Helgesen), printed in Copenhagen in 1528. It is addressed to Niels Stemp, the mayor of Copenhagen, and gives advice on the treatment of the poor and needy. Unlike the other texts, it is not based on a foreign original, but the style is more elaborate and rhetorically embellished (cf. chiasmuses like *then haarde wmildhedt oc wmildhe haardhedt* 'the harsh callousness and callous harshness'). The ADL text is from the standard edition of the works of Paulus Helie (Kristensen 1933).

Table 4: Abbreviations and text information[10]

	Title	Date	Edition	Witness	Wordcount
JPræst	*Jon Præst*	*c.*1500	Nielsen 2015	Thott 585,8°	*c.*1,600
JesuB.	*Jesu Barndoms Bog*	1508	Boeck 2015	LN 21 (eks. 1)	*c.*15,000
KvUrteg.	*Kvinders Urtegård*	*c.*1515	Hasager et al. 2017	Thott 245,8°	*c.*17,000
HelieKr.	*Om kranke og fattige Mennesker*	1528	Kristensen 1933	A.12-2	*c.*10,000

Table 4 gives an overview of the texts and editions in condensed form. The full references can be found in the bibliography. JPræst, JesuB., and KvUrteg. are based on text witnesses from the collections of the Royal Library (Det Kongelige Bibliotek) in Copenhagen. HelieKr. is based on the sole surviving print, in The Karen Brahe Library in Roskilde, supplemented with a later transcription of four pages missing from the print (see Kristensen 1933: 289–290 for details).

5 Findings

5.1 Initial observations

The four texts contain 103 instances of MA between them, as shown in Table 5. KvUrteg. contains the most examples, but is also a somewhat repetitive text where MA is used several times in the same construction, cf. below. In contrast, JesuB. and HelieKr. show a rather more diverse range of meanings of MA.

Table 5: Hits per text

	Hits
JPræst	8
JesuB.	32
KvUrteg.	36
HelieKr.	27
	103

[10] The abbreviations ‘JPræst’ and ‘KvUrteg.’ are the same as the ones used in the (unfinished) *Gammeldansk Ordbog* (Dictionary of Middle Danish). I refer to the texts with the abbreviated title plus section or chapter number.

In the following, I first present the meaning categories text by text in Subsection 5.2. In Subsections 5.3 and 5.4, I take a closer look at the distribution of possibility vs. necessity meaning and the role of negation, respectively.

5.2 Meaning categories per text

5.2.1 Jon Præst (JPræst)

JPræst, the shortest text included, also has the fewest examples of MA. There are 8 examples in the data, all of which have a dynamic possibility meaning. A single example, given here in (15), also allows a prediction reading.

(15) *Hoo som drycker aff then keldæ en dryck fastennæ / tha fangher han*
who REL drinks of that spring a drink fasting then catches he

enghen sot / Och ***maa*** *han leffuæ soo wngh som han wore*
no disease and MA he live so young as he was.SBJV

men xxx aar gamel.
only thirty years old

'Whoever has a drink from that spring while fasting, he will catch no disease, and he may/will live on as youthful as if he was only thirty years old.' (JPræst 3)

The remaining examples in JPræst are unambiguously dynamic.

5.2.2 Jesu Barndoms Bog (JesuB.)

JesuB. contains examples of dynamic, permission, optative, and prediction meanings. Some examples clearly belong to one of these categories, but more often they are ambiguous between two categories. Unambiguous examples of dynamic possibility and permission uses from this text were given in (9b) and (10) above. In (16) an example is given which is ambiguous between a dynamic and an optative reading.

(16) *Engelin førde henne mad at hon* ***motthe*** *thes ytermere tiæne*
angel.DEF brought her food COMP she MA.PRT the further serve

gudh oc wære gud tacknemelig.
God and be God grateful

'The angel brought her [Mary] food in order that she could/would serve God even more and be grateful to him.' (JesuB. 3)

An angel brings food to the Virgin Mary, so that she can devote even more time to praying. The final clause thus expresses both a possibility enabled by the circumstances (the dynamic reading) and an intended or desired result (the optative reading).

5.2.3 Kvinders Urtegård (KvUrteg.)

I found 36 examples in KvUrteg., of which 33 allow a dynamic reading. A few of these are ambiguous with a permission or prediction reading, but most are unambiguous. A single example was classified as an unambiguous prediction use. This has already been discussed above, cf. (14) in Subsection 3.4.5.

