How might we want to explain them or how to deal with double modal verbs in Dutch and German?\(^1\)

Łukasz Jędrzejowski
(jedrzejowski@zas.gwz-berlin.de) &
Marleen van de Vate
(m.s.vandevate@gmail.com)

1. What is this talk about?

Every natural language possesses a more or less determinable class of modal verbs. If modal verbs express miscellaneous kinds of attitudes towards what is embedded, they are supposed to co-occur. Both in Dutch and German, (at least) three patterns containing two modal verbs can be attested:

\[(\text{ia}) \ MV_1 + \text{INF} + MV_2 \text{ for German:}\]

\[
\begin{array}{cccccccc}
\text{Im Zweifel} & [MV_1 \text{ dürfen}] & \text{das Gericht} & \text{eine erhebliche} & \text{Verminderung} \\
\text{in the doubt} & \text{might.3SG} & \text{the court} & \text{a considerable} & \text{decline} \\
\text{der Schuldfähigkeit durch den Alkohol nicht} & [\text{INF ausschließen}] & [MV_2 \text{ können}] \\
\text{the criminal liability through the alcohol NEG preclude} & \text{can.INF} \\
\end{array}
\]

‘In case of doubt, the court might not be able to rule out a considerable alleviation of criminal liability due to the alcohol.’ (Der Spiegel 36)

In contrast to German, Dutch MV\(_2\) may precede the embedded infinitive; cf. e.g. Abraham (2009) for a constraint-based explanation of verb clustering in West-Germanic languages and Zwart (2011: 296-323) and Haider (2009: 274-297) for Dutch and German respectively:

\[(\text{ib}) \ MV_1 + MV_2 + \text{INF for Dutch:}\]

\[
\begin{array}{cccc}
\text{Je} & [MV_1 \text{ moet}] & [MV_2 \text{ kunnen}] & [\text{INF luisteren}] \\
\text{you} & \text{must.3SG} & \text{can.INF} & \text{hear.INF} \\
\end{array}
\]

‘One must be able to listen to.’ (Wagenaar 2009: 126)

As for (ib), similar pattern can be observed in some English dialects\(^2\) (cf. Battistella 1995, Elsman & Dubinsky 2009, Hasty 2011, Montgomery & Nagle 1993, Di Paolo 1989, among many others):

\[(\text{3}) \ [MV_1 \text{ Should}] \text{ we } [MV_2 \text{ might}] \text{ [INF cancel] the trip?}\]

\[
\begin{array}{c}
[\text{CP should.1 [TP we t1 [VP t1 [POLP might [VP cancel ... ]]]]} (\text{Elsman & Dubinsky 2009: 81})
\end{array}
\]

Note, however, that: (i) examples like in (3) do not belong to the standard usage of English, (ii) the English non-finite system differs from those in German and Dutch (but see Nagle 1994 and Roberts 1985 for double modal verbs in the history of English).

The second pattern consists of only two MVs\(^3\):

---

\(^1\) Abbreviations employed in this handout: 1/2/3 – 1st/2nd/3rd person, ACC – accusative, DAT – dative, COMP – complementizer, IMP – imperative, INF – infinitive, MP – modal particle, NEG – negation, NOM – nominative, PL – plural, PTCP – participle, SG – singular. For providing some German spoken examples, we would like to thank Simon Blum and André Meinunger.

\(^2\) See the Database of Multiple Modals: [http://artsandsciences.sc.edu/multimo/welcome](http://artsandsciences.sc.edu/multimo/welcome).
(ii) $MV_1 + MV_2$:

(4a) *Ja, dan* $[MV_1 \text{ moet}]$ je nog $[MV_2 \text{ mogen}]$  
yes then must.2SG you.2SG still may.INF  
‘Yes, you have to be allowed to.’ (CGN: fv901104.sea#fv901104.297)

(4b) $[MV_1 \text{ Mocht}]$ je nou $[MV_2 \text{ kunnen}]$ zeg maar of je wil  
may.2SG you well can.INF say.IMP MP if you.2SG want.2SG  
‘If you are able, just let me know if you want to.’ (CGN: fn008306.sea#fn008306.100)

A similar situation holds for German, as well:

(4c) *Man muss doch wissen, wann man* $[MV_2 \text{ müssen}]$ $[MV_1 \text{ darf}]$  
one must.3SG MP know.INF when one must.INF may.3SG  
‘One has to know when he is allowed to have (to do something).’  
(IDS, *St. Galler Tagblatt*, 03/09/2009)

where *müssen* ‘must’ idiosyncratically means *pinkeln gehen* (‘to go pee’).

