

## AUXILIARIES IN ENGLISH AND DANISH\*

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### *Introduction*

Although some linguists question their existence, auxiliaries are recognized in most descriptions of modern English and Danish. According to one – fairly typical – recent description of English (Vestergaard 1985), the class of auxiliaries comprises *have, do, be* and the modals *can/could, may/might, shall/should, will/would, must*, but in addition to these ‘central’ auxiliaries there are assumed to be a number of ‘marginal’ auxiliaries, such as *seem to, be going to, ought to, used to, dare, need, have (got) to*. In Danish it is customary to recognize as auxiliaries *have* ‘have’, *være* ‘be’, *blive* ‘become’ and the modals *kunne* ‘can’, *måtte* ‘may, must’, *ville* ‘will’, *skulle* ‘shall’, *turde* ‘dare’, *gide* ‘be bothered to’, *burde* ‘ought to’ (see Hansen 1967). Auxiliaries are separated from lexical verbs by a combination of morphological, syntactic, and semantic criteria. However, this separation is by no means straightforward, as reflected by the fact that grammarians often find it necessary to operate with ‘marginal’ and/or ‘semi-auxiliaries’ in addition to auxiliaries proper. A distinction has been drawn between auxiliaries and *catenatives*, i.e. lexical verbs like *keep, promise, get*, etc., which resemble auxiliaries in combining with non-finite verb forms (Twaddell (1965:22), Huddleston (1984:142)). In order to distinguish auxiliaries from *catenatives* in English, grammarians operate with the so-called NICE-properties: in negative, interrogative, and emphatic sentences, and with respect to ‘*verbum vicarium*’, auxiliaries differ from other verbs in requiring no *do*-support. Furthermore, most auxiliaries in English (the modals) differ

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morphologically from lexical verbs in being defective, and semantically the auxiliaries differ from the majority of lexical verbs in expressing only general – temporal, aspectual, modal, or diathetic – meanings. (Such meanings are not expressed by catenatives like *try*, *remember*, *enjoy*, *forget*.) In spite of the many criteria which have been proposed, the separation of auxiliaries from lexical verbs is by no means easy. In Danish, where the behaviour in negative, interrogative, and emphatic sentences of the verbs usually analysed as auxiliaries is no different from that of lexical verbs, and where these verbs are morphologically not very defective, the distinction is even more difficult to draw (although it helps a little that the modals do not form present tense by means of the suffix *-r*).

In their recent *A Comprehensive Grammar of the English Language* Quirk and his co-authors operate with a *scale* ranging from clear auxiliaries to clear full verbs (1985:137). Whereas a verb like *may* is assumed to belong unproblematically to the former category and a verb like *begin* unproblematically to the latter, it is not obvious how verbs such as *need*, *ought to*, *had better*, *be to*, *have to*, and *seem to* should be interpreted. Between the end points of their scale Quirk et al. operate with marginal modals, modal idioms, semi-auxiliaries, and catenatives. A sentence like *I ought to go* illustrates one such borderline case, where it is difficult to decide whether we are faced with one verb phrase containing an auxiliary (as in *I can go*) or two verb phrases containing no auxiliary (as in *I hope to go*). In spite of their relativistic approach Quirk et al. do in fact propose a cut-off point, for on page 120 they state that the English auxiliaries are the primary verbs *be*, *have*, *do* and the modal verbs *can* (*could*), *may* (*might*), *will* (*would*), *shall* (*should*), and *must*. This means that modal idioms, semi-auxiliaries, and catenatives are all excluded from the class of auxiliaries proper.

The recognition of an auxiliary-full verb scale brings to mind the notion of *imprecise categories*, which is discussed by Östen Dahl in his book on tense and aspect (1985). In Dahl's opinion grammatical categories are typically imprecise. In this way they resemble everyday terms such as *bald* and *bird*, which are virtually impossible to define in such a way that there will be no borderline cases. Speaking of imprecise categories is practically the same as speaking of *focused categories* (Dahl, op. cit.) since both concepts imply that not all members of a category have the same status. Whereas the focus of a category is constituted by the 'best exemplar', or 'prototype', the entities that belong to the periphery have a more or less dubious membership. Thus although a penguin, for example, is within the extension of the category 'bird' (being a feathered warm-blooded vertebrate with two legs and two wings) it belongs to the periphery of this category (as a result of its inability to fly, sing, and be spotted in trees).

The category 'auxiliary verbs' seems to be a good example of an imprecise

linguistic category, for whichever set of criteria we decide to use to single out its members, there are likely to be borderline cases. This should not make us uneasy, for such borderline cases are interesting precisely because they are auxiliaries in some respects and full verbs in others. As pointed out by Dahl, a linguistic notion may in fact be less useful if in our attempts to clarify it we eliminate genuine imprecision. If we look at the history of English and Danish, as well as that of many other languages, it is not surprising that auxiliaries do not make up a very precise category. In the show process of change from a predominantly synthetic to a predominantly analytic typology a system of auxiliary verbs has gradually arisen, and some of these verbs have not yet acquired as secure a foothold in the category as others.

#### *Epistemic and non-epistemic modals*

Before proceeding to the separation of auxiliaries from lexical verbs in English and Danish, it is necessary to discuss the distinction between epistemic and non-epistemic (or root) modals. It is argued here that the verbs traditionally grouped together as modal auxiliaries in English and Danish belong to two different classes (see, for example, Anderson 1971). This distinction is justified for a number of reasons. In the first place, they are practically all ambiguous. This may be illustrated by selected examples like *She may go home*, *They should be home* and *Hun kan rejse i morgen* ('She may/can leave tomorrow'), *De bør være hjemme* ('They ought to be at home'), in which each modal has two meanings, one epistemic and one non-epistemic.