The large number of dynamic instances is at least in part due to 'term clustering', the repeated use of the same or similar words and expressions. Being a medical handbook, KvUrteg. gives advice about what is safe to eat and what should be avoided under particular circumstances. This very often takes the form 'she can also eat X' (or 'she should not eat X'). A representative example of MA in such a context is given in (17):

(17) *Ok tis_ligest* ***mo*** *hwn ok vel æde vnge hønsse kød vel sodne.*
and likewise MA she also well eat young hen's meat well cooked
'And likewise, she can also eat well-cooked chicken.' (KvUrteg. 7)

Although one could argue that the modality in such instances is to some extent grounded in the writer's authority, I do not consider them examples of the permission sense. Rather than granting permission, they express what is possible for the woman to do without negative consequences. Hence, they are unambiguously dynamic, even if they may be considered a special subtype of this category.

5.2.4 Om kranke og fattige Mennesker (HelieKr.)

The different categories are all present in HelieKr., though 'prediction' and 'eventuality' are only found in uses ambiguous with a dynamic reading. An example of the latter type is given in (18), which also gives an impression of the somewhat discursive style of the text:

(18)

Oc	*at*	*trenghe*	*thenom*	*som*	*icke*	*haffue*	*noghen*	*besmittelig*	*krankhet*
and	to	force	them	REL	NEG	have.PL	any	contagious	illness

til	*at*	*fare*	*wdi*	*hospital,*	*er*	*icke*	*heller*	*stor*	*almwse*	[…]	*fordi*	*thet*
for	to	go	in	hospital	is	NEG	either	big	kindness		because	that

er	*at*	*korte*	*liffuet,*	*paa*	*thenom*	*ther*	*lenge*	***motte***	*leffue.*
is	to	shorten	life.DEF	on	them	REL	long	MA.PST	live

'And to force those without contagious illnesses in hospital is no great act of kindness either, for that is to shorten the life of anyone who could/would [otherwise] have lived on for a long time.' (HelieKr. 28–29)

The author's argument here is that only people suffering from contagious illnesses should be hospitalised, so that they do not infect any healthy people who would otherwise have survived (or, under a dynamic reading, who would have been able to survive).

5.2.5 Summary

The meaning categories represented in the four texts are summed up in Table 6. 103 examples were analysed, including three in the 'other' category. If these are excluded, there are exactly 100 examples. As the table shows, there are unambiguous instances of the four categories 'dynamic', 'permission', 'optative', and 'prediction'. The most frequent category is clearly the first of these: 53 examples, more than half, are unambiguously dynamic. However, as Table 6 also makes clear, this is to a large extent due to the overrepresentation of the category in a single text, KvUrteg. I take this to be a clear example of the importance of text type in the attestation of particular expressions. Had the corpus consisted of only narrative or administrative texts, a very different picture might have emerged (cf. Fritz (1997), especially pp. 83–85, for further discussion of the issue of 'text type specificity').

Table 6: Meaning categories per text

	JPræst	JesuB.	KvUrteg.	HelieKr.	
dynamic	7	8	30	8	**53**
dynamic/permission		2	1	2	**5**
dynamic/optative		2		4	**6**
dynamic/prediction	1	13	2	2	**18**
dynamic/eventuality				3	**3**
permission		3		4	**7**
permission/optative		1			**1**
optative		2		3	**5**
prediction		1	1		**2**
other			2	1	**3**
	8	**32**	**36**	**27**	

More categories (and more ambiguity) are present in JesuB. and HelieKr. than in the other two texts. The ambiguity is almost always between a dynamic reading and one of the other categories. This is in line with Byloo & Nuyts's findings for Dutch *mogen*, where ambiguity is also most frequently between 'dynamic' and another category (cf. e.g. Byloo & Nuyts 2011: 53–55). In addition to the 53 unambiguously dynamic instances, a further 32 allow a dynamic reading. These 85 examples form the basis of the examination of possibility vs. necessity in the following.

5.3 Possibility and necessity

After analysing the type of modal meaning, I classified the 85 (potentially or unambiguously) dynamic instances according to their modal force, i.e. whether they express possibility (POSS) or necessity (NEC). It soon became clear that a significant number of examples cannot be classified straightforwardly as either one or the other of these two. In the overview in Table 7, these are labelled 'POSS/NEC'. As the table shows, the least frequent category is necessity (8 hits), and the most frequent is possibility (51 hits). The 8 examples which were analysed as 'dynamic/permission' and 'dynamic/eventuality' all clearly express possibility. Across the other categories, however, there are 26 examples which allow either a possibility or necessity interpretation.