(4d) *Aber ihr* $[MV_1 \text{ müsst}]$ $[MV_2 \text{ wollen}]$, betonte *Kirschner.*  
but you.PL must.2PL want.INF stressed.3SG K.NOM  
‘But you have to want (it), said Kirschner.’  
(IDS, *Mannheimer Morgen*, 18/03/2005)

Finally, double modals are attested with embedded NPs:

(iii) $MV_1 + NP + MV_2$:

(5a) *De sollicitant* $[MV_1 \text{ moet}]$ $[NP \text{ Hongaars}]$ $[MV_2 \text{ kunnen}]$  
the candidate must.3SG Hungarian can.INF  
‘The candidate must know Hungarian.’

(5b) *Einzige Voraussetzung: Man* $[MV_1 \text{ muss}]$ $[NP \text{ Englisch}]$ $[MV_2 \text{ können}]$  
only requirement one must.3SG English can.INF  
‘It is required to have a command of English.’  
(IDS, *Nürnberger Nachrichten*, 05/01/2009)

The embedded NP must be equipped with specific semantic features. In most cases it pertains to languages and skills. This restriction is traced back to the semantic contribution of $MV_2$ and its modal base has to be circumstantial.

Today, we focus on Dutch and German data corresponding to the modal realizations in (i) and restrict ourselves to the present perspective of $MV_1$.

---

3 Notice, however, that the pattern in (ii) can be divided into two subgroups. Whereas to the first group belong examples in that the dependent $MV$ is interpreted as a lexical/main predicate, the second group is meant to contain all those instances in that the dependent modal verb ought to be interpreted as a circumstantial modal verb and the embedded lexical/main verb has been deleted (cf. 1 and 2) (elliptical complements).
2. Previous accounts
2.1. Epistemic Non-Finiteness Gap

Abraham (2001, 2002) proposes the following asymmetric picture w.r.t. iterative occurrences of MVs:

(6) ‘Non-finite gap’ for EMV:
   a) *EMV embeddable under DMV/EMV
   b) OK DMV embeddable under EMV
   c) DMV embeddable under DMV … not excluded on theoretical grounds
      (although double DMV identity may nevertheless be blocked on grounds of horror aequi) (Abraham 2001: 21)

As for (c), Nauze (2008) even assumes that a DMV cannot be embedded under another DMV.

Similar conclusions have been drawn in Erb (2001), Fagan (2001) and Wurmbrand (2001) for German. According to them, epistemic MVs are not allowed to occur as non-finite verbal forms:

![Diagram of German modal verbs and their merge positions according to Wurmbrand (2001: 183)](image)

From the structure follows that:
(i) epistemic modal verbs merge in AuxP indicating the feature [+finite] on the verb,
(ii) both epistemic and deontic modal verbs do not assign a θ-role to the subject.
2.2. Cartographic Approach

As Cinque (1999) has observed cross-linguistically, various classes of adverbs, depending on their functional notions, are to be differentiated (cf. Cinque 1999: 106 for the full hierarchy):

\[
\begin{align*}
\text{frankly} & \quad \text{Mood}_{\text{speech act}} & \text{fortunately} & \quad \text{Mood}_{\text{evaluative}} & \text{allegedly} & \quad \text{Mood}_{\text{evidential}} \\
\text{probably} & \quad \text{Mod}_{\text{epistemic}} & \text{once} & \quad \text{T(Past)} & \text{then} & \quad \text{T(Future)} & \text{perhaps} & \quad \text{Mod}_{\text{irrealis}} \\
\text{necessarily} & \quad \text{Mod}_{\text{necessity}} & \text{possibly} & \quad \text{Mod}_{\text{possibility}} & \text{usually} & \quad \text{Asp}_{\text{habitual}} \\
\text{again} & \quad \text{Asp}_{\text{repetitive}} & \text{often} & \quad \text{Asp}_{\text{frequentative(I)}} & \text{intentionally} & \quad \text{Mod}_{\text{volitional}} \\
\text{fast/early} & \quad \text{Asp}_{\text{frequentative(II)}} & \text{completely} & \quad \text{Asp}_{\text{PastCompletive(II)}} \\
\end{align*}
\]

