Criteria for auxiliaries in Hungarian[1]

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1. Introduction

This paper is an attempt at examining whether there is a class of auxiliaries in Hungarian, and if so, what distinguishes them from the rest of the verbs. The initial hypothesis is based on the fundamental distinction between lexical and functional categories: whereas both can have complements, in the case of the former, complements are assigned thematic roles, while functional categories in general do not have thematic grids at all. Thus, for example, an article, i.e. an item of the category D, belongs under a functional category because, even though it can never stand without a complement, it never assign its NP complement any thematic role. If the NP can have a thematic role at all, it is discharged by some head to the dominating DP, either in a Spec-head (external argument) or a complement-head relation (internal argument).

The target of our investigation is the class of elements, which has perhaps been most prone to equivocation and misunderstanding in Hungarian linguistic tradition: auxiliaries. First, I will survey the literature and identify three positions, which have come to different conclusions although they may very well have determined identical classes. Then I will reproduce one of the most comprehensive summaries of the properties of auxiliaries in the languages of the world with the purpose of applying them to Hungarian. This will lead to various new classifications of the verbs concerned, of which the one based on the capability of having a thematic grid proves to be most promising. In section 3 I review the tests by which thematic roles are identified, and show that a number of verbs have no thematic grids. These are the ones considered to be 'central' auxiliaries, for which further evidence is provided in section 4. Their precise lexico-syntactic characterization is given in section 5. Finally, in section 6 some of the 'quasi-auxiliaries' are analyzed, since they appear to be similar to central auxiliaries in at least some of their properties.

If the central auxiliaries have no thematic discharge, then they are functional categories or at least form a special subclass of verbs. Consequently, we have to revise our traditional notion of auxiliaries in order to accommodate the findings reported here.

2. Auxiliaries in general

2.1. Auxiliaries in the Hungarian linguistic tradition

In the Hungarian literature three widely differing views can be discerned. Traditional grammars (Tompa (1961), Bencédy et al. (1968)) merely list what they call auxiliaries, namely, *fog* 'Future, will' and *volna* 'Past Conditional, would have (been)'. To these Keszler (1995) and Lengyel (1995) add various forms of the copula *van* 'be', *lesz* 'be-Future, become', and the verbs *múlik* 'pass [used in expressing age and time]'[2] and *marad* 'remain'. They make no use of formal or distributional criteria, but refer to their 'value of inflectional affixes'. In our terminology this

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[2] As in *húsz éves múlt* '(he) twenty years passed = he's over twenty'; and *öt óra múlt (két perccel)* 'five o'clock passed (with two minutes) = two minutes past five'.

amounts to saying that they are words, but substitute for, or have the same function as, inflectional affixes.

Kálmán et al. (1986, 1989) determine the class of auxiliaries by means of rigorous distributional criteria. According to the attributes relevant to them, any verb is an auxiliary that (i) occurs with an infinitival complement, and (ii) in a neutral sentence (a) cliticizes onto the main verb in case the verb has no verbal prefix (or preverb), cf. (1a), or (b) is between the prefix and the main verb otherwise, cf. (1b).[3] This classification of verbs and the accompanying terminology has been influential and adopted by many, notably by Farkas and Sadock (1989), among others.

1 a. Anna fut-ni akar.
Anna run-INF wants
'Anna wants to run.'

b. Anna ki akar fut-ni.
Anna out wants run-INF
'Anna wants to run out.'

They add that the more the verb 'tends' to be finite, the higher it is in the hierarchy of 'auxiliariness'. Their full list has 19 items, and includes a predicative adjective and a nominal as well.

2 *akar* 'want', *bír* 'can, be able to', *fog* 'will', *kell* 'must' *kellene* 'should', *kezd* 'begin', *kíván* 'wish', *lehet* 'may', *mer* 'dare', *óhajt* 'long', *szabad* 'is free to', *szándékozik* 'intend', *szeretne* 'would like to', *szokás* '(it is the) custom/habit', *szokott* 'used to', *talál* 'happen to', *tetszik* 'it pleases someone to', tud_1 'can, to be able to', tud_2 'can, to know how to'.

The third approach is represented by Katalin É. Kiss (1987, 1998, 1999), who believes there to be no auxiliaries at all in Hungarian. In the 'flat' structure of the basic Hungarian sentence, i.e., the verb-initial VP, the lexical properties of the verb determine its complements, including the subject, object and infinitival constructions, possibly with their own complements in turn. According to É. Kiss (1999), some of the Hungarian verbs are 'light verbs': in neutral sentences (i) they must be preceded by the verbal prefix of the infinitive (or in the absence of a prefix, the infinitive itself) and (ii) they cannot be stressed. Now light verbs, as argued by Grimshaw and Mester (1977) and Roberts (1997), do not have the thematic capabilities of ordinary verbs, and that is why they must form complex predicates with (the infinitives of) other verbs in Hungarian in É. Kiss's analysis.

É. Kiss is not unequivocal as to whether she opts for a weaker or a stronger definition of light verbs. In the strong interpretation, the light verb is incapable of having thematic grids as such. Since É. Kiss groups the subject together with the other arguments in the 'flat' VP, she

[3] Grammarians distinguish between two sentence types in Hungarian: a neutral sentence has a more or less rigid word order and equal stresses on major constituents. Nonneutral sentences usually have contrastive focus, one or more quantifiers and/or negation in them. For more, see Kiefer and É. Kiss (1994) or Kenesei et al. (1998).

would be prone to espousing the strong view. Roberts' view of light verbs as having no internal arguments in a hierarchical structure but allowing for the subject (i.e. external) argument would constitute the weak interpretation, and that is in fact what É. Kiss should follow, but in a flat VP there is no formal means of distinguishing the subject from the rest of the arguments.

Note that Kálmán et al.'s (1986, 1989) set of 'auxiliaries' is essentially the same as É. Kiss's group of 'light verbs': as regards the end result there is no difference between them. Sure enough, Kálmán et al. had a descriptive, rather than a theoretical, axe to grind: based on such and such criteria this or that list of lexical entries forms a uniform class. Of course, such an approach does not preclude the incorporation of further criteria, and consequently, the establishment of more (sub)classes.

On the other hand, since É. Kiss has always supported the idea of a 'flat' VP, she is prevented from acknowledging Infl as a functional head, as well as an InflP, which could host the auxiliary in Hungarian. The flat structure is responsible also for the proposals in which infinitival constructions are represented as subjectless VPs, whose head is a V inserted from the lexicon together with its unanalyzed *-ni* suffix, cf. É. Kiss (1998).

3	[$_{VP}$ akarja	János	[$_{VP}$ vin-ni	el	Mari-t	Kíná-ba]]
	wants	John	take-INF	away	Mary-ACC	China-ILL

'John wants to take away Mary to China.'

Returning to the problems of classification, we do not challenge the alleged uniform behavior of the predicates listed in (2) with respect to (de)accenting and the movement of prefixes. But this will not thwart our search for a more refined classification in general, or diminish the chance of finding items among them that would better correspond to the criteria of auxiliarihood in particular.

2.2. Criteria for auxiliaries

It is primarily the criteria applied in the approaches reviewed in the previous section that we find deficient: either they are too loose, as in traditional grammars, or they do not exist at all, as with É. Kiss, since she does not even recognize the existence of auxiliaries, or they are too few, as with Kálmán et al., and thus there are more verbs that are classified as auxiliaries than would be acceptable at first blush.

But are there general enough criteria for auxiliaries? Heine (1993:22-24) provides a list of properties from a wide variety of languages and sources. This inventory is quoted here in a somewhat simplified and reduced form, I have omitted 'scare' and double quotation marks around some terms mentioned, and will indicate the characteristics that are relevant to Hungarian by italics, and those that appear to be decisive by bold type. (For Heine's own sources, see his references.)

4 *Properties of auxiliaries*

a. *Auxiliaries tend to provide for a small range of notional domains, especially for the domains of tense, aspect and modality* [and possibly also] negation and voice.

b. *They form a closed set of linguistic units.*

c. *They also occur as main verbs.*

d. *They express grammatical functions but exhibit, to some extent, a verbal morphosyntax.*

e. **They [have] highly defective paradigms.**

f. **They may not be the (semantic) main predicate of the clause.**
g. They may have two free variants, where one is the full form (e.g., *I will go*) and the other one a reduced form (*I'll go*), or one is a clitic and the other an affix.
h. *They tend to be unstressed or unable to receive contrastive stress.*
i. *They tend to be cliticizable* or necessarily clitic.
j. *They carry all morphological information relating to the predicate* [...].
k. While auxiliaries are an obligatory part of finite clauses in some languages, this is not necessarily so in nonfinite or imperative clauses.
l. **Auxiliaries may not themselves be governed by other auxiliaries,** or only by a limited number of auxiliaries.
m. *They do not have a meaning of their own, or do not contribute to the meaning of the sentence but rather are synsemantic or syncategorematic to the lexeme to which they apply.*
n. *They tend to occur separately from the main verb.*
o. They may be bound to some adjacent element.
p. **Unlike verbs, they may not be nominalized or occur in compounds.**
q. They tend to occur in a fixed order and in a fixed position in the clause.
r. **In the presence of an auxiliary, the main verb is likely to be used in a nonfinite form [...].**

The tendencies excerpted (and not given in word-by-word quotation) from Heine (1993) naturally overlap: for instance, (a) and (d), (f) and (m), (h) and (i), or (j) and (r), owing primarily to the fact that the catalog is a result of being compiled from works by several independent authors.