Table 7: Possibility vs. necessity in dynamic MA

	POSS	**POSS/NEC**	**NEC**	
dynamic	33	16	4	**53**
dynamic/permission	5			**5**
dynamic/optative	3	2	1	**6**
dynamic/prediction	7	8	3	**18**
dynamic/eventuality	3			**3**
	51	**26**	**8**	

A number of different types may be distinguished here. In some cases, there seems to be genuine ambiguity between a possibility and a necessity reading because there is only one possible course of action. An example from JesuB. is given in (19):

(19) *Tha sagdhe iomfrw maria thijll iosep huor komme wij offuer thenne*
then said virgin Mary to Joseph how come we across this

beck? iosep swarede wi ***mo*** *wade oss scal intheth skade.*
stream Joseph replied we MA wade us shall nothing hurt

'Then said the Virgin Mary to Joseph, "How are we going to get across this stream?" Joseph replied, "We can [or 'have to'] wade; nothing is going to hurt us.' (JesuB. 13)

The text makes little use of punctuation and often connects clauses asyndetically, meaning that the precise relation between them is left implicit. In (19) this may have consequences for the interpretation of MA. If the following clause (*oss scal intheth skade*) is interpreted as providing epistemic support, a possibility reading of MA seems more likely ('we can wade, because nothing is going to hurt us'). If it is interpreted as adversative or mitigating, a necessity reading may be more appropriate ('we will have to wade, but surely nothing is going to hurt us', etc.). The two interpretations seem to make equal sense in the context.

In other cases, dynamic MA rather seems to express a meaning between 'pure' possibility and necessity, which might be paraphrased as 'have reason to'. This use is found several times in KvUrteg. in instances like (20). Here, it is of course not the woman's inherent ability to worry which depends on her feebleness, but rather the reasonableness of worrying about giving birth prematurely. Note that substituting a necessity modal like 'should' or 'needs to' leaves the meaning virtually unchanged. Unfortunately, the German original does not give any indication as to what the Danish translator may have had in mind. In the German, it is merely said that feeble, dry, and thin women ‘often miscarry’ (*mißlingt gewonlich*; Rößlin 1513 [1910]: 59). The expression with *rædis* ‘worry’ seems to be the translator’s addition.

(20) *en qwynne, som megit vansmectigh er ok toor ok mager, hwn*
a woman REL very feeble is and dry and thin she

mo *ok rædis for vtidigt barn.*
MA also worry about premature child

‘A woman who is very feeble, dry, and thin may [or ‘has reason to’] worry about premature birth as well.’ (KvUrteg. 10)

Finally, there seems to be a tendency for necessity meanings to be possible especially in ‘prediction’ instances. More than half of the examples analysed as ‘dynamic/prediction’ allow a necessity meaning. Two of these occur in the same passage in (21):

(21) *hennes aadreslag ere snare ok smo ok aadrene skelffue, beffwe*
her heartbeats are quick and faint and veins.DEF tremble shiver

ok røstes,tha ma man befalle henne vdi gudz vold, thi_at hwn
and shake then MA one leave her in God’s power because she

mo *tha dø, ok hennes seng* ***mo*** *tha redes i then sorte mwld.*
MA then die and her bed MA then make.PASS in the black soil

‘[and if] her heartbeat is quick and faint and her veins are trembling, shivering, and shaking, then one must leave her in God’s power, because she is then going to [or ‘may’?] die, and her bed will have to [or ‘may’?] be made in the dark ground.’ (KvUrteg. 13)

The passage is from the chapter on antenatal death and describes how to assess the health of the miscarrying woman. If her pulse is very weak, we learn in (21), the only thing one can do is hope for God’s mercy, for she is – inevitably or at least very likely – going to die. The prediction is presented as more or less certain, but as the suggested translation of (21) indicates, a paraphrase with ‘may’ also seems possible. Again, the Danish translator seems to have added material for rhetorical effect, as the German original does not include the reason clause: *Darumb* ***můß*** *man sie got beuelhen* ‘In that case one has to leave her to God’ (Rößlin 1513 [1910]: 67).

5.4 The role of negation

Finally, I noted the presence or absence of negation in the clauses with dynamic MA, i.e. the same clauses as those discussed in the preceding subsection. Both clausal negation (22a) and constituent negation (22b) were included:

(22) a. *min madh och min drick* ***mo ey*** *sees aff iorderiges folck.*
my food and my drink MA NEG see.PASS by earth.GEN people
'My food and my drink cannot be seen by the people of the earth.'

b. *Och ther* ***ma inghen*** *in komæ lønlighæ meth edher.*
and there MA none in come secretly with spells
'and there [in the palace] no one is able to sneak in with spells.'

The numbers are given in Table 8. Of the 85 clauses, only 12 contained a negation, all of them with unambiguous possibility meaning. Of the 8 clauses with unambiguous necessity meaning and the 26 clauses which allow a necessity reading, none was negated.