The Split IP Hypothesis can account for many double modal verbs possibilities:

\[(7a) \quad \text{Ze} \quad [\text{MV}_1 \text{moeten}] \quad [\text{MV}_2 \text{kunnen}] \quad [\text{INF} \text{schaatsen}] \\
\text{they must.3PL} \quad \text{can.INF} \quad \text{skate.INF} \\
\text{‘They must be able to skate.’} \]

\[(7b) \quad \text{Sie} \quad [\text{MV}_1 \text{müssen}] \quad [\text{INF} \text{skaten}] \quad [\text{MV}_2 \text{können}] \]

In (7), (at least) two interpretations immediately spring to mind:

(i) epistemic modality > ability
(ii) obligation > ability

2.3. Phase-Based Approach

Based on Chomsky (2001, 2008), Butler (2003, 2004, 2006) and Zagona (2007, 2008), a Phase Model claims that the differences in interpretation can be derived from the modal’s interpretive relationship to the phase in which the modal is merged. In other words, the crucial distinction (circumstantial vs. non-circumstantial) is due to the (un)interpretability of features on the modal: [± person], [± tense,], etc.

\[(8) \quad \text{Fred may eat the last cookie} \quad (\text{Zagona 2008: 287}) \]

\[(9a) \quad \text{May with a circumstantial modal base has to merge in the vP Phase:} \]

\[
\begin{align*}
\text{C} & \quad [\text{T may}] \quad [\text{Fred}] \quad v^* \quad [\text{eat the last cookie}] \\
[- \text{past}] & \quad [\text{u past}] \\
\end{align*}
\]

\[(9b) \quad \text{May with a non-circumstantial modal base has to merge in the CP Phase:} \]

\[
\begin{align*}
\text{C} & \quad [\text{T may}] \quad [\text{Fred}] \quad v^* \quad [\text{eat the last cookie}] \\
\text{NOW} & \quad [\text{u past}] \quad [\text{u past}] \\
\end{align*}
\]
Although MVs have been analyzed in other theoretical frameworks, e.g. the Bidirectional Optimality Theory Semantics (cf. Foolen & de Hoop 2009 for Dutch) or the Construction Grammar approach (cf. Boogaart 2009 for Dutch), it is still not clear how double modals can be explained.

3. Modal verbs in Dutch and German

Following Maché (2013: 205), we assume a strong definition of modal verbs and modify it as follows:

A verb is a modal verb iff it is evaluated against both a circumstantial and a non-circumstantial modal base.

We also adopt the Kratzerian (1977, 1981, 1991, 2012) possible words semantics framework indicating that MVs are existential and universal quantifiers over possible words:

a) each MV has a single lexical entry with its quantificational force (existential vs. universal),
b) its disambiguation is due a modal base that is contextually determined,
c) a modal flavor is determined via an ordering source that orders the worlds of the modal base (realistic, bouletic, teological, etc.).

See Condoravdi (2001) how to derive the modal base using temporal parameters of a MV:

(i) modal perspective
(ii) modal orientation

Consequently, we distinguish 6 MVs in Dutch (mainly based on Barbiers 1995):

| 1. hoeven | non-assertive, NPI | deductive/assumptive |
| 2. moeten | obligation | deductive |
| 3. mogen | permissive | speculative |
| 4. kunnen | ability | speculative |
| 5. zullen | future/volitional | assumptive |
| 6. willen | desire | assumptive |

Figure 2: Modal verbs in Dutch

a-examples: circumstantial modal base
b-examples: non-circumstantial modal base

---

4 In the Kratzerian system modals with an evidential interpretation take an empty modal base. Our approach does not deviate from that. We only call evidential readings non-circumstantial.

5 It is more than questionable to treat Dutch zullen and German werden as modal verbs. First, if they are employed as future auxiliaries (cf. 22a for Dutch and 30a for German), it is hard to imagine that they are equipped with a circumstantial modal base. Instead, both of them seem to involve a temporal operator, not a modal one. Second, even if they can be used epistemically, their epistemicity appears to come about via a pragmatic mechanism that restricts the domain of a covert epistemic necessity operator scoping over the entire proposition, not via a non-circumstantial modal base, let alone an ordering source (cf. Kissine 2008).
(10) *hoeven*:

a. *Jan hoeft het werk niet af te maken van de leraar*
   
   John needs the work NEG off to make.INF of the teacher
   
   ‘The teacher does not require John to finish the work.’ (Barbiers 1995: 143)

b. *Jan hoeft die moord niet gepleegd te hebben*
   
   John needs that murder NEG committed.PTCP to have.INF
   
   ‘It is not necessarily true that John has committed that murder.’ (Barbiers 1995: 145)