As a distributional confirmation of this distinction we can note that the epistemic verbs permit a following perfect infinitive with past time meaning (unlike the non-epistemic verbs):

John may/must/can't/needn't have passed the exam.

John kan/må/skal/bør have bestået eksamen.

('John may/must/is said to/ought to have passed the exam')

According to Palmer (1979:36f) epistemic modals are kept apart from all other modals in English by this criterion. It should be pointed out, though, that deontic *ought to* and *should* do in fact occur in this context (*You ought to/should have done it yesterday*), and the same goes for Danish *skulle* 'shall' and *burde* 'ought to'.

Another syntactic argument in favour of assigning the modal verbs to two classes is provided by conditional clauses. In this context the non-epistemic modals occur freely, cf. examples like *If I may borrow your bike ...* and *Hvis jeg skal være hjemme kl. 11 ...* ('If I have to be back by eleven ...'), whereas epistemic modals are not normally permitted, cf. the ungrammaticality of examples like *\*If she must be abroad ...* and *\*Hvis svenskerne skal være et*



*afslappet folkefærd* ... ('It the Swedes are said to be an easy-going lot ...'). It should be added, though, that given specific larger contexts one occasionally comes across epistemic modals in conditional clauses. If A says *He may come back at any moment*, B may reply, epistemically as well, *If, as you say, he may come back at any moment, we'd better hurry*.

In English, thirdly, the epistemic modals differ from the non-epistemic ones in combining with the progressive aspect:

He may be coming back at any moment.

\*You may be borrowing my bike.

You must be approaching fifty.

\*You must be doing it at once.

They can't be leaving yet.

\*You can't be borrowing my bike.

That epistemic modals are free to combine with perfect and progressive constructions follows naturally from the fact that their only function is to judge the truth value of various statements. The events described by these statements may already be terminated or they may be in progress. For the same reason the epistemic modals in Danish combine freely with lexical verb phrases like *være ved at* and *være i færd med* ('be-ing'). On the other hand, one cannot give obligation, permission, etc. to the performing of events which are terminated or in progress.

In Danish, finally, epistemic modals differ from non-epistemic modals with respect to objects and place adverbials. As it appears from examples like *Hun kan/vil/må/skal en masse* ('She can/wants to/is allowed to/is to (do) lots of things') and *Jeg vil/må/skal/bør hjem* ('I want to/must/have to/ought to (go) home'), the non-epistemic modals *kunne*, *ville*, *måtte*, *skulle*, *burde* may occur by themselves and take objects (first four) or govern a place adverbial (last four). Furthermore, the epistemic modals differ from the non-epistemic modals with respect to passivization. While the former require the passive with *blive* ('become'), the latter require the -s passive, cf. examples like *Peter bør blive udnævnt snart* and *Peter bør udnævnes snart* ('Peter ought to be appointed soon').

For these semantic and syntactic reasons we conclude that the modal verbs of English and Danish — with the exception of *dare*, *shall* and *turde* 'dare', *gide* 'be bothered to', which have no epistemic uses — belong to two classes, one of which is epistemic and the other of which is non-epistemic.

### Criteria of auxiliaryity

Even if we restrict ourselves to one language, the separation of auxiliaries from full verbs is no simple matter. In a contrastive analysis of two or more languages it is even more difficult to single out auxiliaries, for in order for the

contrastive analysis to be reliable the criteria employed have to be the same. As the widely used NICE-criteria which have been proposed for English all involve a language specific use of the verb *do*, they are of no real value in a contrastive framework. This means that we have to look for criteria of a more general nature.

In a paper dating from 1983 such criteria have been proposed by Spang-Hanssen. The aim of this paper is to set up criteria which permit the analyst to single out a class of grammatical verbs which are intimately connected with another verb and which are similar to verbal inflections. It is not considered sufficient to propose a number of operational tests: the criteria should also isolate a class of verbs which is useful for the formulation of grammatical rules. Above all, it is considered important that auxiliaries — insofar as these occur in a language — behave like verbal grammatical endings.

Among the eight criteria discussed by Spang-Hanssen there are four which are particularly helpful in a contrastive description of English and Danish and which we shall therefore select as our working tools:

- (i) The meaning of an auxiliary is general and abstract. Apart from semantically empty verbs — like English *do* — its content is analysable in terms of temporal, aspectual, modal, or diathetic values.
- (ii) An auxiliary is functionally dependent in the sense that it is impossible to modify it without simultaneously modifying the lexical verb it combines with. In other words, Aux + V can only be modified globally.
- (iii) The addition of an auxiliary does not affect the lexical restrictions of the verb it combines with.
- (iv) An auxiliary is attached to a lexical verb without any intervening infinitive marker, i.e. it governs a bare infinitive or a participle.

Verbs which satisfy these four criteria are similar to verbal inflections since (i) the meanings of such inflections are general and analysable in terms of temporal, aspectual, modal, or diathetic values; (ii) inflections cannot be modified alone; (iii) inflections do not affect the lexical restrictions of the verbs they are attached to; (iv) inflections are attached directly to the verbs they modify.

In the following these criteria will be examined one by one.

