Motivation in English *must* and Hungarian *kell*

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The aim of this paper is to find motivation (and perhaps also some of its limits) in grammatical structures associated with the English modal *must* and its Hungarian equivalent *kell*. Motivation is seen as coming from various ingredients of a conceptual structure associated with the modals that is assumed to be far more complex than was suggested in previous analyses of the 1990s. The view of modality offered here is more fine-grained in including participants and matching forces associated with them, especially in the deontic senses. The roles attributed to participants in conceptual structure can be seen as motivating alternative grammatical structures and, conversely, the presence of these structures can be taken as indirect evidence that the conceptual structure is valid. The correlation, however, has its limits as well. Some of the radical changes in conceptual structure resulting from the root to epistemic extension are at best marginally represented in grammatical structure. The paper also offers suggestions as to why this may be the case.

**Keywords**: action chain, billiard-ball model, case marking, conceptual structure, dative, doer, experiencer, force dynamics, modality, patient

1. **Root modals and force dynamics**

1.1 The background

One of the strangest properties of the modals in a number of languages is that the syntactic structures in which they appear show clear signs of being exceptional or transitional:
i. Although basically analyzed as having a single-clause structure, sentences containing modals in some respects resemble two-clause structures, as suggested in early analyses of auxiliaries as main verbs (e.g. Ross 1969).

ii. Some elements of the conceptual content associated with modals remain hidden or implicit in grammatical structure, such as the act of permission or obligation itself, or the fact that obligation in deontic must or permission in may prototypically comes from the speaker, as in sentence (1), which is essentially equivalent to sentence (2):

(1) You may use my car to go to the disco tonight.
(2) I permit you to use my car to go to the disco tonight.

This is readily explained if we think of modals as reference point constructions, which normally provide mental access to a target and are often backgrounded or omitted altogether when the target has been reached. This may have led to a tendency in some early cognitive analyses to exclude these factors from conceptual structure altogether.

iii. In cognitive grammar (at least) epistemic modals are regarded as grounding predications, a reference point construction (Langacker 1991, 2004; Pelyvás 1996, 2006; cf. Section 2.4.2).\(^1\)

iv. In their conceptual structure, modals resemble cognitive predicates (e.g. think, believe, expect, etc.) which, although traditionally analyzed as matrix predicates, often display exceptional syntactic behavior (such as long-distance movement, raising or exceptional case marking in generative terms), exhibiting clear signs of a structure resembling a single clause (cf. Langacker 1995: 48–51; Pelyvás 2006: 129–134).

The conceptual structures initially set up for modals in terms of forces and barriers did not prove very successful in accounting for these properties (cf. 1.2), nor did they provide a firm basis for the extension of the root senses into the epistemic domain (cf. Pelyvás 1996, 2006). In this paper we will examine how certain details of the exceptional syntax of modals can be motivated by the more fine-grained conceptual structures proposed in Pelyvás (2000, 2006), which replace barriers with matching forces and associate the participants of the deontic scene with them.

The paper examines whether Langacker’s (1999) notion of the action chain is applicable to the conceptual structures obtained in this way, concentrating on two areas in the conceptual structures of English deontic must and its Hungarian equivalent kell: one is the dual role of the doer (surface subject), which can motivate alternative case marking. While in English the subject is always in the nominative case (We must go), in Hungarian kell ‘must’ the doer may be expressed in the nominative or dative case.

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1. The reference-point construction is seen as transitional or dynamic by definition, cf. Langacker (1993: 6).
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(This is also possible with some other deontic auxiliaries, e.g. *kellene* ‘should’ or *lehet*, *szabad* ‘may.’) This raises the question of how profiling changes in the action chain so that this participant can find itself at the head of its profiled portion (Langacker’s definition of a nominative subject).

This question leads to the other concern of the paper: the backgrounding of the source of obligation, or of obligation itself, which can be interpreted as collapsing the non-autonomous portion of the action chain (removal from profile but not from immediate scope), an infrequent phenomenon in other areas of grammar (cf. 2.4.2.).

A comparison of the two languages can lead to a better understanding of the conceptual structures involved in modality and the factors motivating its linguistic coding.

### 1.2 “Pure” force dynamics

In his analysis of modals Langacker notes three factors:

- modals are force dynamic;
- modals present events as potential rather than actual;
- modals are marked by attenuation of subject control: the source of potency is no longer associated with the subject, but becomes implicit and more subjectively construed.

The idea that modals should be analyzed in terms of force dynamics was first formulated in Talmy (1988). Sweetser (1990) offers two alternative conceptual schemas for deontic *must*: one, based on Talmy’s original suggestion, involves a set of barriers restricting the subject’s action to a single act (Figure 1a), while Sweetser’s preferred alternative relies on a compelling force directing the subject towards an act (Figure 1b).