(11) *mogen*:

a. *Jan mag gaan schaatsen van zijn vader*
   
   John may.3SG go.INF skate.INF of his father
   
   ‘His father obliges John to skate this afternoon.’ (Barbiers 1995: 143)

b. *Hij mag dan vaak zeuren, hij is niet onvriendelijk*
   
   He may.3SG then often nag.INF he is NEG unfriendly
   
   ‘It may be true that John often nags, but he is not unfriendly.’ (Barbiers 1995: 143)

(13) *kunnen*:

a. *Jan kan goed voetballen*
   
   John can.3SG well play.soccer.INF
   
   ‘John can play soccer very well.’ (Barbiers 1995:143)

b. *Hij kan al naar huis zijn gegaan*
   
   He can.3SG already to home be.INF gone
   
   ‘He must already have gone home.’

(14) *zullen*:

a. *Je zult voor vijf uur dat werk af hebben*
   
   you shall.2SG before five hour that work off have.INF
   
   ‘You are obliged to finish that work before five o’clock.’ (Barbiers 1995: 143)

b. *Jan zal wel vaak eten laten brengen*
   
   John will.3SG MP often food let.INF bring.INF
   
   ‘Probably, John often has food delivered.’ (Barbiers 1995: 145)
(15) willen:

a. *Jan wil dat boek hebben*  
   John wants that book have.INF  
   ‘John wants to have that book.’ (Barbiers 1995: 143)

b. *Er wil hier nog wel eens een ongeluk gebeuren*  
   there wants here yet MP MP an accident happen.INF  
   ‘Every once in a while an accident occurs here.’ (Barbiers 1995: 145)

Based on Reis (2001), Maché (2013) and Vater (1975, 2010), the German modal verb system consists of 8 verbs:

<table>
<thead>
<tr>
<th></th>
<th>circumstantial</th>
<th>non-circumstantial</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>brauchen</td>
<td>non-assertive, NPI</td>
</tr>
<tr>
<td>2.</td>
<td>dürfen</td>
<td>permission</td>
</tr>
<tr>
<td>3.</td>
<td>können</td>
<td>ability</td>
</tr>
<tr>
<td>4.</td>
<td>möchten</td>
<td>desire</td>
</tr>
<tr>
<td>5.</td>
<td>mögen</td>
<td>emotive</td>
</tr>
<tr>
<td>6.</td>
<td>sollen</td>
<td>obligation</td>
</tr>
<tr>
<td>7.</td>
<td>werden</td>
<td>future</td>
</tr>
<tr>
<td>8.</td>
<td>wollen</td>
<td>desire</td>
</tr>
</tbody>
</table>

Figure 3: Modal verbs in German

(16) brauchen

a. *Du brauchst keinen Satz zu sprechen*  
   you.2SG need.2SG NEG sentence to speak.INF  
   ‘You are not required to speak any sentence.’  
   (IDS, St. Galler Tagblatt, 24/03/2012)

b. *Der Täter braucht am Tatort nicht gewesen zu sein*  
   the culprit.NOM needs at.the crime.scene NEG been to be.INF  
   ‘It might be the case that the culprit wasn’t present at the scene of the crime.’  
   (André Meinunger, personal communication)

(17) dürfen

a. *Namens darf ich keine nennen*  
   names.ACC may.1SG I NEG call.INF  
   ‘I’m not allowed to call any names.’  
   (IDS, Burgenländische Volkszeitung, 22/02/2012)

b. *Es dürfte ein ungewöhnliches Showerlebnis werden*  
   it might.3SG a unusual show.experience become.INF  
   ‘It may become an usual show experience.’  
   (IDS, Hannoversche Allgemeine, 12/04/2012)
(18) können

a. Ich kann schon wieder Auto fahren
   I can.3SG already again car drive.INF
   ‘I can drive again.’ (IDS, Hamburger Morgenpost, 04/01/2012)

b. Am Geld kann es kaum gelegen haben
   at.the money can.3SG it barely lain.PTCP have.INF
   ‘It is highly unlikely that it was due the money.’
   (IDS, St. Galler Tagblatt, 04/06/2012)

(19) möchten:

a. Halmich möchte nun gegen Elena Reid boxen
   H.NOM would.like.3SG now against E.R.ACC box.INF
   ‘Now, Halmich would like to box against Elena Reid.’
   (IDS, Hamburger Morgenpost, 18/04/2005)

b. Niemand aus der Nachbarschaft will etwas bemerkt haben
   nobody from the neighbourhood wants something noticed.PTCP have.INF
   keiner möchte auch nur Verdacht geschöpft haben
   nobody would.like.3SG also only suspicion scooped.PTCP have.INF
   ‘All of the neighbours claim that they had not noticed anything, all of them claim they
didn’t have any suspicion.’ (Vater 2010: 107)