### The semantic criterion

Whereas temporal, aspectual, and diathetic meanings appear to be unproblematically general, this is not the case with all modal meanings, for there is a marked difference in generality of meaning between epistemic and non-epistemic modality. This is apparent from Danish examples like *De kan*



*være på ferie* ('They may be on holiday') and *Mine studenter kan læse russisk* ('My students can read Russian'). In the second sentence non-epistemic *kan* attributes specific properties to the agent referred to by the subject noun phrase *Mine studenter*, and the scope of the modal is restricted to this noun phrase. In the first sentence, on the other hand, the meaning of epistemic *kan* is as general as can be — logical possibility — and the scope of the modal is the whole proposition. According to Bybee and Pagliuca (1985) epistemic uses of modal verbs have developed from originally non-epistemic uses. For example, English *must* was used in the sense of obligation in the earliest written documents as it is today, but in the 17th century it took on the epistemic sense of inferred certainty. This type of development is seen as a semantic generalization which has taken place through metaphorical extension. As grammatical functions are necessarily abstract, such an emptying of lexical content is regarded as a prerequisite to grammaticization.

Bybee and Pagliuca emphasize that inflectionally marked modalities are nearly always epistemic. On the basis of studies of a large number of languages they conclude that as far as inflection is concerned the rarity of non-epistemic modalities is in striking contrast to the frequency of epistemic modalities. Although this is undoubtedly true cross-linguistically, it must be pointed out, however, that in English and Danish (and some other languages as well) inflectionally marked modalities are also deontic. This is apparent from the fact that compulsion and wish are expressed by  $-\emptyset$  and (in Danish)  $-e$  in the imperative and subjunctive, cf. examples like *Go to bed/Gå i seng* and *Long live the Queen/Længe leve Dronningen*. As it would not be reasonable to require that the meanings expressed by auxiliaries be *more* abstract than those expressed by inflection — the extreme form of grammaticization — we shall conclude that the deontic modals are sufficiently abstract to be recognized as auxiliaries, in spite of the fact that their meanings are less general than those of epistemic modals. As far as abstractness of meaning is concerned, one might add, deontic modality seems to be intermediate between epistemic and dynamic modality, cf. examples like *Can this be true?* (most abstract), *Can you swim?* (least abstract), and *Can I borrow your bike?* (intermediate).

According to the criterion of general meaning epistemic modal verbs are clearly included in the class of auxiliaries, and the same goes for verbs with temporal, aspectual, and diathetic meanings or which are semantically empty. Also included are the deontic modals. On the other hand, the dynamic modals are clearly excluded. In English this means that the following verbs are semantically auxiliaries: *be, have, do, will* (temporal), *may, might, can, could* of permission and epistemic possibility, *must, need, should* of compulsion and epistemic necessity, and *shall, should* of obligation. In Danish the verbs singled out by the semantic criterion are *være* 'be', *have* 'have', *blive* 'become', *ville* 'will' (temporal), *kunne* 'can' of permission and epistemic possibility, *måtte*

'may/must' of permission, compulsion, and epistemic necessity, *behøve* 'need' of compulsion and epistemic necessity, *skulle* 'shall' of compulsion, obligation, epistemic report and (weakened) epistemic necessity, and *burde* 'ought to' of duty and epistemic probability.

The criterion of general meaning includes not only hard core epistemic and deontic modals but also some modals which are not normally regarded as auxiliaries. In English, for example, *be bound to, be certain to, be sure to, and have (got) to*, all of which express necessity, are auxiliaries by this criterion. Also included by the semantic criterion are verbs such as *seem to, appear to, happen to, and be likely/about to*.