Since, according to cognitive theory, a situation can be construed in different ways, we are not forced to make a choice between the alternatives. But, as pointed out among a number of other problems connected with this analysis in Pelyvás (2000: 240–243), both schemas seem to disregard the potentiality of the situation emphasized in Langacker (1999). If there is one barrier that is lifted, as in Figure 1a, this implies that there is nothing to prevent the only action permitted from actually taking place (as opposed to alternative courses of action). This is at variance with our everyday experience (and also with the rules of formal logic), according to which an action one is obliged or prohibited (negative obligation) to perform need not necessarily take, or not take, place.

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2. Standard descriptions of Hungarian grammar do not use the term modal. In Hungarian the words listed will be simply regarded as auxiliaries.

3. In fact, Pelyvás (2000: 241) suggests that (a) may represent the obligee’s, and (b) the issuer’s side.

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a. A set of barriers restricting one's action to a single act
b. A compelling force directing the subject towards an act

The solid blocks in (a) mark imposed barriers, the dotted rectangle is a lifted barrier. The dotted arrows mark potential action, the solid arrow in (b) stands for Sweetser’s assumed compelling force. The dot in (b) stands for the doer.

Figure 1. Proposed schemas for deontic must in Sweetser (1990)

The alternative schema given in Figure 1b leads to similar problems. The event supported by a compelling force will inevitably take place, again an undesired consequence. In fact, as we shall see in Section 2, this schema is very similar to Langacker’s (1999: 24–38) canonical event model, also known as the billiard-ball model: the prototypical conceptual structure for energetic interaction, which underlies most, if not all, transitive clauses. But it must be admitted that, intuitively at least, this model is rather different from any conceptual structure that may be seen as characteristic of a modal.

In Section 2 we will return to the question of how the force dynamics of a modal relates to the billiard-ball model. But first it is necessary to introduce an alternative conceptual structure for modals in general and for must in our particular case – one that is capable of avoiding the problems referred to above and of accounting for the peculiarities of modal behavior listed at the beginning of this section.

1.3 An alternative: Participants and forces associated with them

To avoid rigidity in the system and the problems of lack of potentiality in the action outlined in the previous section, Pelyvás (2000: 243) proposes replacing the barriers with a system of counteracting forces. The proposal also introduces all the participants relevant in the deontic situation (imposer of obligation and doer/performer of the potential action in the case of must or kell) and associates these forces with them, with the result that at least in the deontic senses the source and target of potency will not be seen so diffusely as suggested in Langacker (1999: 307–308). The imposer is associated with the (compelling) force driving the action that appears with Sweetser as well.
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(c.f. Figure 1b), but the role of the doer will not remain entirely passive either. The doer prototypically performs some sort of action imposed upon him by the imposer. This explains why a deontic interpretation of (3) is strange at best:4

(3) You must find yourself in trouble again soon.

In performing an advised or enforced action, the prototypical doer of an obligation has an agent-like role and can also be construed as active to some extent in the ‘obligee’ role as well: the doer is normally reluctant to perform the imposed action, i.e. his force runs counter to the imposer’s obligation. His force may appear as relatively small or even negligible (depending, among other things, on the relative social status of the participants) but it is seen as the key factor in making sure that the action remains potential.5 At the same time, the doer has an inherently passive role as well: as ‘obligee’, he is at the tail end of the action chain representing obligation.

The conceptual structure obtained in this way consists of two portions. One is *obligation*, an interplay of forces of different strengths between two participants, the other is the *potential action* itself, which remains potential as a result of what happens in the *obligation* portion. Both are essential to the conceptualization of an obligation and need to be included in the immediate scope (marked as *objective scene* in Figure 2 on next page), with the status of the action portion depending on the outcome of the obligation portion.

This conceptual structure shows that two participants appear in double roles.

- The doer appears in the apparently passive role of the obligee (but cf. 2.2) and in the agentive role in the potential action. One interesting question is which of these roles will actually appear in the grammatical structure.
- The imposer of the obligation is prototypically identical with the speaker. Pelyvás (2006: 140–141) argues in detail that in root modality this is correspondence rather than true identity (two distinct roles vs. one role) and that this is an important feature of root modals that distinguishes them from their epistemic counterparts.6

4. Since an epistemic interpretation is acceptable, it may be assumed that this relationship is not carried over in the extension into the epistemic domain, cf. Section 3 and also Pelyvás (2006: 246) for details.