(20) mögen:

a. Lara mag schwimmen und tauchen
   L.NOM likes swim.INF and skin-dive.INF
   ‘Lara likes swimming and skin-diving.’
   (IDS, Braunschweiger Zeitung, 16/12/2010)

b. Meine Antwort mag sie überrascht haben
   my answer may.3SG she.ACC surprised.PTCP have.INF
   ‘My answer may have surprised her.’
   (IDS, Braunschweiger Zeitung, 21/03/2011)

(21) sollen:

a. Du sollst unterhalten!
   you.2SG should.2SG entertain.INF
   ‘You should entertain (us)!’
   (IDS, Hannoversche Allgemeine, 20/02/2010)

b. Polizist soll Prostituierte begrapscht haben
   policeman.NOM shall.3SG prostitute.ACC fondled.PTCP have.INF
   ‘A policeman is said to have fondled a prostitute.’
   (IDS, Burgenländische Volkszeitung, 22/02/2012)
(22) werden:

a. *Wir werden jetzt hier in St. Gallen starten*  
   we will.1PL now here in St. Gallen start.INF  
   ‘Now, we will start here in St. Gallen.’  
   (IDS, *St. Galler Tagblatt*, 19/05/2012)

b. *So knapp 1000 Zuschauer werden es wohl gewesen sein, die ...*  
   so barely 1000 spectators will.3PL it MP been be.INF who  
   ‘There will have been barely 1000 spectators who ...’. (Maché 2013: 187)

(23) wollen:

a. *Ich will Erfolg haben*  
   I want.1SG success.ACC have.INF  
   ‘I want to be successful.’  
   (IDS, *St. Galler Tagblatt*, 13/02/2012)

b. *Den Unfall will er nicht bemerkt haben*  
   the accident.ACC wants he NEG noticed.PTCP have.INF  
   ‘He claims he didn’t notice the accident.’  
   (IDS, *St. Galler Tagblatt*, 23/02/2012)

In addition, from our definition follows that for example Dutch *in staat zijn* (‘be able’) or German *wissen* (lit. *know*: ‘can’) cannot be classified as modal verbs. In our view, they are modal predicates:

(24) *Hij is in staat om veel argumenten te geven*  
    he.NOM is able COMP much arguments to give.INF  
    ‘He is able to present many arguments.’

(25) *Aber Vettel weiß zu unterscheiden: ...*  
    but Vettel.NOM knows to distinguish.INF  
    ‘But Vettel can distinguish (it): ... .’  

Since a MV must have at least two different interpretations, it should be possible to embed one MV under another MV using only one modal item. This prediction is borne out:

(26a) *Ich weiß zwar, daß er das, was er behauptet, nicht kann*  
    I know in.fact that he that what he claims NEG can.3SG  
    ja gar nicht  
    [MV2 können] [MV1 kann], er wäre denn  
    MP NEG can.INF can.3SG he were.3SG MP  
    noch größer als der große Frangipani. (Süskind 1986: 78)  
    still greater than the great F.NOM  
    ‘I know for a fact that he can’t do what he claims he can, can’t possibly do it. Why, that would make him greater than the great Frangipani.’ (Süskind 1987: 80)

(26b) *Ik weet weliswaar dat hij wat hij beweert niet kan, zelfs niet [MV1 kan] [MV2 kunnen], want anders zou hij nog groter zijn dan de grote Frangipani.* (Süskind 1994: 78)
4. Double modal verbs possibilities and restrictions
4.1. Corpus data
4.1.1. Non-circumstantial + circumstantial

As the examples in this section will demonstrate, when a modal conveys an epistemic interpretation, it precedes the other modal which conveys a circumstantial reading. This is exemplified for **kunnen/können** in (27), **mogen/dürfte** in (28) and **moeten/müssen** in (29):

(27) **kunnen/können**:

a) \[
\text{ze [MV1 \textit{kann}] wel naar ‘t ziekenhuis [MV2 \textit{moeten}]}
\]
she can.3SG MP to the hospital must.INF
‘Probably, she will have to go to the hospital.’
(CGN, fn006935.sea#fn006935.150)

b) \[
\text{Man [MV1 \textit{kann}] neu [INF beginnen] [MV2 \textit{müssen}]}
\]
one can.3SG new begin.INF must.INF
‘One might have to begin once again.’
(IDS, Rhein-Zeitung, 12/7/1997)