#### *The criterion of functional dependency*

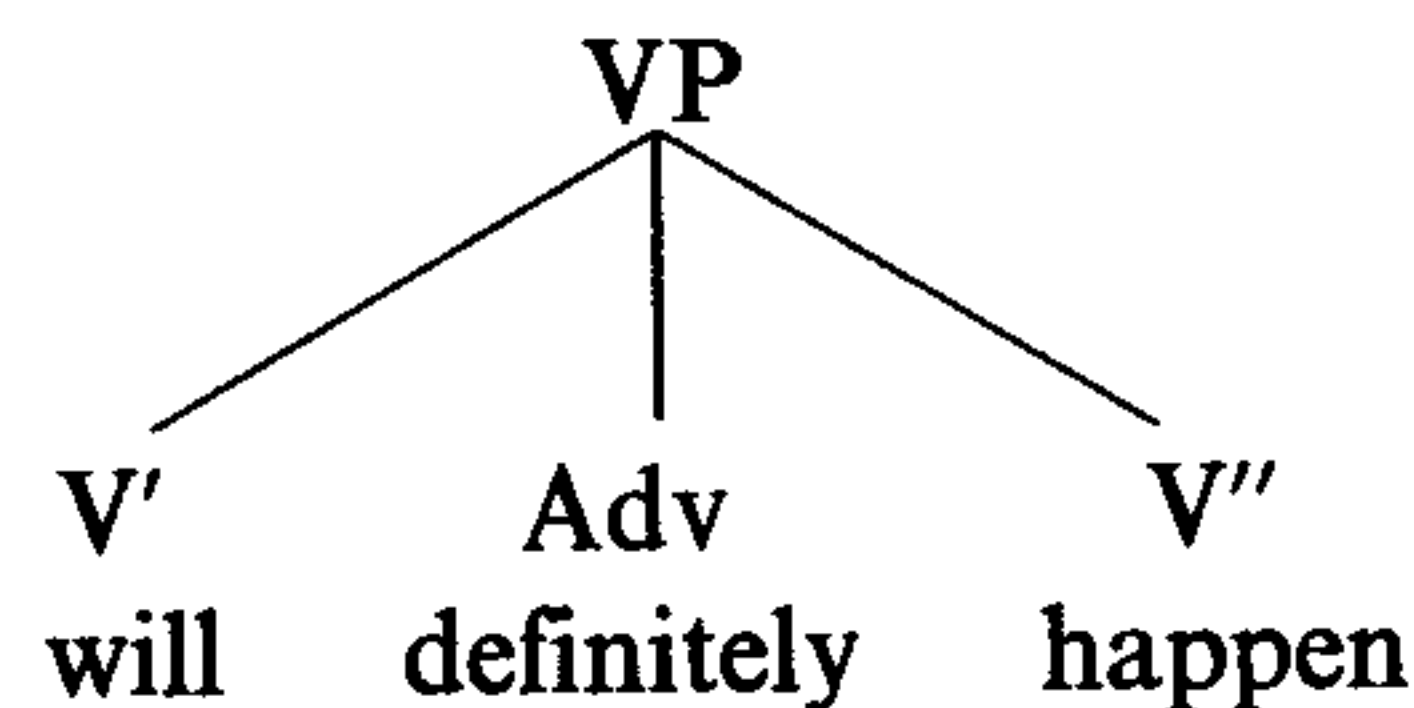
A verbal inflection does not constitute an independent lexical unit and therefore cannot be modified by itself. In a sentence like *I handed her the tray carefully*, for example, the adverb obviously does not modify the past tense inflection alone but also the verb to which it is attached. In order to eliminate from the class of auxiliaries those verbs which differ from verbal inflections in constituting independent lexical units, we shall therefore investigate whether the structure  $V' + V''$  (in which  $V'$  symbolizes a potential auxiliary and  $V''$  a following non-finite verb) is modified globally or not. If the modification is global,  $V' + V''$  behaves like  $V + \text{inflection}$ , and  $V'$  may be analysed as an auxiliary. If  $V'$  is modified by itself, on the other hand, it cannot be included in the class of auxiliaries.

In English, the verbs *be, have, do, temporal will* and the epistemic modals all satisfy the criterion of functional dependency:

- She is definitely going.
- She was definitely defeated.
- She has definitely finished the job.
- Did she really like it?
- It will definitely happen soon.
- She may definitely be in London now.
- Can this really be the case?
- She must definitely be in London now.
- Need this really be the case?
- She should/ought definitely (to) be in London now.

In the examples, the modification is global, i.e. the verb phrase has the following structure:





That this is so appears from the fact that it is not possible to focalize V''. For example, *\*What she definitely may is (to) be in London now* is clearly ungrammatical.

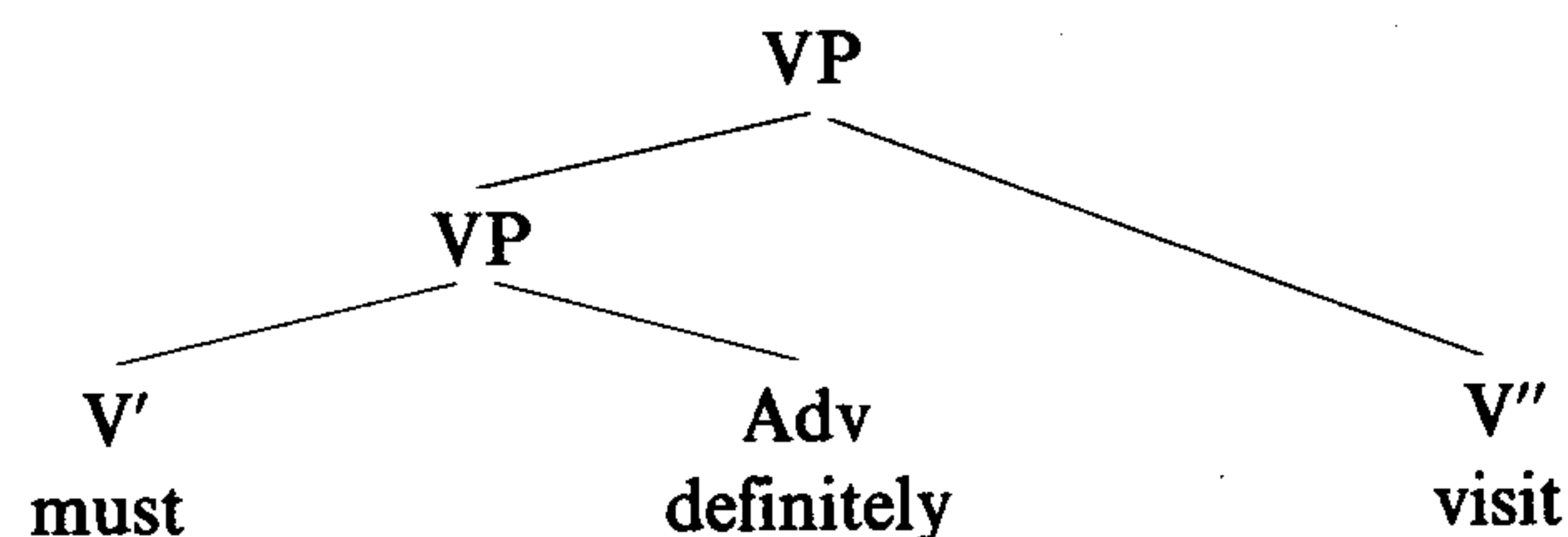
In the case of nearly all non-epistemic modals, on the other hand, V' is functionally independent:

- You may/can definitely finish the pie.
- You must definitely visit my aunt.
- He can easily run a mile.
- I definitely won't pay the money back.
- I definitely daren't publish that manuscript.