5. Experience shows that people tend to object to most things made compulsory for them even if the reluctance was not there before. One major difference between *must* and *should/ought to* (order and advice) is that in the latter the two forces are construed as being of approximately equal relative strengths.

6. Apart from Hungarian *kell*, discussed here, or English *should/ought to*, where the imposer generally remains implicit, Sanders and Spooren (1997: 97) give a Dutch example that clearly indicates the difference between the two kinds of modals: an external imposer of obligation (different from the speaker) can actually appear in the deontic sense but not in the epistemic sense where the ground is identical with the speaker by definition. On these grounds, Pelyvás (2000, 2006) argues that root modals are not truly grounding predications in the sense of Langacker (1991, 1999, 2004).

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The arrows represent forces, the dotted lines stand for correspondence. The shaded areas mark potential points of interest.

**Figure 2.** Deontic *must*: scopes, grounding added

The Hungarian auxiliary *kell*, the closest equivalent of *must*, does not show this correspondence at all in its deontic sense. As a result, it is more like English *have to* and other semi-auxiliaries expressing obligation:

(4) *(Neked)* alaposan ki kell tisztítanod
You-DAT thoroughly out have-to clean-INF-2nd.SING
a cipődet, mert megbüntet a tizedes
the shoes-2nd.SING.POSS.ACC because punish-you the corporal
‘You have to/must clean your shoes thoroughly or the corporal will punish you.’

The conceptual schema for *kell* (Figure 3) is almost identical with that of *must*, except that the imposer-speaker correspondence is not relevant here.

The conceptual structures outlined in this section for *must* and *kell* (and this applies to root modality in general as well) may appear to be unnecessarily complex since they involve participants, roles and forces that are not ‘spelled out’ in grammatical structure. In fact, it appears that the first portion of the complex relationship (the interplay of forces creating obligation) is entirely ‘collapsed’: the doer only appears as the agent of the imposed potential action and neither of the roles that can be attributed to the speaker in the conceptual structure of *must* can actually be expressed. But I contend that these structures more adequately account for the properties of the modals discussed in 1.1 and 1.2 than its predecessors, for the following reasons.

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1. **Single-clause vs. two-clause structure.** Introducing a participant as the source of obligation (or permission, etc. in other root modals) and a second role for the doer can account for properties reminiscent of a two-clause structure. The counterforce associated with the obligee/doer also resolves the problem of the potentiality of the imposed action (cf. 1.2). In Section 2 we will return to a more detailed discussion of this question.

2. **Elements hidden in grammatical structure** can explain differences in the meanings of modals within the same domain or motivate changes in the use of modals relevant in everyday language. One difference between deontic *must* and *should/* *ought*, for instance, is in the relative strength of the counterforce associated with the doer. Another is that in the latter (weak) obligation is not associated with the speaker and may now be regarded as politically more correct. This may also be one reason why deontic *may* is gradually giving way to a similar meaning of *can* (as in *You can come in now*), especially in American English.

3. **Modals as reference point constructions.** Langacker (1991, 1999) regards modals as reference point constructions (and also grounding predications). The reference point tends to recede into the background once it has provided mental access to the target. Collapsing the first portion of the action chain associated with them, to be discussed in 2.4.2., is well compatible with such an analysis.

4. **Similarity with cognitive predicates.** Conceptual and grammatical structures associated with cognitive predicates reveal much of what appears in the conceptual
structures of modals but remains implicit in their grammatical structures, cf. (1) and (2). In 2.2 we will argue that modals and cognitive predicates may be complementary in the sense that the part of conceptual structure that remains hidden in one of them is often made explicit in the other.⁷

1.3.1 Case marking on the doer

In Section 2 we will examine how the dual role of the doer assumed in our extended force dynamic model can motivate an important choice in grammatical structure: the case marking of the subject in sentences containing modals. We will still concentrate on deontic must and kell, but the findings can probably be extended to other deontic modals as well. In Section 3 we will examine how case marking extends to epistemicity, a domain in which its motivatedness already becomes more problematic.

The two different roles played by the doer in the two portions of the action chain postulated for modals can motivate the non-nominative case of the subject with deontic auxiliaries. In some nominative languages, as in Russian, this is indeed the only option, and dative subjects can optionally appear in Romanian and Hungarian. In (5) we give a Hungarian example. (5a) is the standard, (5b) is conversational or colloquial:

(5) a. Neked ki kell tisztítani/(od) a
    You-dat (out) must clean-inf-(2nd.sing) the
    cipődet.
    shoes-acc.-2nd. sing.poss.acc

    b. Te ki kell, hogy tisztítsd a
    You-nom (out) must that clean-2nd.sing.imp the
    cipődet.
    shoes-2nd.sing.poss.acc

    ‘You must clean your shoes.’