2.3. Universal properties and the Hungarian auxiliaries

Let us now examine some of Heine's properties and see how they apply to the set of Hungarian verbs listed in (2). (4a) holds for all verbs, unless we take it to mean that auxiliaries can express *only* the grammatical notions of tense, aspect and modality. If, however, the concept of modality is defined liberally enough, all of the forms in (2) can be included under (4a), since there are languages in the world with, for example, optative or deontic moods. (4b) is not applicable as a criterion: once we know which verbs are auxiliaries, they will of course form a closed class. (4c) is also circular: again, if we are aware of the list of auxiliaries, then we can ask whether they can occur as main verbs, and if their use as main verbs consists in, say, their complementation by NPs, then only *mer* 'dare' is excluded from the list in (2). (4d) is related to (4a), as was suggested above, and can be used to characterize the putative auxiliary *fog* 'will', which expresses reference to future time in a verbal, rather than some adverbial, form. (4n) states that an auxiliary must be an independent word, rather than an affix, such as the Turkish affix *-sa/se-* 'Conditional', which contrasts with the English auxiliary *would*. With reference to Hungarian, (4h) and (4i) grasp the enclitic nature of Hungarian auxiliaries, as discussed by Kálmán et al. (1986, 1989), see 2.1. But then these traits are exactly the ones that have been used to put the verbs in (2) into a single group, so they cannot break them down into subclasses. Finally, property (4r) requires that the auxiliary govern a main verb, that is, it excludes the copula (and its ilk) from the class of auxiliaries.

The characteristics reviewed so far have but confirmed the difference between the verbs in (2) and all other verbs. Further properties will, however, serve to distinguish subclasses. (4p), to begin with, creates the following two lists, depending on whether or not the verb can be nominalized (together with its infinitival complement), as in *az úsz-ni kíván-ás* 'the swim-INF

wish-NOM; the wish to swim', as contrasted with **(az) úsz-ni kell-és* '(the) swim-INF must-NOM'. Verbs that cannot be nominalized are more likely to be auxiliaries.

5 a. *Nominalizable*
akar 'want', *bír* 'can', *kezd* 'begin', *kíván* 'wish', *mer* 'dare', *óhajt* 'desire', *szándékozik* 'intend', *tud* 'can'
b. *Non-nominalizable*
fog 'will', *kell* 'must', *szokott* 'used to', *talál* 'happen to', *tetszik* 'be pleased to'

Property (4l) is based on similar considerations: verbs, or rather clauses in general (whether tensed or infinitival) can be complements of other categories, but at least some auxiliaries cannot occur in nonfinite complements. In Hungarian if (the nonfinite clause of) a verb is a complement to another verb, it occurs in infinitival form; therefore, the verbs that do not occur as infinitives are suspect of being auxiliaries. The distinction is illustrated in (6).[4]

6 a. *(nem fog) bír-ni úsz-ni* '(not will) can-INF swim-INF; won't be able to swim'
b. *(nem bír) *fogni úszni* '(not can) will-INF swim-INF'

7 a. *Infinitive possible*
akar, bír, kezd, kell, kíván, mer, óhajt, szándékozik, tud
b. *Infinitive not possible*
fog, szokott, talál, tetszik

As seen above, *kell* 'must' (at least in one of its uses, see below in 6.2) has been promoted to the group of 'more common' verbs.

The characteristic of deficient paradigm in (4e), however, rearranges the above lists:

8 a. *Full paradigms*
akar, bír, kezd, kíván, mer, óhajt, szándékozik, szeretne, talál, tud
b. *Deficient paradigms*
fog, lehet, kell/kellene, szokott, tetszik

Thus *talál* 'happen to' has moved up, but the derived forms *le-het* 'may; lit. be-POT' and *kell/kellene* 'must/should' are again among the suspected auxiliaries. But although having a deficient paradigm is an important sign of auxiliarihood, it is by no means a sufficient criterion: English *have* and *be*, for example, do not exhibit gaps comparable to those in the forms of *can* or *must*. In Hungarian *fog* 'will' has no past tense, while *szokott* 'used to' has no present tense, but *talál* has all the required verb forms.

Another paradigm-based classification is realized by examining whether the verbs in

[4] Hungarian has various nonfinite forms in addition to the infinitive; the active (or present) participle: *olvas-ó* 'read-APrt, reading'; the passive (or past) participle: *olvas-ott* 'read-PPrt, read'; the two adverbial adjunct (or *-va/ván*) participles: *olvas-va*, *olvas-ván* 'read-$Prt_{va/ván}$, reading'; and the future participle: *olvas-andó* 'read-FPrt, to be read'. Cf. also Table 1 below. For more, see Kenesei et al. (1998).

question can occur in the several nonfinite forms other than the infinitive. (The three derived forms are again missing.)

9 a. *Nonfinite forms possible*
akar, bír, kezd, kell, kíván, mer, óhajt, szándékozik, tud
b. *Nonfinite forms not possible*
fog, szokott, talál, tetszik

The constructions in which nonfinite verbs occur are clauses, whose Infl heads are represented by the nonfinite affix. If we suppose on the analogy of other languages that auxiliaries are inserted under Infl, then it follows that no auxiliary can be accommodated in such a clause. While we will modify this position to some extent in regard to Hungarian further below, the fundamental insight will remain unchanged.

At this stage we can conclude that one set of properties cluster in a particular group of verbs, making them more prone to be auxiliaries, but neither the lack of a full paradigm, nor the absence of nonfinite forms supports the classification without reservation, for it has been shown that auxiliaries in other languages, such as English *have* and *be*, can have nonfinite forms, which indicates that there can very well be auxiliaries in any one of our groups (7-9a). Consequently, further relevant criteria must be sought.

3. The crucial property of auxiliaries: the lack of a thematic grid

The fundamental and distinctive characteristic of auxiliaries is most certainly found in (4f) and the related (4m). Not being able to serve as the 'semantic main predicate' of the clause or not having 'a meaning of their own' is, in terms of current grammatical theory, tantamount to not having the capacity to discharge thematic roles, that is, to being without a thematic grid, and to being forced to be 'parasitic', as it were, in this respect on the thematic roles of any main predicate in its clause. Main predicates can only have argument structures insofar as they ascribe syntactico-semantic properties unchanged in various (lexical or syntactic) operations to the entities denoted by their arguments. Verbs like *gurít* 'roll$_{tr}$' have two obligatory arguments: Agent and Theme, in addition to other, optional ones, such as Goal or Source. The Agent and the Theme occur in the null case as subject and object, respectively, as in: *Péter gurítja a labdá-t* 'Peter rolls the ball-ACC'. The intransitive, or rather, unaccusative, verb *gurul* 'roll$_{intr}$' related to *gurít* by some lexical process (unspecified for our purposes here) has only one obligatory argument, which ends up as the subject, and is identical with the Theme of the latter verb, cf.: *A labda gurul* 'The ball rolls.' If *gurít* is transformed into a passive (or 'past') participle, again the Theme occurs in the subject position: *a gurít-ott labda* 'the roll$_{tr}$-ed ball'. Thus a given thematic role can be accommodated in different grammatical functions (subject, object), depending on the syntactic or lexical operations involved. Thematic roles can be assigned to grammatical items that can be referential (DPs) or express propositions, that is, clauses: CPs or IPs, which are also referential. In other words, no thematic role can be ascribed to adjectival, adverbial or predicative constructions.

It will then be claimed that *an auxiliary is an independent word that has a complement structure in terms of categories, but has no argument structure, i.e., a capacity to assign thematic roles*. Obviously, this aspect had no relevance to traditional approaches, and it bore no interest to distributionally based analyses, as Kálmán et al. (1986, 1989), probably because it was not considered to be 'formal' enough. At this stage two questions arise: i) Is our definition

not the same as É. Kiss's (1999), according to whom all verbs in (2) belong under the same group precisely on this account? ii) How can it be shown that a verb has no thematic grid? If the latter question is answered satisfactorily, the first one will also receive an answer, and if our analysis is 'formal' enough, it may be acceptable even to Kálmán et al. (1986, 1989) as well.