Table 8: Possibility, necessity, and negation

	POSS	POSS/NEC	NEC	
no negation	39	26	8	**73**
negation	12			**12**
	51	**26**	**8**	

6 Discussion

Having looked at the use of MA in four late MDa texts, I now wish to return to the hypotheses about ME and MHG which were introduced in Section 2 above. The different suggestions about the development of necessity meaning in OE MOT and OHG MUOZ were grouped into three general types: The 'negation' theory (Standop 1957; Goossens 1987; OED, s.v. *mote*, v.[1]), according to which the meaning 'not allowed to' was reinterpreted as 'obliged not to'; the 'invited inferences' theory (Traugott & Dasher 2002), which envisions a change in contexts where permission carried an implicature of obligation; and finally the suggestion by Paul (2002 [1897]), Fritz (1997), and Diewald (1999) that OHG MUOZ changed its meaning in contexts where there is no clear distinction between 'possibility' and 'necessity'.

It should be clear from the Danish data that the last of these three hypotheses is by far the most likely one for the development of necessity

MA/MÅ. Firstly, it is clear that an explanation depending on the notion of obligation cannot account for the Danish development. The verb MA/MÅ is not attested with obligation meaning at any medieval or modern stage, and the data strongly suggest that the change from possibility to necessity happened in the domain of dynamic modality. Secondly, rather than causing the change, negation appears to be a preserving factor: In negated clauses, the older possibility meaning (i.e. 'cannot, may not') is preserved in late MDa. Examples which allow a necessity reading are always non-negated. However, given the admittedly limited corpus, the numbers are low and may of course not be representative of the situation in other text types. This ought to be investigated in more detail, but as a preliminary conclusion, one may say that this study at least does not find any evidence for the 'negation' theory.

The MDa material fits better with the scenario envisioned by Fritz (1997) and others for OHG MUOZ, where the possibility-to-necessity development happened in contexts with only one possibility. In Section 5.3 above, I presented some examples where possibility and necessity are more or less indistinguishable. Some of these were analysed as ambiguous with a 'prediction' reading, and this meaning may have acted as a bridge between the old and the new meaning. Determining the exact interplay between these semantic categories would require a more thorough diachronic investigation of a larger corpus of texts.

Table 9 sums up my scenario for the development of permission and necessity meaning in Danish MÅ. These two categories, indicated in bold type, are the primary meanings (beside optative and eventuality) in Present-Day Danish. I assume the source meaning of both of these to be dynamic possibility. The solid line shows the development from this meaning to 'permission', which had already occurred by early MDa. This semantic pathway is well attested cross-linguistically and has also occurred in the history of English *may* and *can* (Bybee et al. 1994: 191–194).

Table 9: Development of necessity and permission MA

Dynamic	**Directive**
possibility →	**permission**
prediction	
necessity	obligation

The dotted lines in Table 9 indicate the possible paths from dynamic possibility to necessity: either directly or via the prediction meaning. As indicated above, in order to determine exactly how the change happened, I think a larger corpus is required. On the basis of the present study, however, it seems beyond doubt that the notion of obligation played no role in the development of necessity MA.

7 Conclusions

In this paper, I have tried to make a contribution to the historical study of modality by looking at late Middle Danish MA 'can, may; must'. This verb, which in Present-Day Danish can express necessity, permission, and a number of other meanings, was a possibility modal in early Middle Danish, but developed a necessity use towards the end of the medieval period. Similar changes happened earlier to Old and Middle English MOT (> *must*) and Old and Middle High German MUOZ (> *müssen*). After surveying the literature on these developments in Section 2, I introduced the semantic categories used in my investigation in Section 3 and the Middle Danish material in Section 4. Section 5 presented the results. It was shown that, despite differences between the texts, the most frequent meaning in the material is clearly 'dynamic possibility'. A number of instances of 'dynamic necessity' also occur, as well as an even larger number of instances which are ambiguous between these two meanings. Crucially, however, obligation uses do not appear in the material, and negated clauses appear to always preserve the possibility meaning, suggesting that these two possible factors did not play a role in the rise of necessity MA.

Finally, Section 6 discussed the implications of the findings and proposed a pathway from dynamic possibility to necessity either directly or via the meaning 'prediction'. This scenario fits better with the ideas put forth by Paul (2002 [1897]), Fritz (1997), and Diewald (1999) for Old and Middle High German than with the proposals that have been made in the literature on Old and Middle English. It is of course possible that a similar change happened via different pathways in the different Germanic languages, and I do not propose that this possibility should be ruled out a priori; but the Middle Danish results presented above may give us a hint about where to look in the material if we wish to better understand the early history of English *must* and its West Germanic cognates.

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