That the adverbs modify V' rather than V' + V'' is apparent from the fact that V'' may be focalized:

- What you definitely may/can do is finish the pie.
- What you definitely must do is visit my aunt.
- What he easily can do is run a mile.
- What I definitely won't do is pay the money back.
- What I definitely daren't do is publish that manuscript.

Admittedly, focalization is not normally possible without *do*-support of V', but this does not affect the point that V' and V'' are separated by the focalization transformation. In these cases, then, the verb phrase has the structure



While the deontic modals expressing permission (*may, can, might, could*) and compulsion (*must, have to, need, should, ought to*) and the dynamic modals expressing ability (*can, could, be able to*), volition (*will, would*) and resolution (*dare*) are in this way excluded from the class of auxiliaries, *shall*

used in the sense of obligation or insistence — like Danish obligational *skulle* — behaves syntactically like the epistemic modals in spite of the fact that it is semantically non-epistemic. In a sentence like *He shall definitely get his money* the adverbial modifies V' + V'' globally, cf. that neither focalization nor interrogation of V'' is possible: *\*What he definitely shall is get his money/\*What is it he definitely shall?* A possible reason why *shall* behaves like an auxiliary is that its deontic meaning is sometimes fairly weak as compared with its future time meaning, cf., for example, *You shall not catch me so easily next time*. Here *shall* is closely related to temporal *will*, which also meets the criterion of functional dependency.

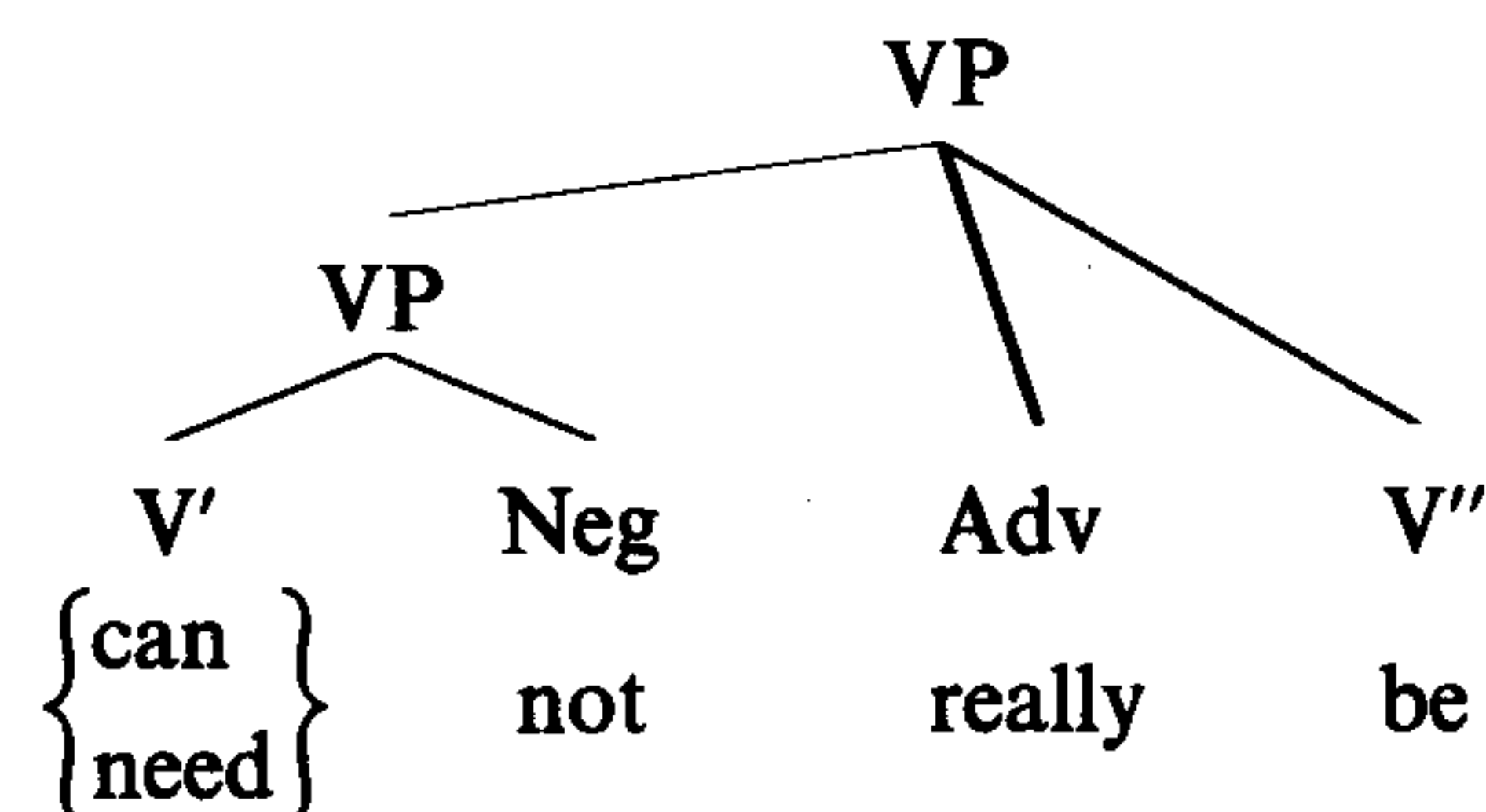
In English, the criterion of functional dependency includes some verbs which are not normally regarded as auxiliaries, such as *be bound to* and *have (got) to*. That these are functionally dependent appears from examples like *It's definitely bound to come out* and *He's definitely got to be joking*.