The structure in (5a) has a remarkable optional feature: a personal ending on the infinitive, which is highly unusual in Hungarian and only occurs with some modals. Its function is to mark concord of a non-finite verb with a non-nominative form that is, for this reason, to be regarded as a subject.

Non-nominative case marking and subject status appear to be in conflict in a nominative language and would be hard to resolve relying on the billiard-ball model alone. The next section will be devoted to an analysis of those properties of the conceptual structure of modals that can provide the underlying motivation for this construal.

2. Deontic modals and the billiard-ball model

We are now in a position to compare our action chain proposed for deontic modals with Langacker's (1999) billiard-ball model representing the prototype of energetic interaction on the semantic plane and a transitive clause on the syntactic one.

We mentioned in Section 1.2 that force dynamics was originally developed to describe the conceptual schemas underlying constructions with modals. Langacker's (1999) billiard-ball model, by contrast, was meant to describe the conceptual schemas underlying transitive constructions. As a result, any incompatibilities between the two found in this section are not to be taken as a criticism of the billiard-ball model. We will only attempt a comparison of the most important properties of the two models, registering the major differences and drawing conclusions. We are mainly concerned with the questions of how and why the conceptual schemas differ, and how these conceptual differences motivate grammatical structures. After a brief introduction to the model, this discussion will concentrate on four areas:

– the introduction of further (locative or experiencer) participants in the action chain;
– the implicitness or ‘collapse’ of part of the action chain;
– the role of the experiencer in the extension;
– the grammatical expression of the role(s) of the patient/experiencer argument.

2.1 Langacker's basic model of energetic interaction

Langacker (1999: 23) defines the billiard-ball model as one of the conceptual archetypes underlying the canonical event model. The prototypical grammatical realization of this model is the simple transitive clause, but numerous extensions are possible (cf. Langacker 1999: 29), often involving the inclusion of further participants. At least some transitive clauses can be analyzed as having a conceptual structure consisting of two portions (or sub-events) that jointly constitute an action chain. Consider the sentence in (6):

(6) John opened the door.

in which ‘the door opening’ can be conceptualized as an autonomous process, while 'John's action of opening' can only be conceptualized as non-autonomous and often as agentive or causal, as illustrated in Figure 4.

In Section 1.2 we noted that Sweetser's preferred force-dynamic model for must (given in Figure 1b) shows a deceptive similarity with this model – one reason to postulate for the modals a distinct alternative conceptual structure involving participants and forces associated with them.

8. The other is the stage model, a reflection of (stative) perceptual experience.
2.2 Extensions from the prototypical action chain

One way of finding out more about the similarities and differences between the force dynamic model developed for the modals and Langacker’s action chain is by examining those extensions from the latter which affect the role of the patient argument – the putative (near-)-equivalent of the doer in the schema suggested for the modals. We will now consider three possible ways of extending the model.

The first case is perhaps not very frequent but quite intriguing and betrays a lot about the nature of the processes involved. Consider the often quoted example in (7):

(7) John sneezed the napkin off the table.

This sentence integrates two situations normally seen as only loosely related into one closer-knit action chain (or interaction) in a conceptual blend, forcing a participant (the napkin) into a ‘new’ patient role at the tail of the first portion. This portion is now seen as non-autonomous, but originally it would not be regarded as such, since it would lack the participant whose identity is normally the strongest factor in linking the situations.9 The result is what could be called a ‘quasi-transitive’ structure (cf. Fauconnier & Turner 1996).

A second way of extending the schema is the addition of further participant roles, which is always a mark of greater conceptual complexity. The new element is often a ‘dynamic locative’ marking the course of some participant in the process conceptualized as autonomous.10 This situation is illustrated in (8):

(8) John kicked the ball into the net.

When the target role of the non-autonomous process is construed as human, the general principle of the flow of energy may suffer, since that participant rarely remains entirely passive. It typically has an agent-like role in the process normally conceptualized as autonomous (reducing its autonomous nature in this way) and may also become

9. Other factors are agentivity or intentionality, which are also absent here.
10. Note that this also applies to the processes creating (7).
more active in the non-autonomous part. This role is no longer “exclusively down-
stream” in the sense of Langacker (1999: 30). Examples of structures of this kind are
given in (9).

(9) a. The sergeant ordered his men into the icy river.
    b. John argued Mary into a frenzy.
    c. John argued Mary into submission.