The question of which predicate has or has not thematic roles cannot be directly examined, but it is not impossible to test *what* thematic role some predicate may have. In fact, there are no reliable methods to distinguish most thematic roles, especially as we descend toward the 'bottom' of the hierarchy - what with the number and kinds of various thematic roles (cf., e.g., Dowty 1991, Williams 1994). But there is a foolproof test for at least one thematic role, which more than suffices to carry out our assignment.

The thematic role we can reliably ascertain is Agent, the executor of voluntary, intentional, deliberate actions - as contrasted with Experiencer, the sentient perceiver or subject of mental states or events, or with Theme, which is causally affected or moved, or with Patient, which is directly affected or changed in the course of the action. The Agent test is based on the observation that adverbs like *szándékosan* 'on purpose' or *szántszándékkal* 'deliberately' cannot be used with nonagentive predicates, and furthermore, they cannot be complemented by purpose/rationale clauses (cf. Roeper 1987). The subjects of the sentences below have the thematic roles as indicated.

10 a. Péter szántszándékkal el-gurította a labdá-t. (Agent)
Peter deliberately away-rolled the ball-ACC
'Peter rolled away the ball deliberately.'

b. *A labda szántszándékkal el-gurult. (Theme)
the ball deliberately away-rolled
'*The ball rolled away deliberately.'

11 a. Péter szántszándékkal meg-tudta a kérdés-ek-et. (Agent)
Peter deliberately PFX-knew the question-PL-ACC
'Peter deliberately learned the questions.'

b. *Péter szántszándékkal tudta a kérdéseket. (Experiencer)
Peter deliberately knew the question-PL-ACC
'*Peter deliberately knew the questions.'

12 a. Péter azért gurította el a labdát, hogy az a kör közepé-be kerüljön. (Agent)
Peter so rolled PFX the ball-ACC that it the circle's center-ILL get-SUBJ
'Peter rolled the ball so it would get into the center of the circle.'

b. *A labda azért gurult el, hogy (az) a kör közepébe kerüljön. (Theme)
the ball so rolled PFX that ...
'*The ball rolled so it would get into the center of the circle.'

13 a. Péter azért tudta meg a kérdéseket, hogy átmenjen a vizsgán. (Agent)
Peter so knew PFX the questions-ACC that he-pass the exam
'Peter learned the questions so that he would pass the exam.'

b. *Péter azért tudta a kérdéseket, hogy átmenjen a vizsgán. (Experiencer)
Peter so knew the question-ACC that ...
'*Peter knew the questions so that he would pass the exam.'

Having now presented the applicability of the Agent-test in simple predicates, let us examine the clauses containing infinitival constructions. In accordance with the literature, in the examples below it will be assumed that both the matrix and the embedded clauses have their own subjects, called 'matrix subject' and 'embedded subject', respectively.

Firstly, if both the matrix and the embedded subjects are Agents, it is not clear which is the 'target' of the adverb meaning 'deliberately', or, equivalently, the rationale clause, although different constituent orders may disambiguate the structures. The phonetically empty PRO subject of the infinitive is always controlled by the matrix subject. Bracketing shows intended interpretations; constituents marked by capitals are focussed.

14 a. Péter szántszándékkal nem akarta [PRO elguríta-ni a labdát]
Peter deliberately not wanted roll-INF the ball-ACC
'Peter deliberately didn't want to roll the ball.'
b. Péter nem akarta szántszándékkal [PRO elgurítani a labdát]
'Idem.'
c. Péter nem akarta [PRO szántszándékkal elgurítani a labdát]
'Peter didn't want to deliberately roll the ball.'
d. PÉTER nem akarta szántszándékkal [PRO elgurítani a labdát]
'It was Peter that deliberately didn't want to roll the ball.'
e. PÉTER nem akarta [PRO szántszándékkal elgurítani a labdát]
'It was Peter that didn't want to deliberately roll the ball.'

While (14a) can be said to be unambiguous, (14b-c), and especially (14d-e) are not: whereas it is possible to disambiguate the former by accenting the infinitive and the adverb, respectively, in the pair of (14d-e) it is impossible because of the effect of focus: focus disallows accents to its right.

If, in turn, the matrix and the embedded subjects have different thematic roles, the ambiguity disappears. Since *utál* 'hate' requires an Experiencer subject, the adverb can only be construed in the matrix clause. If it is understood as related to the embedded clause, the sentence will be ungrammatical.

15 a. Péter szántszándékkal nem akarta [PRO utálni a matematikát]
Peter deliberately not wanted hate-INF the maths-ACC
'Peter deliberately didn't want to hate maths.'
b. Péter nem akarta szántszándékkal [PRO utálni a matematikát]
'Idem.'
c. *Péter nem akarta [PRO szántszándékkal utálni a matematikát]
'*Peter didn't want to deliberately hate maths.'
d. PÉTER nem akarta szántszándékkal [PRO utálni a matematikát]
'It's Peter that deliberately didn't want to hate maths.'
e. *PÉTER nem akarta [PRO szántszándékkal utálni a matematikát]
'It's Peter that didn't want to deliberately hate maths.'

The constructions are also unambiguous if the matrix subject has Experiencer thematic role and the embedded subject is Agent.

16 a. *Péter azért utálja [PRO gurítani a labdát] hogy nyerjen.
Peter so hates roll-INF the ball-ACC that he-win-SUBJ
'*Peter [hates to roll the ball] so as to win.'
b. Péter utálja [PRO azért gurítani a labdát, hogy nyerjen]
'Peter hates [to roll the ball to win].'
c. *PÉTER utálja azért [PRO gurítani a labdát] hogy nyerjen.
'*It's Peter that [hates to roll the ball] so as to win.'
d. PÉTER utálja [PRO azért gurítani a labdát, hogy nyerjen]
'It's Peter that hates [to roll the ball to win].'

The Agent-test shows not only which clause has what kind of subject, but also whether a construction has one or more than one subject, which is more important for our purposes here. Although the test itself does not demand for there to be two subjects in (14), it is impossible to construe (15)-(16) with a single subject. This property of the test will be exploited to demonstrate that Kálmán et alii's (1986, 1989) "auxiliaries" or É. Kiss's "light verbs" do not form unified classes with respect to their thematic role discharging capacity.[5]

The verbs in set (2) that are agentive fit into the frame in (15), while the verbs that assign an Experiencer thematic role to their subjects comply with the pattern in (16). The former include verbs like *akar* 'want' and *kíván* 'wish', the latter such as *bír* 'can' and *mer* 'dare'.

However, there is a third group, whose behavior is somewhat surprising: they are unacceptable in the agentive frame of (17), cf. (15a,c), but are fully acceptable in the experiencer template of (18), cf. (16a-b).

17 a. *Péter szántszándékkal nem fogja [utálni a matematikát]
Peter deliberately not will hate-INF the maths-ACC
'*Peter deliberately will not hate maths.'
b. *Péter nem fogja [szántszándékkal utálni a matematikát]
'*Peter will not deliberately hate maths.'
18 a. Péter azért fogja [gurítani a labdát] hogy nyerjen.
Peter so will roll-INF the ball-ACC that he-win-SUBJ
'Peter will [roll the ball] so as to win.'
b. Péter fogja [azért gurítani a labdát, hogy nyerjen]
'Peter will [roll the ball to win].'

Let us now register the members of the three groups of verbs and then inquire into the mystery of the third set. We will classify *talál* 'happen to' under group (c) below, since it satisfies the Agent test only in affirmative clauses and future time reference.[6]

[5] Agentive verbs can be divided into two further subgroups depending on whether they require that the predicates of their complement clauses be agentive, e.g., *szándékozik* 'intend', *óhajt* 'wish', or not, e.g., *szeretne* 'would-like'. I owe this observation to Ildikó Tóth.

[6] The verbs *kell/kellene* 'must/should', *lehet* 'may', *tetszik* 'be pleased to' and the adjective *szabad* 'free, is allowed to' all have dative marked 'subjects'.

19 *Possible auxiliary verbs*

a. *With Agent subjects: akar* 'want', *kezd* 'begin', *kíván* 'wish', *óhajt* 'desire', *szándékozik* 'intend',

b. *With Experiencer subjects: bír* 'can', *mer* 'dare', *tud* 'can'; *kell* 'must', *kellene* 'should', *lehet* 'may'; *szabad* 'free, is allowed to', *tetszik* 'be pleased to'

c. *The "third group": fog* 'will', *szokott* 'used to', *talál* 'happen to'

Since it has been shown that the verbs in (19a-b) discharge their own thematic roles to their subjects, no longer can É. Kiss's (1999) hypothesis of the existence of 'light verbs' with no thematic grids be maintained. In fact, both versions of the hypothesis have been demonstrated untenable. Recall that in the strong version even the subject was left without a thematic role; this position is discredited by the Agent test, which served to distinguish between verbs with Agent and non-Agent subjects.