In Danish, the situation is basically the same as in English: the criterion of functional dependency includes in the class of auxiliaries the verbs with temporal or diathetic meanings (*være* 'be', *have* 'have', *blive* 'become', temporal *ville* 'will') as well as the epistemic modals *kunne* 'can' of possibility, *måtte* 'must' and *behøve* 'need' of necessity, *burde* 'ought to' of probability, and *skulle* 'shall' of report. On the other hand, it excludes not only the dynamic but also the deontic modals, with the single exception of *skulle* used in the sense of obligation (promises, threats). This may be illustrated by selected examples like *Hun er bestemt gået hjem* 'She has definitely gone home' / *Det må bestemt ske snart* 'It definitely has to happen soon', which exemplify functional dependency (global modification), and *Han må absolut byde hende en drink* 'He must definitely offer her a drink' / *Han kan let løbe 100 meter på 11 sekunder* 'He can easily run 100 meters in 11 seconds', which exemplify functional independency. That the adverbial modifies the modal verb alone in the last two sentences is apparent from the fact that both focalization and interrogation of V'' are possible: *Hvad han absolut må er at byde hende en drink/ Hvad han let kan er at løbe 100 meter på 11 sekunder/ Hvad er det han absolut må?/ Hvad er det han let kan?*

Before concluding our discussion of functional dependency we have to mention an analytical problem, namely modification by means of the negatives *not/ikke* (as well as a few other negative adverbs, such as *hardly, scarcely/ næppe*). In the case of some of the modal verbs it is evidently V' which is modified in this way, cf. the following examples cited from Quirk and Greenbaum (1973:189):

- |                                |                  |
|--------------------------------|------------------|
| You may not go swimming.       | (non-permission) |
| You can't be serious.          | (impossibility)  |
| You can't go swimming.         | (non-permission) |
| She can't ride a bicycle.      | (inability)      |
| You needn't pay that fine.     | (non-compulsion) |
| It needn't always be my fault. | (non-necessity)  |

The main problem here is that epistemic *can* and *need* – which have been shown to be functionally dependent in sentences like *Can this really be the case?* and *Need this really be the case?* – are functionally independent as far as negation is concerned. In sentences like *This cannot really be the case* and *This needn't really be the case*, therefore, the structure is like this:



As it appears, *can* and *need* are functionally dependent with respect to *really* but functionally independent with respect to *not*. In Danish, the epistemic modals *kunne* and *behøve* are also functionally independent as far as negation is concerned:

- |  |                 |
|--|-----------------|
| Du kan ikke mene det.<br>(‘You can’t mean that’)                   | (impossibility) |
| Det behøver ikke (at) være min fejl.<br>(‘It needn’t be my fault’) | (non-necessity) |

If the criterion of functional dependency is applied strictly, the epistemic modals *can*, *need* in English and *kunne*, *behøve* in Danish are excluded from the class of auxiliaries. It should be emphasized, though, that it is only with respect to negative modification that these verbs do not qualify as auxiliaries according to the second criterion.

*The criterion of permanence of the lexical restrictions of V''*

A verbal inflection does not affect the lexical restrictions of the verb it is attached to. If sentences like *I bring you flowers* and *I appoint you director* are correct, then sentences like *He brings you flowers*, *I brought you flowers*, and *I appointed you director* are also correct. As pointed out above, auxiliaries are grammatical verbs which resemble verbal inflections, and it is therefore natural to require that they do not affect the lexical restrictions of the verbs they combine with either. Since the context to the right of the verb phrase is dependent on V'' exclusively (cf. for example, *He has brought you flowers* and *I will appoint you director*), the question to be asked is therefore whether V' + V'' admits the same subjects as V'' alone. If this is the case, V' may be interpreted as an auxiliary. If not, it has to be interpreted as a lexical verb.

It has been observed by many grammarians that in order to isolate a class of auxiliaries it is particularly useful to investigate *inanimate subjects*. If V'' requires this type of subject – as in the case of *rain/regne* and *expire* (= come to an end)/*udløbe* – V' + V'' should also accept it in order for V' to be analysed as an auxiliary. As illustrated by the following examples, such subjects are admitted in the case of *have*, *be*, *do*, (temporal) *will* and epistemic verbs:

- It has rained.
- It is raining.
- It doesn't rain (much here).
- It will rain.
- It may rain.
- It must rain (a lot in Ireland).
- It's bound to rain (a lot in Ireland).
- It could/might be raining.
- It should/ought to be raining now (a few miles away).
- Surely it can't rain (a lot in Ethiopia).
- It needn't rain (all the time).

Similarly, in Danish, inanimate subjects are admitted in the case of *have* ‘have’, *være* ‘be’, *blive* ‘become’, (temporal) *ville* ‘will’ and epistemic verbs, cf. selected examples like *Det har regnet* ‘It has rained’ and *Det må regne meget i Irland* ‘It must rain a lot in Ireland’.