(28) **mogen/dürfte**:

a) \[
\text{[MV1 \textit{Mocht}] je nou [MV2 \textit{kunnen}] zeg maar of je wil}
\]
may.2SG you well can.INF say.IMP MP if you.2SG want.2SG
‘If you are able, just let me know if you want to.’ (CGN: fn008306.sea#fn008306.100)

b) \[
\text{Im Zweifel [MV1 \textit{dürfte}] das Gericht eine erhebliche Verminderung}
\]
in.the doubt might.3SG the court a considerable decline
\[\text{der Schuldfähigkeit durch den Alkohol nicht [INF ausschließen] [MV2 \textit{können}]}
\]
the criminal liability through the alcohol NEG preclude can.INF
‘In case of doubt, the court might not be able to rule out a considerable alleviation of criminal liability due to the alcohol.’ (Der Spiegel 36)

(29) **moeten/müssen**:

a) \[
\text{dus toen dacht \textit{ik ja volgens mij moet dat}}
\]
so as though.1SG I yes according me must.3SG that
\[\text{[MV1 \textit{moet}] je dat veel breder [MV2 \textit{kunnen}] [INF \textit{maken}]}
\]
must.2SG you that much broader can.INF make.INF
‘so as I though, yes, according to me that must … you must be able to make it broader.’
(CGN: fn000116.sea#fn000116.76)

b) \[
\text{Die [MV1 \textit{müssen}] gut miteinander [MV2 \textit{können}]}
\]
they must.3PL well with each other can.INF
‘They must be able to harmonize with each other.’
(IDS, Frankfurter Rundschau, 4/6/1999)

Prediction: If MV\textsubscript{1} takes a non-circumstantial modal base, MV\textsubscript{2} has to be circumstantial and there are no restrictions w.r.t. the ordering source.
4.1.2. Circumstantial + circumstantial

In their circumstantial reading, the modals can also be placed in first position. As the examples in this section will demonstrate, MV₂ conveys also a circumstantial interpretation. Example (30) exemplifies this for können as MV₁:

(30) *Man [MV₁ kann] dafür doch kein Programm [INF brauchen] [MV₂ müssen]*
one can.INF for.that MP NEG program need.INF must.INF
≈‘One wouldn’t need any program for this.’
(Simon Blum, personal communication)

Interestingly in the Corpus Gesproken Nederlands, we could not find any example in which mogen in its circumstantial interpretation precedes moeten in its obligation interpretation. Such a constellation does not sound in Dutch as good as it does in German:

(31a) *Der Patient [MV₁ darf] zudem nicht lange [INF warten] [MV₂ müssen]*
The patient may in.addition NEG long wait.INF must.INF
‘It’s not allowed that the patient has to wait long.’ (Maché 2012: 133)

(31b) *De patient [MV₁ mag] niet lang [MV₂ moeten] [INF wachten]*
The patient may NEG long must.INF wait.INF
Intended: ‘It’s not allowed that the patient has to wait long.’

Instead of moeten, hoeven is preferred:

(31b’) *De patient [MV₁ mag] niet lang [MV₂ hoeven] [INF wachten]*
The patient may NEG long need.INF wait.INF
‘It’s not allowed that the patient has to wait long.’

In German, however, dürfen may scope over müssen:

(32) *So sind sie halt, unsere Autoren: Immer bitterlich am Klagen, bis sie in Klagenfurt endlich selber gute Miene zum bösen Spiel [INF machen] [MV₂ müssen] [MV₁ dürfen]*
so are.3PL they MP our authors always bitterish at.the lamentation until they in Klagenfurt finally REFL good face to.the vicious play make.INF must.INF may.INF
‘So are they, our authors: always bitterish when complaining, until they are allowed to have to put a good face on the matter in Klagenfurt.’
(IDS, Zürcher Tagesanzeiger, 17/9/1997)

What Dutch and German do have in common is, for example, that mogen/dürfen can be in the scope of moeten/müssen:

(33a) *Je [MV₁ moet] de jongen naar het feest [MV₂ mogen] [INF laten gaan]*
you must the guy to the party may.INF let.INF go.INF
‘In order for the boy to come to my party, I demand that: You are obliged to allow the boy to come to the party.’
Dass Bildung trotz allem auch auf lokalern Ebene etwas wert sein und kosten dürfen muss, war und ist absolut unstrittig.