According to the weak version of the 'light verb' hypothesis, complements receive no thematic roles, that is, light predicates have thematic roles only for their subjects. This option would arise in case of structures illustrated in (3) above. But if, as has been argued, the verbs in (19a-b) require embedded subjects in addition to matrix subjects, then, since both have their independent thematic roles, the complement of the matrix verb must be a clause, rather than a bare VP. It could be claimed in favor of É. Kiss that a VP has a subject in her 'flat' syntactic structure, which is a consequence of her assumption that the verb is inserted into the VP 'full' with its inflection or nonfinite suffixation - without there being any projection of Infl. Thus a VP would in one case be a full thematic argument, and, in another, something equivalent with a VP in the usual sense, i.e., without any chance of having a thematic role. But this is an illegitimate identification of two different categories: clauses (or propositions) and predicates (or functions).[7]32c

If the complement of the verb is a clause, that is, a proposition, it is an argument and must have a thematic role, which renders both the strong and the weak interpretation of the 'light verb' hypothesis groundless: neither of the groups of (19a) and (19b) fit either interpretations. But these verbs ought to have propositional, and therefore, thematic, complements also because all of the mental states and activities denoted by these verbs are intentional in the wide or philosophical sense: they are directed at intended, desired, or possible states-of-affairs from the viewpoint of the philosophy of language (cf. Searle 1983).

In what follows, verbs of group (19a), which denote volitional mental activities will be dubbed *intentional* (in the narrow sense). Verbs of group (19b) express dispositions (*bír* 'can', *mer* 'dare', *tud* 'can') and deontic statements (*kell* 'must', *kellene* 'should', *lehet* 'may').[8] Verbs in

[7] The strong version cannot be maintained for other reasons, as well, as will be clear below. But the weak version can indeed be considered in Hungarian, as exemplified by the process of 'bleaching' verbs in constructions comparable to English *take umbrage/advantage, make headway/progress*, etc., cf. *szám-ba vesz* 'account-into take, take into account'; *indítványt tesz* 'proposal-ACC make', *elintézést nyer* 'arrangement-ACC get, be arranged', etc.

[8] Note that no special attention is given to the eventual epistemic use of the deontic verbs *kell* 'must', *kellene* 'should', for reasons to be discussed in section 6. These distinctions were first discussed with respect to Hungarian verbs by Kiefer (1985) and have been most recently analyzed in view of possible auxiliaries by Tóth (1998), who also opts for the lack of thematic

the subgroup (19b) are unquestionable auxiliaries in a number of other languages, but the Agent test, together with other criteria from nonfinite forms, paradigms, etc., force them into the set of verbs that take complement clauses in Hungarian. They will be called *dispositional* and *deontic* verbs.

To recapitulate, verbs under (19a-b), called **IDD-verbs** for short, are provided with full thematic grids, that is, they have regular complement structures, comparable to those of 'main verbs', and furthermore, their behavior corresponds well with that of (other) main verbs, except for one property: they allow the verbal prefix (or preverb) of the embedded verb to move and cliticize unto them in the neutral sentence (see (1)). These verbs are consequently not auxiliaries.

4. Central auxiliaries

Let us now take a closer look at the group in (19c) and summarize what has been said about them. The verbs here cannot be nominalized and have no nonfinite forms. Two of them have defective paradigms, but the third one, *talál* 'happen to', is regular in this respect. The distinctive property setting them apart from the intentional, dispositional and deontic verbs is their deficiency to assign thematic roles to the constituents in their clause.

In the sentences (17)-(18) the subjects have no thematic role other than what is assigned by the nonfinite verb. If the embedded verb is agentive, rationale clauses and adverbs of the 'deliberately' class pass the test. If the verb is nonagentive, the Agent test fails. This is not affected by the occurrence of the verbs *fog* 'will', *szokott* 'used to' and *talál* 'happen to', wherever the adverb may be placed in the sentence. The test applied so far have shown that these three verbs do not fit the pattern of the rest of the verbs, that is the 'control verbs', since they do not have subjects of their own.

4.1. 'Weather verbs' in construction with auxiliaries

The so-called weather verbs provide a further context in which to examine the behavior of verbs of various classes. There is, to begin with, independent evidence that predicates such as *villámlik* 'lighten', *dörög* '(to) thunder', *be-este-ledik* 'PFX-night-AFX_V = ca. for night to fall', etc., require phonetically empty pronominal subjects that are assigned specific thematic roles as 'weather subjects', that is, if there is any thematic role at all to discharge here.

There are two participial clause types used as adjuncts to predicates in Hungarian (distinguished here by their harmonizing suffixes): the *va*-participle has an un-Case-marked phonetically empty PRO subject controlled by some constituent of the matrix clause - similarly to infinitival clauses; the *ván*-participle has subjects much like finite clauses, since it can be Case-marked and referentially independent, so when phonetically empty, it is a *pro* (Sárik 1998, Tóth 1998, this volume).

20 a. $PRO_{i/*j}$ haza-érkez-ve, $Anna_i$ bekapcsolta a tévé-t.
home-come-$PART_{va}$ Anna turned-on the TV-ACC
'Coming home, Anna turned on the TV.'

b. *Péter hazaérkezve, Anna bekapcsolta a tévét.
*'Peter coming home, Anna turned on the TV.'

---

grid as the most important criterion.

21 a. *pro*$_{i/j}$ haza-érkez-vén, Anna$_i$ bekapcsolta a tévét.
home-come-PART$_{ván}$
'(Someone) having come home, Anna turned on the TV.'
b. Péter hazaérkezvén, Anna bekapcsolta a tévét.
'Peter having come home, Anna turned on the TV.'

Since the subjects of weather verbs cannot be given (dependent) reference, they cannot occur in *va*-participial clauses, cf. Tóth (this volume).

22 a. *PRO$_i$ dörög-ve Anna$_i$ bekapcsolta a tévét.
thunder-PART$_{va}$
*'Thundering, Anna turned on the TV.'
b. *pro*$_j$ dörögvén, Anna$_i$ bekapcsolta a tévét.
'(With) it having thundered, Anna turned on the TV.'

Sentence (22a) can only be construed as 'Anna having thundered', which renders it ungrammatical in this context. Thus weather verbs have subjects with independent reference and, possibly, separate thematic roles.

IDD verbs, too, control the PRO subjects of their embedded clauses: that is why they cannot have weather verbs embedded below them:

23 a. **pro*$_i$ be akart [PRO$_i$ esteled-ni]
PFX wanted night-fall-INF
ca. *'There wanted to be night-fall.'
b. *Nem *pro*$_i$ mert [PRO$_i$ dörög-ni]
not dared thunder-INF
*'It didn't dare to be thundering.'

Since the matrix verbs discharge Agent or Experience roles to their (matrix) subjects, which can therefore be filled only by volitional and/or sentient beings, and because the matrix subject must be referentially identical with the embedded subject, it follows that the embedded subjects must be animate, which is excluded by the weather verbs.

In contrast with IDD verbs, the three verbs in (19c) are perfectly applicable along with weather verbs, which again shows that the verbs in (19c) have no subjects of their own.

24 a. Be fog esteled-ni.
ca. 'Night will be falling.'
b. Nem szokott dörög-ni.
not used thunder-INF
'It's usually does not thunder.'
c. Ha februárban találna kitavaszodni az idén ...
if in-February happened spring-come-INF the this-year
'If it happened that spring were coming in February this year ...'

4.2. Subjectless clauses

Tóth (this volume) argues that in a subtype of participial clauses the subject is neither PRO, nor

pro, but there is simply no subject present. While (25a)-(26a) have subjects, (25b)-(26b) have none.

25 a. A szoba ki van takarít-va.
the room PFX is clean-PART$_{va}$
'The room is cleaned.'
b. A szobá-ban ki van takarít-va.
the room-INE PFX is clean-PART$_{va}$
ca. 'In the room (it) has been cleaned.'

26 a. A bőrönd be van pakol-va.
the suitcase PFX is pack-PART$_{va}$
'The suitcase is packed.'
b. A bőrönd-be be van pakol-va.
the suitcase-ILL PFX is pack-PART$_{va}$
ca. 'In the suitcase (it) has been packed.'

That the sentences without nominative subjects, i.e. (25b) and (26b), are indeed without subject is manifest when they occur with deontic *kell* 'must', whether with or without person marking, cf.:

27 a. A szobá-nak nem kell$_D$ ki-takarít-va len-ni-(e).
the room-DAT not must PFX-clean-PART$_{va}$ be-INF-3SG
'The room needn't be cleaned.'
b. *A szobá-ban nem kell$_D$ PRO$_{arb}$ ki-takarít-va len-ni.
the room-INE not must PFX-clean-PART$_{va}$ be-INF
ca. *'It needn't be cleaned in the room.'
c. *A szobában nem kell$_D$ *pro* kitakarítva len-ni-e.
-3SG
'Idem.'