In the case of non-epistemic modal verbs, on the other hand, V' + V'' does not normally accept inanimate subjects. This is apparent from the following examples:

English:

- \*The contract can expire. (in the sense of ability)
- \*The contract will expire. (in the sense of volition)
- \*The contract daren't expire.
- \*It shall rain.

Danish:

- \*Kontrakten kan udløbe. (in the sense of ability)
- \*Kontrakten vil udløbe. (in the sense of volition)
- \*Kontrakten tør ikke udløbe.
- \*Kontrakten gider ikke udløbe. (‘The contract doesn't care to expire’)
- \*Det skal regne. (in the senses of obligation and arrangement)

According to Bybee and Pagliuca (1985) non-epistemic modality differs from epistemic modality in being agent oriented, more specifically in involving a *wilful agent*. In the case of modalities such as ability, volition, resolution, and



inclination, where the agent is the referent of the subject noun phrase, inanimate subjects are clearly ruled out. With deontic modality, on the other hand, the situation is different because the source of modalities such as permission, compulsion, obligation, and duty is the speaker. In certain situations, the speaker may permit, compel, oblige, or morally require an inanimate subject noun phrase referent to trigger off a certain action:

It may/can rain now for all I care.

Det må/kan for min skyld godt regne nu.

The contract must expire before the first of October.

Kontrakten skal/må udløbe senest første oktober.

?The contract shall expire as you desire.

?Kontrakten skal udløbe som ønsket.

This contract ought to/should expire before the first of October.

Kontrakten bør udløbe senest første oktober.

This, however, is the exception and not the rule. In the case of epistemic modality, on the other hand, nothing prevents the use of inanimate subjects, since the only function of epistemic modals is to judge the truth value of a statement.

The criterion of the permanence of V''s lexical restrictions (impersonal subjects) thus clearly includes among the auxiliaries epistemic modals as well as the verbs *have*, *be*, *do*, (temporal) *will* and *have* 'have', *være* 'be', *blive* 'become', (temporal) *ville* 'will'. On the other hand, it excludes the dynamic modals completely and the deontic modals in their normal uses. In Danish it also excludes *være i færd med* ('be-ing') as well as the verb *få* ('get'), which expresses future time in an idiomatic expression like *Vi får se* ('We shall see') and future result when followed by a past participle in examples of the type *Får du snart skrevet?* ('Will you be getting down to writing soon?'). This is apparent from the fact that verbs which require inanimate subjects, such as *udløbe*, do not permit preceding *er i færd med* or *får*.

#### *The criterion of direct attachment*

The criterion of direct attachment of V' to V'' (that is, without any intervening infinitive marker) excludes some verbs from the class of auxiliaries which are included by the other criteria. In English, *have (got) to*, *be bound/certain/sure to*, and *ought to* of epistemic necessity are auxiliaries not only with respect to their meaning — which is general and modal — but also with respect to functional dependency and permanence of the lexical restrictions of V''. This is apparent from examples like the following, the first three of which illustrate global modification and the last three of which illustrate combinability with inanimate subjects:

He's definitely got to be joking.

We're definitely bound to be late.

She definitely ought to be in London now.

There has to be a way out.

There's bound to be a way out.

There ought to be a way out.

The verb *be going to*, which meets the first three criteria as well, is also excluded from the class of auxiliaries by the criterion of direct attachment, and so are the modals *seem to* and *appear to*.

In Danish this criterion excludes a verb like *være nødt til* 'have to' of epistemic necessity, which qualifies as an auxiliary not only semantically but also in respect of the other two syntactic criteria:

Det er bestemt nødt til at ske inden længe.

('It must definitely happen before long')

In conservative Standard Danish the criterion of direct attachment excludes *behøve* 'need' of epistemic necessity as well, cf. an example like the following:

Behøver dette overhovedet at være sandt?

('Need this be true at all?')

In advanced Standard Danish, on the other hand, this verb requires no infinitive marker (see Hansen 1977):

Behøver dette overhovedet være sandt?

In this type of Danish, *behøve* is thus an auxiliary according to all four criteria in the same way as epistemic *need* in English. In this paper we base our analysis on the non-conservative variety of Danish and accordingly interpret epistemic *behøve* as an auxiliary.

In addition to excluding some epistemic modal verbs, the criterion of direct attachment excludes a number of verbs which are excluded by other criteria as well, such as *used to* of habit, *be able to* of ability, *ought to* of duty, *have (got) to* and *need to* of compulsion, and *dare to* of resolution in English. Similarly, it excludes *have (at)* and *være nødt til* 'have to' of compulsion as well as *være i stand til* 'be able to' of ability in Danish.

On the other hand, the criterion of direct attachment obviously includes in the class of auxiliaries a large number of catenatives which are excluded by the other criteria. In English, *keep*, *get*, *stop*, *hear*, *feel*, etc. and most of the non-epistemic modal verbs are auxiliaries according to this criterion. In Danish, the same applies to verbs like *få* 'get', *lade* 'let', *høre* 'hear', *se* 'see', *komme* 'come' and the majority of non-epistemic modal verbs.