It could be argued that the degree of the object argument’s initiative in the autonomous
part (or target portion) increases significantly from (9a) to (9c), since the men invari-
ably end up in the river. (This would not apply to the situation in (10)). Mary’s frenzy
can be seen as coming at least partially from her own physiological or subconscious
mental processes, while her submission is likely to be a result of some degree of consid-
ered decision. The object argument’s initiative is also increased somewhat with respect
to the non-autonomous part in (9b) and (9c) with the appearance of mental processes.

The examples in (9) also mark a third operation in extending from the prototype,
which is collapsing part of the action chain into the grammatical units of an NP, a PP
(or an AP, as in Frank washed the shirts clean), which backgrounds the nature of the
action involved in that part. In the examples under (9), the portion collapsed was
originally always conceptualized as autonomous. This operation seems to counterbal-
ance to some degree the reduction in autonomy of this portion brought about by the
introduction of a human participant (discussed in 2 above). Compare (9a) and (10):

(10) The sergeant ordered his men to jump into the icy river.

In (10), the probability that the men actually jumped into the river is significantly
smaller than in (9a). In the “collapsing” sentence (9a), the action element remains
implicit; as a result, a default action (like jumping) is implied but our attention is fo-
cused upon the other elements of the action chain, in particular its goal/tail. Collaps-
ing part of an action chain thus may be an important tool in marking a sentence as
factual (cf. Langacker 2004).

2.3 Profiling, case marking and the experiencer

Unlike in an ergative system, in nominative languages subject/object status and the
case endings assigned to them are not directly associated with semantic roles. A nom-
inative marks the head of the profiled portion of the action chain and an accusative its
tail regardless of whether the portion in question is conceptualized as autonomous or
not (cf. Langacker 1999: 35–38). More directly related to (construed) semantic roles is
the dative case, which typically marks the experiencer. But even this relation is medi-
ated by factors of profiling since, through the logic of the nominative system, the

11. This will be prototypical in deontic modals, cf. the counterforce associated with reluc-
tance in 1.3.
experiencer can also take the nominative case when it marks the head of the profiled portion of the action chain. At the tail end, it typically takes the dative case or a particular prepositional adjunct, as in This appeals to me. But it may not always be easy to define which portion of the chain the experiencer actually belongs to, or which portion is profiled (and to what extent), especially in deontic modals. This motivates a nominative/dative alternation in experiencer-like roles that does indeed occur in some languages, e.g., in Hungarian. It will be shown that this phenomenon is perfectly compatible with the dual nature of the doer (cf. 1.3.1). Langacker (1999: 31) uses the term experiencer for a human participant in the way described above, and also emphasizes its dual nature.

2.4 Dual role of a participant: Case marking of the doer in deontic must and Hungarian kell

It is now clear that (in its intermediacy) the dual nature of the doer with deontic must and Hungarian kell (and of deontic modals in general) is comparable to the dual role of the experiencer of a complex action chain in Langacker’s sense, in which the experiencer is a target (energy sink) and a source at the same time. But it is also apparent that there are differences as well: the task of this section is to decide how substantial they are and how they motivate different grammatical structures. We will be concentrating on the two shaded problem areas marked in Figure 2: the dual role of the doer and imposer-speaker correspondence.

2.4.1 Experiencer vs. doer

In the billiard-ball model the experiencer (e.g., his men in (9a)), though human, is mostly conceptualized as simply relaying the energy received from the source – hence the collapsibility of the autonomous part of the action chain: the action initiated by the source can more or less be taken for granted (cf. 2.2.). This never happens in modern English modals since they have already lost their ability to take direct objects in the OE period.

In sentences with a deontic modal, the doer is conceptualized as inherently having energies that can to varying degrees counteract the energy coming from the source. In addition to being (potentially) active in the target, the doer is also (potentially) active in the source. In fact, with must or kell, the doer’s action in the target depends to a great extent on his relative strength in the source. (This is essentially different from the relatively inert experiencer role in the billiard-ball model: it is more like hitting a potentially explosive target with a billiard-ball.)

This arrangement would motivate either of two cases for the doer in structures with deontic modals:

12. Lightfoot (1979) sees this change as accidental, but Pelyvás (2001b: 112–115) argues that this is an early symptom of increasing conceptual complexity, the first step in a series of related changes that led to the development of modern English modals.
the dative could mark a participant, who is nevertheless not fully inactive, at the
tail end of a process construed as non-autonomous;

- the nominative would mark the agent and head of the potential target process,
which is not conceptualized as fully autonomous owing to the active nature of the
doer. The nominative is also motivated to some extent by the doer’s potentially
active role in the non-autonomous source process (even though he is at the tail),
and by the reference point nature of modals. As reference points and grounding
predications, they have a tendency to shift prominence to the target (to be dis-
cussed below), which again concerns the issue of profiling within their conceptual
structure.