As is seen in the examples, neither PRO$_{arb}$, whose referent must be human, nor a semantically empty, expletive *pro* can be the subject of the infinitival clause in (27b-c). If, however, verbs of (19c), in particular, *szokott* and *talál* are used, the construction proves impeccable.[9]

28 a. A szobában nem szokott kitakarítva lenni.
the room-INE not used PFX-clean-PART$_{va}$ be-INF
ca. 'In the room (it) isn't usually cleaned.'

[9] The epistemic *lehet* 'may' cannot occur with a copula because it is derived from it. For *lehet* + copula = *lehet*, and *fog* + copula = *lesz* 'will-be', i.e., the synthetic future form of the copula. Therefore, for example,

(i) *ki lehet len-ni takarít-va = ki lehet takarít-va
PFX may be-INF clean-PART$_{va}$ 'it may be cleaned'

(ii) ?ki fog len-ni takarít-va = ki lesz takarít-va
PFX will be-INF clean-PART$_{va}$ 'it will be cleaned'

b. Ha a szobában ki-takarít-va talál lenni, amikor megjössz ...
if the room-INE PFX-clean-PART$_{va}$ happens be-INF when come-2SG
ca. 'If it happens to be cleaned in the room when you come ...'

If then the participle + copula construction has no subject and verbs of (19c) can take them as complements, it follows that these verbs require no subjects of their own, and that their complements need have no subjects either.

4.3. Raising predicates versus auxiliaries

Another piece of evidence for their classification as core auxiliaries comes from their comparison with raising predicates. As is well-known, in one of their construction types raising verbs assign a single thematic role to their complement clause and take an expletive as their matrix subject, cf. (29), and in another, they, in effect, force the subject of their complement clause to move into the matrix subject, as in (30). Note that neutral word order in Hungarian requires the embedded verb, even if it is prefixed, to be placed immediately in front of the raising verb, which is a further, though probably unrelated, difference between our auxiliaries and the group of raising verbs.

29 a. Úgy látszik [Kati olvas]
it seems Kati reads
'It seems Kati is reading.'
b. Úgy látszik [*pro* beesteledik]
it seems night-falls
'It seems that night is falling.'

30 a. Kati olvas-ni látszik
Kati read-INF seems
'Kati seems to be reading.'
b. *pro*$_i$ Beesteled-ni$_k$ látszik [e_i e_k]
night-fall-INF seems
'Night seems to be falling.'

As was argued above, weather-verbs like the one in (29/30b) take phonetically empty *pro* subjects, and assign them some specific thematic role. Thus, such subject *pro*'s may undergo raising, as in (30b), providing for the subject requirement of the Extended Projection Principle, if it is in force, or that of raising predicates, if it is not.

When, however, a raising verb takes a complement clause with a subjectless predicate, the construction is ruled ungrammatical.

31 a. Úgy látszik [a szobá-ban ki van takarít-va]
it seems the room-INE PFX is clean-PART$_{va}$
ca. 'It seems that in the room (it) has been cleaned.'
b. *A szobá-ban ki-takarít-va látszik len-ni
the room-INE PFX-clean-PART$_{va}$ seems be-INF
ca. 'In the room (it) seems to have been cleaned.'

Although recent analyses of verb types in Hungarian did not suspect auxiliaries to be related to raising verbs, since we have shown that the former have no subject arguments of their own, and the latter have always been characterized as such, it was necessary to demonstrate that our alleged auxiliaries are not (a subclass of) raising verbs. Since raising verbs do not allow for subjectless clauses, which prevent them from having a surface subject, they crucially differ from the suspected auxiliaries, which go well with embedded sentences with no subject, as was seen in (28).

All this converges to indicate that verbs of (19c) constitute the class of auxiliaries in Hungarian clustering around the properties given in (32).

32 *Properties of the (central) auxiliaries* ***fog, szokott, talál****:*

a. They have no nonfinite forms.
b. They cannot be nominalized.
c. They have no subjects of their own - whether expletive, or thematic.
d. They allow for subjectless complements.
e. They do not discharge thematic roles; they have no thematic grids/argument structures.

These properties are not all a random cluster. If auxiliaries have no thematic discharge, they cannot have subjects of their own (like raising predicates), and they cannot take clauses, i.e., propositions, as their complements (unlike raising predicates), so even their complements can go without a subject. All other ('traditional') auxiliaries miss at least properties (32d, e), but most go without property ((32c) as well. Thus, the list in (32) provides for a graded classification of auxiliaries in general, from the core auxilaries to 'quasi-auxiliaries' (see 6.1, 6.2), to regular intentional and dispositional verbs, as most of (19a-b).

The two properties distinguishing core auxiliaries in (32d, e) also allow us to draw an analogy with the only other verb that has no thematic discharge: the copula.[10] In this sense, the copula can also be regarded as an auxiliary (much as in traditional grammars, see the beginning of 2.1), except that it has NP, PP or AP complements. Since both the copula and the central auxiliaries are used to indicate the tense (and, to a lesser extent, the aspect) of the predicate, it is reasonable to assume that these four verbs form a special subclass in contrast with the rest of the suspected, (or, in other languages, the 'traditional') auxiliary verbs, which can take complements expressing propositions or can assign a thematic role minimally to their subjects, and therefore have more lexical content.

Whether there can exist complements to a verb that realize no argument structure is, strictly speaking, an empirical question. Some grammatical feature can materialize in one language as an affix, and in another as an independent word, essentially the same complement structure. Such is the case with tense or aspectual affixes and auxiliaries, respectively. In what form they are realized may very well be fortuitous and idiosyncratic properties of languages, or even of a single language, as evidenced by historical data of grammaticalization, or the coexistence of constructions such as English analytic and synthetic tenses or Hungarian

[10] I am grateful for the observations and ideas made use of in the following discussion to Jacqueline Guéron (personal communication), although I do not follow or agree with all of her arguments and inferences.

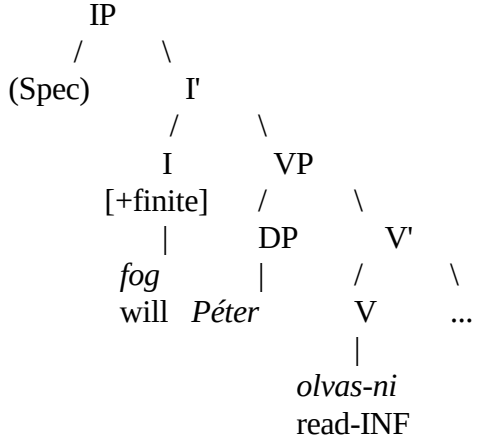
expressions of possibility/permission, cf. *olvas-hat-od* 'read-POT-2SG' versus *lehet olvas-n-od* 'may read-INF-2SG', both meaning 'you may read it'. The more lexical content some form has, the less likely it is to do without arguments. Thus, modal or causative affixes and auxiliaries have thematic grids, while tense or aspectual affixes/auxiliaries do not.

5. Central auxiliaries in the structure of the clause

5.1. Functional categories in the clause

The three central auxiliaries behave in an identical way in that they have no subjects of their own and require infinitival VPs, rather than clauses, as their complements, in which the embedded subject is left without Case. As a first approximation, we will give a schematic diagram, in which the Hungarian auxiliary is sitting in a position comparable to modal auxiliaries in English, which, in turn, are invariably accompanied by finite VPs.[11]

33



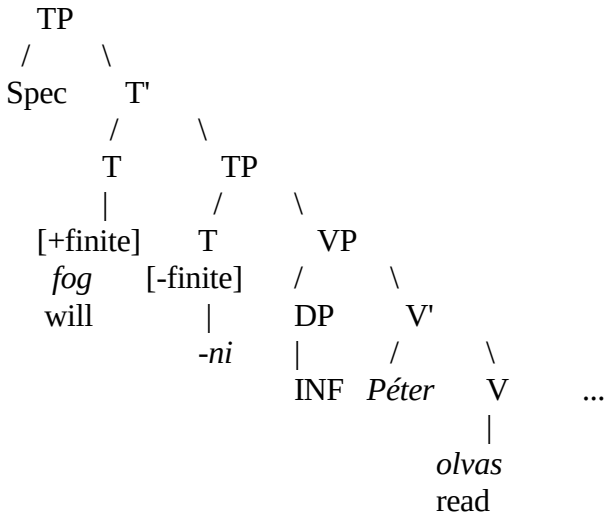
The subject of the VP, *Péter*, is moved into Spec,IP to be assigned nominative by the head I. The embedded verb is in the infinitive, and there are other kinds of movement operation at work even in the neutral sentence, such as the raising of the preverbal prefix, if there is one, or the verb itself, if there is none.[12]

The first difficulty with this proposal lies in the accommodation of the infinitival affix *-ni*. If the head Infl has been "peeled" off the verb, then the VP should contain the bare verb, and the *-ni* affix must find an appropriate category outside the VP. Since *-ni* is in complementary distribution with tense affixes, but not with person marking, i.e. Agreement, it is best placed under a [-finite] Tense head, declaring that the three auxiliaries demand an infinitival, i.e., [-finite] TP.