‘It was and is absolutely uncontroversial that despite of all that the education must be allowed to be of worth and to cost.’ (IDS, Rhein-Zeitung, 9/7/2003)

A lot of similarities between Dutch and German can be found.

4.2. Problems with the previous approaches
4.2.1. Epistemic Non-Finiteness Gap

Modals that are evaluated against a non-circumstantial modal base do occur as non-finite verb forms. Compare (34) and (35) for German:

Der Verdacht, sich täuschen zu müssen, drängte sich auf the thought REF be.mistaken.INF to must.INF forced.3SG REF on ‘The idea that he was wrong forced itself on him’. (Reis 2001: 295)

Er befürchtete, ihr an dem Abend nicht gefallen haben zu können he was.afraid her.DAT at the evening NEG liked have to can.INF Intended: ‘He was afraid that it was possible that she didn’t like him at this evening.’


Non-circumstantial MVs do not perhaps iterate in Dutch and German, but they are supposed to iterate in Scandinavian languages. The restriction presented in (6a) cannot be seen as a cross-linguistic generalization:

(36) Swedish:

Det lär kunna hånda att flygplan kolliderar i luften. it is.said can.INF happen.INF that airplanes collide in air.the ‘It is said that it may happen that airplanes collide in mid air.’ (Nordström 2010: 164)

A brief description of a possible development of the Swedish MV lär (lit. learn/teach) is presented in Svensson (2005).

(37) Norwegian:

Jon antas måtte være ungkar Jon is.said to must.INF be.INF bachelor ‘Jon is supposed to have to be a bachelor.’ (Eide 2003: 123)
(36) and (37) correspond to our pattern in (i): MV₁ + MV₂ + INF. Thrainsson & Vikner (1995) provide more data for Danish and Icelandic. Note, however, that their data are more than questionable. See the discussion in Mortelmans et al. (2009).

4.2.2. Cartographic Approach

Although the universal hierarchy of Functional Projections covers many data, it also presupposes that data like in (38) should be impossible:

(38a) Ich [MV₁ will] das nicht [INF tun] [MV₂ müßten]

I want that NEG do.INF must.INF

‘I don’t want to be obliged to do that.’ (Maché 2012: 134)

(38b) Ik [MV₁ wil] dat niet [MV₂ moeten] [INF doen]

According to Cinque (1999), volitional modality is not allowed to outscope obligation. Thus, (38) appears unexpected and this scope ordering is supposed to yield an ungrammatical result. Notice, however, that such examples are easy to find in a larger corpus:

(39) Die Jungs sind heiß, und wir [MV₁ wollen] nicht [INF rechnen] [MV₂ müssen]

the guys are hot and we want NEG count.INF must.INF

‘The guys are hot and we don’t want to be obliged to count (the points).
(IDS, Rhein-Zeitung, 08/12/2011)

4.2.3. Phase-Based Approach

Since den Besten (1983), it is well-known that both Dutch and German finite verbs in root clauses are subject to the V-to-T-to-C movement (cf. the special issue in Theoretical Linguistics 32:3 on this topic). Using the Phase-Based terminology, all finite verbs in root clauses merge in the CP Phase.

Consequently, there is a mismatch: Modals with a circumstantial modal base are said to merge in the vP Phase, and therefore they should not be associated with the CP Phase at all. To put it another way, if MVs iterate, MV₁ must always be non-circumstential. This is also in accordance with Nauze (2008). Since circumstantial modals do iterate, this prediction cannot be borne out though:

(40) en dan [MV₁ moet] je toch wel [INF plooibaar [MV₂ kunnen] blijven]

and then must you MP MP flexible can.INF remain.INF

‘And then, you nevertheless have to be able to remain flexible.’
(CGNI: fn000138.sea#fn000138.241)

(41) Der Patient [MV₁ darf] zudem nicht lange [INF warten] [MV₂ müssen]

the patient may in addition NEG long wait.INF must.INF

‘It’s not allowed that the patient has to wait long.’ (Maché 2012: 133)

Accordingly, moet in (40) as well as darf in (41) raise to C and thus merge in the CP Phase. Such a Head-to-Head Movement is very hard to abandon. On the other hand, either MVs are evaluated against a circumstantial modal base. According to Butler and Zagona, they should merge in the vP Phase.
4.3. A tentative analysis

The examples in Section 4.1 and 4.2 demonstrate that modals can combine in several ways in Dutch and German.