2.4.2 The non-autonomous portion: Source of obligation

In deontic modals the portion of the action chain conceptualized as non-autonomous
(the source portion) is invariably collapsed (removed from profile but not from im-
mediate scope), in both English and Hungarian, cf. (1) vs. (2). This is extremely rare in
clause structure elsewhere: by all evidence the conceptual content of the collapsed por-
tion remains active but is not realized overtly, a factor that may be responsible for
viewing in the 1960s sentences with modals as perhaps having a two-clause structure
(cf. the comparison of cognitive predicates and deontic modals in Section 1.1.).

If we nevertheless assumed that the imposing portion of the action chain
(the imposer – imposee relationship) was not profiled at all, then the nominative case
of the doer as head of the profiled ‘potential action’ portion of the chain would be
fully motivated. But the problem remains that the collapsed part cannot be entirely
disregarded according to the analysis of the conceptual structure of modal sentences
given in Section 1.3. It must be included in the immediate scope (OS) since its partici-
pants and the forces holding among them are essential for the adequate conceptualiza-
tion of a deontic modal. There is also grammatical evidence that this is so: deontic
modals cannot take progressive or perfect complements since that would not be com-
patible with the nature of permission or obligation. This is not necessarily the case in
epistemic modals. As we will see in Section 3, a change in immediate scope motivates
a number of differences between the two kinds of modality.

Reference points. The answer to this dilemma of ‘fuzzy’ profiling may lie in the ref-
erence point properties of all modals regardless of whether they are analyzed as ground-
ing predications.13 A grounding predication is, by definition, a reference point
construction, since it is the ephemeral nature of the reference point that makes sure that
the profile determinants of the finite clause remains the grounded head (cf. Langacker

13. Langacker (1991, 1999, 2004) maintains that modals (both deontic and epistemic) are
grounding predications. Although Pelyvás (1996, 2000, 2006) argues that the differences in the
conceptual structures associated with the two kinds of modality are great enough to warrant
regarding only epistemic modals as grounding predications, that model is still compatible with
a reference point analysis of deontic modals as well.
The implicit issuer of an obligation or a permission giver in a construction with a deontic modal can also be analyzed as a reference point.

The essence of a reference point in conceptualization including language is to “invoke the conception of one entity [the reference point, R] for the purposes of establishing mental contact with another [the target, T]” (Langacker 1999: 173). Once the target has been contacted, the reference point often recedes into the background to give prominence to the target T, a factor that can explain why the source portion in the conceptual structure of a deontic modal can show signs of being both profiled and unprofiled.

Reference points frequently remain unexpressed when, owing to the natural salience of the speaker, they are identical with that participant (cf. Pelyvás 2001a: 199–200). This naturally accounts for the ‘collapse’ of the non-autonomous part of the action chain. This process is, however, a matter of gradience: in Hungarian kell, unlike in English must, the issuer of the obligation is not necessarily the speaker, so that a stronger ‘trace’ of the reference point and a non-nominative option for the doer may be expected. But we admittedly do not have this option in English should, ought to, or have to, even though they are quite similar in this respect to kell.

For the doer, reference point status of (part of) the non-autonomous portion has the consequence that at one point in the comprehension process it may appear at the tail of the reference point process, but at the next, as attention shifts to the target, it is conceptualized as the head of the profile determinant target. This motivates a dative or a nominative, either of which can be realized in Hungarian (cf. (5)), but only the latter in English.14

3. The limits of motivation: Extension into the epistemic domain

3.1 The nature of the epistemic domain and case marking

As discussed in detail in Pelyvás (2000, 2006), the extension of modal meanings into the epistemic domain involves far more complex changes in conceptual structure than

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14. Romanian, as described in Pelyvás (2002: 107), seems to add a further dimension since, along with the standard nominative option it also permits an alternative conversational dative construction, but only with human subjects:

\[
\text{Copilului i} \text{trebuie să mănânce.}
\]
Child-dat Pers pr. 3rd pers.dat must conj. eat-subjunctive

In our terms this means that the tail of the non-autonomous portion of the action chain can only leave a ‘trace’ on grammatical structure in Romanian when it is elaborated by a participant that is really affected: can be permitted or compelled to perform actions and is capable of exerting a potential counterforce. This option is not available in the epistemic sense where the distinction would remain unmotivated, cf. Section 3.

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metaphorical extension normally would. This is attributed to the significant differences between the deontic source and the target and the Invariance Principle, which guarantees that only those properties of the source that are compatible with the target are carried over in the extension. The net result of the changes is very similar to what Langacker (1999: 308, quoted in Section 1.2) describes for all modal meanings as attenuation of subject control. There are two processes in the extension to the epistemic domain that affect participant roles in fundamental ways.