[11] In what follows, the term *auxiliary* is used to refer the three core or central auxiliaries in Hungarian.

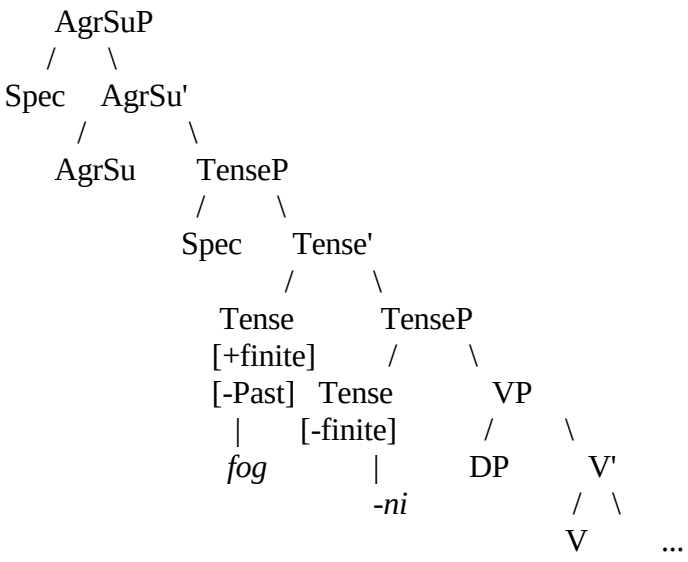
[12] For more on this, see Brody (1997), É. Kiss (1999), Koopman and Szabolcsi (1999), and Bartos (2000).

34



The second challenge consists in accounting for the personal endings on both finite and infinitival verb forms. In other words, an Agr, or more precisely, an AgrSu, head must be added on to Tense, which in turn must be specified as [∀Past] if Tense is [+finite].

35



The subject DP in Spec,VP moves through the Spec,TP into Spec,AgrSuP, where it is checked for its φ-features. In this respect, auxiliaries behave very much like raising verbs. The relative order of functional categories mirrors the order of the corresponding affixes in the verbal inflection: the past tense or infinitival affix is closer to the stem than the personal endings, cf.: *olvas-t-unk* 'read-PAST-1PL'; *olvas-n-unk* 'read-INF-1PL'. Before we give an account of the rest of the affixes, let us review the functional categories "on top of" the inflectional affixes.

36 C > *Topic > Neg > *Quantifier > *Aspect > Focus > AgrSu

The items marked by a star can accommodate multiple constituents. Topic is the position of topicalized phrases, Quantifier is for XPs containing quantifiers like *every* and *no*, Aspect is the

site of aspectual adverbs (cf. Cinque (1998)), and finally Focus is where a single focalized phrase per clause is checked. The order given is only for illustration, no theoretical issues involved are argued here in their regard.

The linear order of inflectional affixes is only one of the points to be taken into consideration in determining the hierarchy of functional heads. Another factor is the order of their mutual dependence, that is, the question of which functional head permits or prohibits which other head to occur. To be sure, AgrSu will have to be above AgrOb (also) in view of the linear order of the corresponding affixes, but Tense is interpolated between them, because the requirement that nonfinite forms have no object agreement, or, equivalently, that only finite forms have object agreement, is stronger than the observation that the linear order of suffixation is Tense > AgrOb > AgrSu, pl. *olvas-t-á-tok* 'read-PAST-AgrOb-2PL'.[13]

37 C > ... AgrSu > Tense > AgrOb > Mood > Pot > VP
[+finite]

Mood stands for the modal affixes *-nA* and *-j*, expressing conditional and imperative/subjunctive moods, respectively, and Pot for the inflectional affix *-hAt*, called Potential here, which expresses both (epistemic) possibility and (deontic) permission. Hierarchy is determined by some kind of 'functional subcategorization' in the lexicon, as in the following list.

38
a. *C* [±___AgrSuP], [+___TenseP [-finite]]
b. *AgrSu* [+___TenseP] [±finite]
c. *Tense* [±___AgrObP], [±___MoodP], [±___PotP], [+___VP]
[+finite]
d. *Tense* [+___VP]
[-finite]
e. *AgrOb* [±___MoodP], [±___PotP], [+___VP]
f. *Mood* [±___PotP], [+___VP]
g. *Pot* [+___VP]
h. *Tense* → [±finite]
i. [+finite] → [±Past]

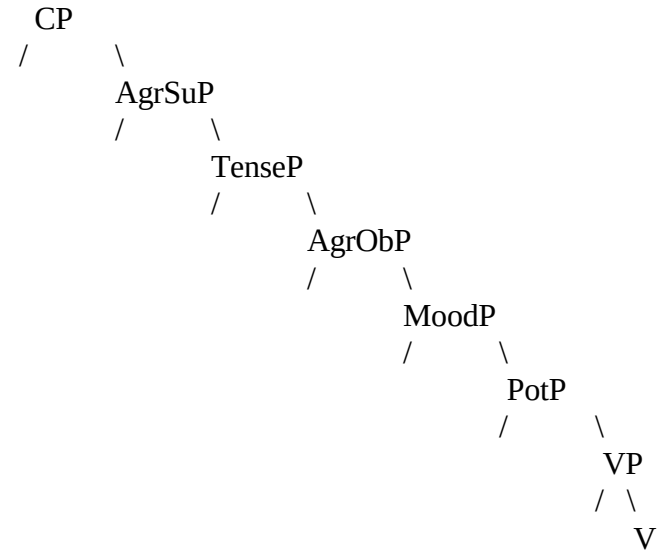
[13] The order presented here differs from the one put forward by Bartos (1999). He relies on the scope hierarchy of affixes regarded as modal operators. Our proposal provides for a better treatment of the auxiliaries, and by a proper calibration of the features it can be made compatible with Bartos's system, which has the following schematic form:

(i) AgrSu > AgrOb > Mod > Tense > Pot > VP

As is clear from the foregoing, we take a more 'conservative' view than Chomsky (1995, 1998, 1999), where Agr is eliminated and the term 'functional category' is reinterpreted as 'core functional category', including, in addition to T and C, also *v*, which has a thematicallz charged external argument.

To elaborate, C can choose between a clause with subject agreement or one with a nonfinite predicate (infinitive or participles of various subtypes) with no agreement on it. If AgrSu is selected, it could be implemented either in a finite or an infinitival clause, according to (38b). If the latter, then (38d) finds VP to be the only choice.[14] If Tense is [+finite], then (38c) can select any one of the options listed, and this process is repeated in (38e,f,g). If the (non)finiteness of Tense is not determined by some head governing it, and if it is [+finite], it can be either Past or non-Past, as given in (38h,i). The simplified hierarchy of functional heads can be illustrated in the following diagram.

39



We are not committed here to some particular version of grammar to account for the emergence of the various verb forms. As one of the possible options we will follow Chomsky (1995), though not in every detail, as must have been obvious from the presence of AgrSu and AgrOb above. It will be supposed that there is no "movement" of lexical items between head positions, but features of the lexical items are attracted by features of heads to be checked. The subcomponent of Morphological Form mediates between the point of "stripping off" of phonological features in the derivation and the Phonetic Form.

The various verb forms can check their features in ways schematically represented below.

[14] A number of further questions are begged here. Among others, we do not show how AgrSu and a [-finite] Tense conspire to yield only an infinitival clause. [+Past] and Mood result in an analytic form, somewhat irregular in an agglutinative language, cf. (40b). Also, no AgrOb is posited in an infinitival clause in view of the fact that no object agrees with an infinitive, but in many, though not all, structures, embedded objects agree with matrix verbs. While these problems are highly interesting, their discussion would lead us too far afield.