The criterion of direct attachment differs from the other three criteria in relating neither to meaning nor syntactic function, and it therefore appears to be of secondary importance. Whether V' and V'' are separated by a particle or not might seem to be an accidental product of history and therefore not of great relevance to the separation of auxiliaries from lexical verbs. On closer inspection, however, a different picture emerges. As pointed out by E. Hansen (1977) Danish *turde* 'dare' and *gide* 'be bothered to', which are non-auxiliary according to the first three criteria, and which in conservative Danish combine with the bare infinitive, are beginning to accept *at*-infinitives: *Han tør ikke at spørge* 'He daren't ask' / *Vi gider ikke at være med* 'We don't feel like joining in'. Conversely, *behøve* 'need', which is an auxiliary according to the first three criteria when used epistemically, is losing its infinitive marker. It thus appears that presence vs. absence of the infinitive marker is in fact a non-trivial surface indicator of auxiliary vs. non-auxiliary status. Note, however, that this does not imply that any verb which permits a following bare infinitive is an auxiliary.

### Conclusion

Although the separation of auxiliaries from lexical verbs in Danish and English is no simple matter, there seem to be arguments in favour of claiming that in order for a verb to be analysed as an auxiliary it should meet all the four criteria which are satisfied by verbal inflections. Obviously, it would be analytically satisfactory if application of each of these criteria singled out exactly the same class of verbs. That this is not the case is due to the fact that we are dealing with natural, changing languages, in which there are verbs that have acquired some but not all of the properties of auxiliaries. In particular, the non-epistemic modal verbs behave like auxiliaries proper, partly with respect to direct attachment and partly with respect to *verbum vicarium/code* (as well as the other NICE-properties mentioned above). It is for this reason – and also because of their morphological defectiveness – that these verbs are normally classified as auxiliaries in English. However, the fact remains that they differ from verbal inflections in a number of significant ways. The dynamic modals *can/kunne* of ability, *will/ville* of volition, *dare/turde*, and *gide* 'be bothered to' are clearly non-grammatical with respect to meaning, functional dependency, and permanence of the lexical restrictions of V'', and the exclusion of these verbs from the class of auxiliaries is therefore based on solid arguments. On the other hand, the status of the deontic modals *may, can/måtte, kunne* of permission, *must, need, should/ skulle, måtte* of compulsion, *shall, should / skulle* of obligation, and *burde* 'ought to' of duty is more problematic. Besides attaching directly to V'' they are grammatical in nature by, under certain circumstances, permitting inanimate subjects and by express

ing a type of meaning (deontic) which may also be expressed morphologically. However, the deontic modals are non-grammatical in two ways: they are modified independently (with the isolated exception of *shall/skulle*) and they do not freely take inanimate subjects. For these reasons they are here excluded from the class of auxiliaries, and they are consequently assumed not to be manifestations of (grammatical) mood. Owing to their affinity to auxiliaries, however, they are obvious candidates for inclusion in a set of semi-auxiliaries, if such verbs are recognized.

According to the criteria selected, the class of auxiliaries in English is thus considered to comprise the following verbs:

Primary	<i>have</i>	(perfect tense)
	<i>be</i>	(progressive aspect, passive voice)
	<i>do</i>	(empty)
	<i>will</i>	(future tense)
Modal	<i>may, might, can, could</i>	(epistemic possibility)
	<i>must, need, should</i>	(epistemic necessity)

### Examples:

The dog has run away.

My foot is hurting.

We were caught in a traffic jam.

I didn't see him.

Dinner will be at eight.

The road may be blocked. /The road might be blocked.

Can spring be far behind?

It could be true.

You must be tired.

He needn't be Dr Livingstone.

They should be back now.

As it appears, *need* and *can* are recognized as auxiliaries in spite of the fact that their inclusion is not unproblematic with respect to one of the criteria, namely that of functional dependency: though normally modified together with V'', they are modified independently by negative adverbs.

In Danish, the class of auxiliaries is assumed to comprise the following verbs:

Primary	<i>have</i>	(perfect tense)
	<i>være</i>	(perfect tense, passive voice)
	<i>blive</i>	(passive voice)
	<i>ville</i>	(future tense)
Modal	<i>kunne</i>	(epistemic possibility)
	<i>måtte, behøve</i>	(epistemic necessity)
	<i>skulle</i>	(epistemic report and necessity)
	<i>burde</i>	(epistemic probability)



## Examples:

- Vi har kendt hinanden i mange år. ('We have known each other for many years')
- Hunden er løbet væk. ('The dog has run away')
- Jeg er bundet af en uheldig kontrakt. ('I'm bound by an unfortunate contract')
- Han blev dræbt i krigen. ('He was killed in the war')
- Denne afgørelse vil få alvorlige konsekvenser. ('This decision will have serious consequences')
- Det kan være sandt. ('It may be true')
- Det må være sandt. ('It must be true')
- Det behøver ikke være sandt. ('It needn't be true')
- Han skal være en udmærket mekaniker. ('He is said to be an excellent mechanic')
- Peter skulle være i London nu. ('Peter should be in London now')
- Peter bør være i London nu. ('Peter ought to be in London now')

It may be added that the modal auxiliaries *kunne*, *måtte*, *skulle*, *burde*, *behøve* differ from their lexical counterparts and the remaining lexical modals not only with respect to some of the criteria discussed and with respect to distribution (cf. the section on epistemic and non-epistemic modals above), but also *morphologically*: they do not normally occur in the past participle. That lexical verbs accept this form freely is apparent from examples like the following:

- Jeg har før kunnet/måttet/skullet løse sådanne opgaver.  
('I have been able to/had to solve such problems before')
- Jeg har ikke gidet/turdet besøge dem.  
('I haven't cared to/dared to visit them')
- Jeg har aldrig behøvet at forberede mig ret længe.  
('I have never had to prepare for a very long time')

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