The first process is a restriction of the immediate scope (OS) to exclude most of the force dynamics that was essential to the prototypical deontic meaning. No obligation is imposed on any of the participants, nor is the original ‘doer’ of the deontic sense reluctant to perform a purposeful act (cf. (4) and the discussion in 1.3). This change is no longer seen as the ‘collapse’ of otherwise essential semantic content, since it also motivates major differences in possible grammatical constructions for epistemic modals (cf. 2.4.2).15

The second process is subjectification, i.e. the extension of the overall scope to include the speaker/conceptualizer directly (rather than by correspondence) as reference point in a grounding predication.16 The only remaining force in the epistemic situation is associated with reality unknown to the speaker/conceptualizer. This analysis is in agreement with Langacker’s account of epistemic modal meanings in terms of a dynamic evolutionary model (Langacker 1991: 275–281). Figure 5 illustrates the conceptual structure associated with epistemic must.

We do not have the space here to examine the resulting grounding predication in any detail, but it is evident from Figure 5 that the overall effect of the extension is that the portion of the action chain conceptualized in the deontic sense as non-autonomous disappears in the epistemic sense. This certainly applies to the former dual role of the doer: the only force remaining in the situation that can qualify the force representing the speaker/conceptualizer’s epistemic commitment is associated with some ‘nebulous’ source. This radical change of the (former deontic) doer’s situation would predict that it can no longer appear at the tail end of any kind of action chain in this sense and thus any non-nominative case marking is left unmotivated. The prediction is that, like non-speaker issuers of deontic obligation in Dutch (cf. Sanders & Spooren (1997: 97), non-nominative doers will also have to disappear in the epistemic sense.

15. The process can again be seen as gradual, since this restriction of scope frequently occurs as early as the ‘wide scope’ deontic meanings of should and ought to.

16. Apart from the Dutch example mentioned in Note 6, English should and ought to can provide evidence here. The epistemic sense of these modals is in fact a blend between a deontic and an epistemic reading, often referred to as deontic overtone. The probability judgment The passengers should all be dead by now would be far more likely to come from the person who planted a bomb on the plane than from an impartial observer. What makes this especially relevant here is that in the ‘true’ deontic sense the imposer is normally not the speaker. For details, see Pelyvás (2006: 145).
1. restriction of OS – no difference left between *must* and *kell*
2. Subjectification (extension of overall scope to include conceptualizer)
3. The speaker’s epistemic commitment qualified by forces of unknown reality

**Figure 5.** Extension of *must* into the epistemic domain

Since no non-nominative subjects can occur with the English modals, the prediction cannot be checked in English. It is borne out in Romanian, where the possibility of dative human subjects is no longer available in the epistemic sense. In Hungarian the situation is more complicated. The root to epistemic extension is far less regular than in English, but for *kell*, where it is possible, an unmotivated dative subject remains an option in the epistemic sense as well, mainly in informal spoken language, cf. (11):

(11) a. Standard Hungarian
   \[\text{Jánosnak itt kell lenni(e) valahol.}\]
   John-DAT here must be-INF-(3rd.sing.) somewhere

b. Spoken Hungarian
   \[\text{János itt kell, hogy legyen valahol.}\]
   John-NOM here must that be-3rd.sing.imp somewhere

At this point we may seem to have arrived at the limits of motivation for this structure.

### 3.2 Possible motivations

Provided that the analysis of the conceptual structures given above is correct and that a dative subject is no longer clearly motivated in the epistemic sense, its retention in epistemic *kell* may be accounted for by a number of secondary motivating factors or by their combined effect.
First, there seems to be a tendency in metaphorical extension to preserve in the target domain grammatical structures associated with the source unless they are clearly incompatible with the target, as in *We were painting the town red last night when..., used in the figurative sense of having a noisy party in the streets in the small hours. In the source domain the action would be telic, in the target it is not so: the meaning of the progressive would change in the extension. This tendency may even be stronger with grammatical categories, in other kinds of grammatical change as well. Lightfoot (1979: 105–108) argues that in the transition from an underlying SOV to SVO order in English there was a tendency to preserve a uniform syntax for the modals.

Second, since the grammatical functions subject and object are abstractions (primary/secondary figure or head/tail of the profiled portion of the action chain) and are not directly associated with specific semantic roles, their selection is accompanied rather than determined by case marking. Since the Hungarian structure containing kell has alternative means of expressing subjecthood (concord on the non-finite form, cf. 1.3.1. and also (11a)), case marking may not be crucial in this case.