	AgrSu	Finit		AgrOb	Modal	Pot	V 'read'	
		+Fin	-Fin					
a.	Y	Y					*olvas-tok*	2PL
b.	Y		Y				*olvas-no-tok*	Inf-2PL
c.			Y				*olvas-ni, olvas-va*	Inf; $Part_{va}$
							olvas-ó, olvas-ott	APart; PPart
d.	Y	Y		Y			*olvas-t-á-tok*	Past-AgrOb-2PL
e.	Y	Y			Y	Y	*olvas-hat-ná-tok*	Pot-Mood-2PL
f.	Y	Y		Y	Y	Y	*olvas-has-s-á-tok*	Pot-Mood-AgrOb-2PL

Table 1. The order of inflectional affixes

The order and specification of categories rule out the ungrammatical combinations, e.g., **olvas-hat-no-tok* 'read-Pot-Inf-2PL', **olvas-na-va* 'read-Mood-$Part_{va}$', **olvas-na-hat-tok* 'read-Mood-Pot-2PL', etc. Though details of the hierarchy deserve further scrutiny, it offers a viable framework in which to accommodate the auxiliaries.

5.2. The auxiliaries among the functional heads

The three Hungarian auxiliaries listed in (19c) and characterized in (32) have a number of idiosyncratic properties when compared to verbs in general. They have no nonfinite forms, moreover, they cannot take on all of the functional heads either.[15]

40 a. *fog* 'will'. *Past: **fog-ott*; *Mood (Cond/Imp): **fog-na, fog-j*; *Pot: **fog-hat*;
b. *szok-ott* 'use-d (to)'. *[-Past]: **szok-ik*; *Mood (Cond/Imp/Subj): **szok-(ott vol)na*; *Pot: **szok-hat(-ott)*;
c. *talál* 'happen (to)'. *Mood (Imp): **talál-j*; *Pot: **talál-hat*

Obviously, any combination of the forbidden forms with other, possible or impossible, heads is also prohibited. We may now try to exclude ungrammatical affixation by including the information given in (40) in the lexical entries of the individual auxiliaries, roughly in the following manner.

41 a. *fog* V [$_{Tense}$ [+finite]], [-Past]], [-Mood], [-Pot], [+____TenseP [-finite]]
b. *szok-* V [$_{Tense}$ [+finite]], [+Past]], [-Mood], [-Pot], [+____TenseP [-finite]]
c. *talál* V [$_{Tense}$ [+finite]], [-Mood [+Imp]], [-Pot], [+____TenseP [-finite]]

The lexical idiosyncrasies listed in the entries above are as follows. Categories marked negative are construed as prohibiting the auxiliary in question to Merge with, or Move to, such a category. According to (41), all three auxiliary verbs have only finite forms and nonfinite complements, which are TensePs in our proposal, since the infinitival affix *-ni* is sitting in the

[15] Detailed illustration of individual moods in Hungarian, i.e., conditional, imperative, and subjunctive, has to be foregone here. For more, see, for example, Kenesei, Vago and Fenyvesi (1998).

head of TenseP. As was seen in (38d), the head of a nonfinite TenseP can only take VP as its complement. Moreover, *fog* must always have finite forms, but it excludes conditional, imperative, subjunctive or potential affixation. The verb *szok-* has only past tense, and consequently no imperative and subjunctive, but also no conditional and potential either, which are in principle not incompatible with past tense forms. Finally, *talál* has no potential and imperative, but it can have subjunctive and conditional forms. Note that if the auxiliary is incompatible with Mood, Potential is also ruled out.

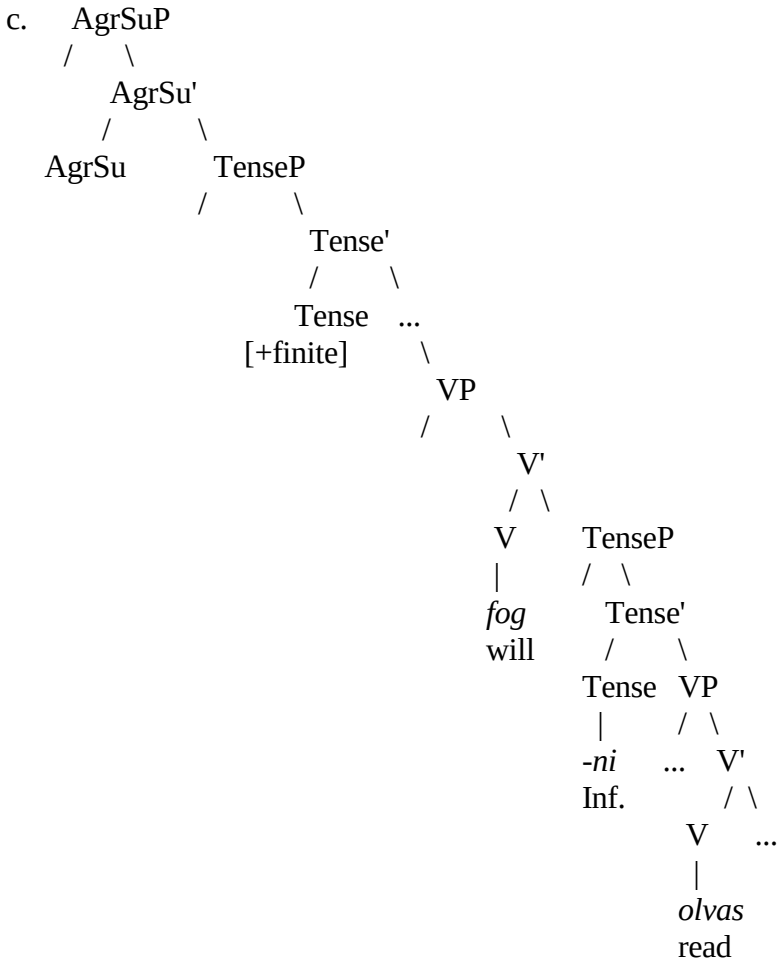
The properties catalogued so far tend to support a hierarchy within which auxiliaries are placed between specific functional categories, as in the following scheme.

42 AgrSu > Tense > AgrOb > *fog/szokott* > Mood > *talál* > Pot > Tense/VP

This would entail that *fog/szokott* can be merged with the categories to their left, while *talál* also with Mood. (Naturally, all take TenseP as their complement.) But this, we believe, is a spurious assumption. They could only occupy their respective positions in (42) if there were functional categories in both positions, which, in turn, would have to be identical with these auxiliaries. On the other hand, the auxiliaries are *verbs*, however irregular, defective or idiosyncratic: they have verbal inflections, thus for all relevant morphological processes, they have to be identified as verbs. In other words, nothing is gained by introducing new functional categories solely for these three auxiliaries. Rather, they should be treated as verbs, noting their idiosyncratic properties, as one of the responsibilities of the Lexicon in any grammatical theory.

Even so, since they have no thematic grids and license only infinitival complements, ultimately they are classified together with other functional heads, such as the inflectional affixes shown above. Furthermore, because they have no infinitival forms but demand infinitival complements themselves, none of them can tolerate the others as heads of their complements. Particular constructions containing auxiliaries would then be formed according to structures such as the following.

43 a.[$_{\text{AgrSu}}$ ... [$_{\text{Tense}}$ [+finite] [$_{\text{AgrOb}}$ ... [$_{\text{VP}}$ [$_{\text{V}}$ *fog*] [$_{\text{TenseP}}$ [$_{\text{Tense}}$ *-ni*] [$_{\text{VP}}$ *olvas* ...]]]]]]]
b.[$_{\text{AgrSu}}$ ... [$_{\text{Tense}}$ *fog*$_{\text{i}}$ + [+finite] [$_{\text{AgrOb}}$ ... [$_{\text{VP}}$ [$_{\text{V}}$ *e*$_{\text{i}}$] [$_{\text{TenseP}}$ [$_{\text{Tense}}$ *olvas*$_{\text{j}}$-*ni*] [$_{\text{VP}}$ *e*$_{\text{j}}$ ...]]]]]]]



In (43) *fog*, which takes an infinitival TenseP, checks its [+finite] as well as its subject (and possibly object) agreement feaures, while the verb *olvas* in its complement TenseP moves and/or checks the head of the TenseP, the infinitival ending *-ni*, producing, for example, the form *fog-ja mutat-ni* 'will-DefObj.3SG show-INF'. Note here that the resemblance of these three auxiliaries to the epistemic verbs is deceptive: although both groups of verbs have infinitival complements, intentional verbs have thematic grids on the one hand, and, on the other, their complements may contain focus, quantifier, negation, etc., which qualifies these complements as propositions, whose canonical syntactic form is the clause, rather than the 'mere' infinitival VP. This said, it should be recalled that both types of complements allow the movement of the prefixal preverb out of their complement in front of the matrix verb, which was one of the reasons, and perhaps the most important one, that all of these verbs were lumped together by Kálmán et al. (1986, 1989)

All in all, auxiliaries probably do not form a separate class among functional categories, and can be regarded as functional categories inasmuch as they assign no thematic roles to the (infinitival) TenseP in their complement position. Therefore, auxiliaries are not inflections that happen to have the morphological 'size' of a word, although it often is the case that what is expressed in one language by means of an auxiliary (in the traditional sense) is rendered as an inflectional affix in another, as was mentioned before.