We observed that in the two languages under consideration epistemic modals when they occur in a double modal constellation, are the first modal. This is in fully agreement with observations made in the literature that epistemic modals scope over a whole utterance while circumstantial modals only scope over an eventuality (we return to this in Section 4.4).

Another interesting observation is that circumstantial modals can co-occur, contrary to claims made in e.g. Nauze (2008). Interestingly in Dutch, mogen is restricted to follow moeten, the reverse order does not appear in CGN and seems to be ungrammatical. German seems to not share this restriction (cf. 31 and 32).

4.4. Towards a typology of double MVs

Based on what we have observed so far, we propose the following typology of double modal verbs:

<table>
<thead>
<tr>
<th></th>
<th>Polish</th>
<th>Dutch</th>
<th>German</th>
<th>Swedish</th>
<th>Norwegian</th>
</tr>
</thead>
<tbody>
<tr>
<td>double modals are not allowed</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

Figure 4: (A very preliminary) typology of double modal verbs

→ double modals are not allowed: any suggestions?

→ Polish: according to Hansen (2004), double modals do not occur or are very rare. If we translate (17) into Polish, we get an ungrammatical result:

(42) *Pacjent nie [MV1 _može_] [MV2 _musieć_] długo [INF _czekać_]

Intended: ‘It’s not allowed that the patient has to wait long.’

Although we do find some corpus examples, Polish does not have as many double modals combinations and possibilities as Dutch and German do:

(43) Nikt nie [MV1 _powinien_] [MV2 _musieć_] [INF się _zapożyczać_]

‘Nobody should be forced to take on a loan.’

(National Corpus of Polish, 2008/2/29)

→ German: if double modals occur, MV₁ can be both circumstantial and non-circumstantial (one exception being the darf vs. dürfte opposition):

<table>
<thead>
<tr>
<th></th>
<th>circumstantial</th>
<th>non-circumstantial</th>
</tr>
</thead>
<tbody>
<tr>
<td>darf</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>dürfte</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Figure 5: Dürfen and its readings German
Dutch: if double modals occur, MV\textsubscript{1} can be both circumstantial and non-circumstantial (one exception being the ordering permission > obligation, cf. Section 4.1.2.)

Polish, Dutch and German can be brought down to a common denominator: if double modals occur and MV\textsubscript{1} is evaluated against a non-circumstantial modal base, MV\textsubscript{2} has to be circumstantial (cf. 6b and Abraham 2001, 2002).

Swedish: according to Nordström (2010), two non-circumstantial modals can co-occur, iff MV\textsubscript{2} corresponds to kunna (‘can’):

\begin{align}
\text{Det } & \text{MV}_1 \text{lår} \text{MV}_2 \text{kunna} \text{INF hånda} \text{ att flygplan kolliderar i luften.} \\
\text{it} & \text{is.said} \text{can.INF happen.INF that airplanes collide in air.} \\
\text{‘It is said that it may happen that airplanes collide in mid air.’} \quad \text{(Nordström 2010: 164)}
\end{align}

Norwegian: following Eide (2003, 2005) other non-cirumstantial modal verb can be embedded, too:

\begin{align}
\text{Jon } & \text{MV}_1 \text{antas} \text{å} \text{MV}_2 \text{måtte} \text{INF være} \text{ungkar} \\
\text{Jon} & \text{is.said} \text{to must.INF be.INF bachelor} \\
\text{‘Jon is supposed to have to be a bachelor.’} \quad \text{(Eide 2003: 123)}
\end{align}

It must carefully be examined, however, whether the reportative modals are modal verbs according to our definition.

there are no restrictions: any suggestions?

5. Conclusion

A LOT MUST BE DONE YET:

(a) determine all available readings for each modal,  
(b) collect more corpus data (mission impossible to some extent),  
(c) prepare questionnaires, let judge double modals constellations,  
(d) take into account miscellaneous constraints affecting the interpretation of MV\textsubscript{1} as well as of MV\textsubscript{2} (e.g. grammatical subject, Aktionsart; cf. Foolen & de Hoop 2009),  
(e) compare Germanic languages with other languages (cf. Lin 2011 for Chinese).

Primary sources

CGN – Corpus Gesproken Nederlands (http://lands.let.kun.nl/cgn/)  
IDS – COSMAS II (https://cosmas2.ids-mannheim.de/cosmas2-web/)  
Der Spiegel – a weekly newspaper (Nr. 36; 5/9/2011)  
References