Third, there may be a time factor in operation: the epistemic senses of modals may be too recent for clear linguistic differentiation to have taken place. Although I do not have reliable data in this respect, my intuition is that the nominative version given in (11b), although still conversational, is closer to being fully accepted in the epistemic sense than in the deontic one. This would mean that the no longer motivated form is slowly giving way in the epistemic sense to the fully motivated one.

Fourth, as we have seen, especially in Section 2.4.2, the structures associated with grounding predications are not very clearly analyzable. It is often not easy to define where exactly profiling of an action chain begins in a grounding predication.

Fifth, as Langacker (1999) notes, we may have a case of attenuation (rather than total loss) of subject control (in the epistemic sense). If this is the case, then the dative may still mark the end of some sort of chain, cf. It likes us not, a structure involving an experiencer that was not uncommon in English in Shakespeare's time. This may also be a hint that the epistemic meanings of modals could perhaps also be appropriately described in terms of the stage model, with the speaker/conceptualizer passively registering sensations (cf. 2.3.).

Sixth, conceptual integration (blending) of the two senses may be a factor in preserving the form that is unmotivated only in the epistemic sense. In (12) it would not be easy to decide whether we have a not very prototypical (‘wide’ scope) deontic sense (perhaps intrinsic necessity) or an epistemic one:

(12) Valahol itt kell lenni(e) a kocsimnak.
somewhere here must be-(3rd.sing.) my car.

Világosan emlékszem, hogy ide parkoltam.
clearly remember-(1st.sing.) that here parked-(1st.sing.)

‘My car must be around here. I distinctly remember parking it here’

A sophisticated English example with must comes from Kingsley Amis:
(13) Bertrand must not be a good painter; he, Dixon, would not permit it.  

This is again probably best analyzed as a blend, since the deontic and epistemic senses are activated simultaneously. The epistemic sense emerges because the typical deontic sense of prohibition would not apply: ‘(not) being a good painter’ cannot be seen as imposed potential action (see the discussion of (3) in Section 1.3). Yet the negated form *must not* excludes an epistemic reading and an (ad hoc) deontic interpretation is corroborated by the second clause.

4. Conclusions

The aim of this paper has been to explore the conceptual/semantic motivation behind case marking on the subject (the doer) of clauses containing English *must* and Hungarian *kell*. On the basis of English alone, the nominative appears to be unproblematic since it is well compatible with Langacker’s (1999) definition of the subject in nominative languages as ‘head of the profiled portion of the action chain’. An alternative dative case in Hungarian *kell*, combined with the clearly semantic factor of a *human vs. non-human* distinction motivating the choice in Romanian however, might suggest that the situation is perhaps more complex than anticipated.

In search for factors motivating non-nominative case marking, the paper compares the detailed conceptual structures suggested for root modals in Pelyvás (2000, 2006) with Langacker’s analysis of the prototypical action chain for transitive clauses (the billiard-ball model). It reveals that the two structures, although superficially similar, differ substantially in at least two respects.

They differ in their way of conceptualizing the role of the participant at the interface of the two portions of the action chain: the *patient* in the billiard-ball model and the *doer* in the conceptual structures for *must* and *kell*. The main difference is that the *doer* needs to be conceptualized as potentially active, not only in its agent-like role in the *imposed action* portion (which, for this reason, cannot be construed as entirely autonomous), but also, more significantly, in the sense that the doer’s reluctance (in the *obligation* portion) to perform this action is essential in construing the imposed action as potential rather than actual. This (potentially) active role at the tail of this portion of the action chain can motivate a dative case marking for the doer.

The two structures also differ substantially in the relationship of the profiled and unprofiled portions. While in the billiard-ball model the autonomous portion can indeed be construed as autonomous (e.g. in *The window broke* or *The witness collapsed* it is not inevitable to include some external agent or force responsible for the event), this, as we have seen, is not the case in the conceptual structure for modals. Profiling only the potential imposed action is largely the result of the reference-point nature of constructions with modals, which involves a shift of attention from one portion of the
chain to the other (cf. the near-identity of (1) and (2), which would not apply to *The window broke* vs. *The wind broke the window*).

If the profiled portion of the action chain cannot be determined without doubt, it is a natural consequence that head vs. tail positions or respective semantic roles in the different portions cannot be determined with full certainty. Since case marking is largely motivated by these factors, this property of modal conceptual structures can motivate different case marking options in different languages.

Finally, several possible motivational factors have been suggested to resolve the issue why alternative dative case marking of the subject extends to the Hungarian epistemic meanings, where this choice may no longer be so strongly motivated as the motivation rooted in the force dynamics of the deontic senses.

References