6. Verbs expressing epistemic and deontic modalities

The tests and procedures applied so far provide a reliable ground for the examination of other verbs, which, on at least some counts, resemble the central auxiliaries. When inspecting the two verb types in the following subsections, which differ from the auxiliaries above as well as from each other, we will retain our crucial criterion, the lack of thematic grids.

6.1. Epistemic auxiliaries

There are two predicates in Hungarian that are possible candidates for the role of epistemic auxiliaries: *kell* 'must' and *kellene* 'should', which will be referred to here as 'epistemic verbs'. Central auxiliaries are distinguished from epistemic verbs by the following properties. Firstly, the subject of epistemic verbs is not in the nominative, but in the dative; secondly, their infinitival complements may carry person marking; finally, and perhaps most significantly, these complements must always have their own subjects. As was seen above, epistemic verbs have no subjects of their own, and they have to 'raise' the subject from their infinitival complement clause - that is, if there is one there.

44 a. Ilyenkor-ra Péter-nek már az irodá-ban $kell_E$ len-ni(-e).
this.time-SUB Péter-DAT already the office-ILL must be-INF-3SG
'By this time Peter must already be in his office.'

b. *Ilyenkor-ra már be kell-(ene)$_E$ PRO_{arb} esteled-ni.
this.time-SUB already PFX must-COND night.fall-INF

c. Ilyenkor-ra már be kell-(ene)$_E$ *pro* esteled-ni-e.
night-fall-INF-3SG
'By this time night must/should have fallen.'

d.*A szobá-ban már ki-takarít-va $kell_E$ len-ni-(e).
the room-ILL already PFX-clean-PART must be-INF-(3SG)

(44a) represents the starting point: the subject *Péter-nek* moves from the embedded clause into the matrix, with person-marking optional on the infinitive. The subject of the infinitival clause in (44b) can be construed only as an arbitrary PRO, which renders the sentence ungrammatical, since its interpretation would be something like 'By this time one should carry out the event of night-falling.' The person-marking on the infinitive in (44c) agrees with the phonetically empty, 'invisible' *pro* subject of the weather verb, therefore, the sentence is possible. Still, (44c) in itself provides no evidence for the assumption that the *pro* subject has moved into the matrix clause; in principle, it could have stayed in the embedded sentence. In (50d) the embedded clause has no subject, which is a possible scenario in the participial construction embedded here, as was argued above. When, however, the corresponding infinitival clause is embedded 'under' an epistemic verb, it proves to be ill-formed, demonstrating that epistemic verbs must have subjects.

It is likely that epistemic verbs are simply verbs, just as auxiliaries are - with a difference: they are more deficient in that they have no person/number or object agreement, i.e., they are negatively characterized for the functional heads AgrSu and AgrOb, blocking their merger with them. On the other hand, they can have past and present tenses, contrary to *fog* and *szok-*.

Discussing infinitival constructions and their dative marked subjects in É. Kiss (1987), Kenesei (1993) and Komlósy (1994), Tóth (1998) arrives at the conclusion that the subject of

infinitival clauses in the complement of epistemic predicates is assigned its dative case (and thematic role) in the matrix, rather than in the embedded, clause - in contrast with evaluative predicates (e.g., *kellemetlen* 'unpleasant'), or a subclass of deontic verbs (such as *illik* 'behove'). Evaluative and deontic predicates control the subject of their complement, that is, they have their own Experiencer subjects, which is referentially identical with the phonetically empty PRO/*pro* subject of the infinitival clause, or, in another approach, its AgrSu head.

Another option would be to regard *kell*$_{E}$ 'must' and *kellene*$_{E}$ 'should' as subjectless predicates on the basis of their lacking person and number inflection, i.e., subject agreement. In this case, the embedded subject would be moved into the topic, focus, etc., rather than the subject, of the matrix clause, since its case is assigned in the embedded clause. Then the only requirement the epistemic verbs impose would be that their complement clause have a subject.

But then it would follow that the embedded sentence is not simply a VP adjoining a [-finite] Tense head, that is, an infinitival construction compatible with the complement of the central auxiliaries, but a true proposition or clause, since its subject receives both its case and thematic role inside the construction. And if it is indeed a clause, then it must have a thematic role assigned, notably, by the predicate of the matrix clause, the epistemic verb. But if this predicate has a thematic role to discharge, then it fails to conform with the most important property of auxiliaries, the lack of thematic grids. Should this be the case, then *kell*$_{E}$ and *kellene*$_{E}$ behave in this respect much like other predicates taking infinitival clauses, e.g., *szükséges* 'necessary' or *lehetséges* 'possible'.

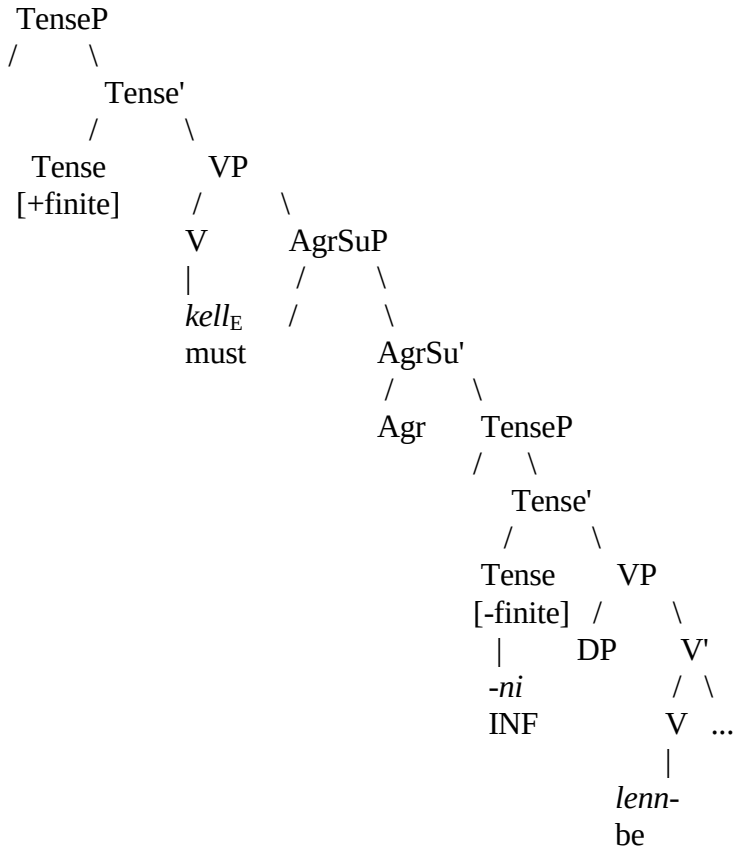
The question arises, parenthetically, as it were, whether the central auxiliaries might have thematic grids in the same manner, that is, whether the interpretations emerging from the propositions containing them could be something equivalent with the statement that some state-of-affairs 'will be', 'used to be' or 'happens to be' the case. Note also that there is no semantic principle blocking these construals. However, we have seen that they have no thematic subject of their own, on the one hand, which excludes them from the class of Searle's (1983) intentional predicates (in the wide sense), and, on the other, they can have subjectless expressions in their complements, which is what distinguishes the central auxiliaries primarily from epistemic and raising predicates, as was shown in 4.2, cf. also (31), (44d).[16]

45 a. *A szobá-ban ki-takarít-va kell$_{E}$ len-ni-(e).
the room-ILL PFX-clean-PART must be-INF-(3SG)
b. *A szobá-ban ki-takarít-va látsz-ik len-ni.
seem-3SG
ca. *'In the room seems to be cleaned.'
c. A szobá-ban ki-takarít-va szokott len-ni.
the room-ILL PFX-clean-PART used be-INF
ca. 'In the room (it) used to be cleaned.'

Epistemic verbs will thus take at least an AgrSuP, but probably a full CP, complete with topic(s), quantifier(s) and focus, in other words, an entire embedded clause.

[16] (45c) has a previously less widely used or accepted variety with the preverbal prefix 'raised' into the matrix clause, which is positively spreading nowadays.
(i) %A szobá-ban ki szokott len-ni takarít-va.

46



Epistemic verbs have previously been considered to belong to the class of auxiliaries on account of their deficient paradigms and nonoccurrence in nonfinite forms. Since, however, they have thematic grids, they are less 'auxiliary-like' than the central auxiliaries; they may be dubbed as 'semi-auxiliaries' and introduced in the Lexicon as follows.

47 *kell/kellene*V, [$_{\text{Tense}}$ [+finite]], [-AgrSu], [-AgrOb], [-Pot], [∀____AgrSuP],
[+____TenseP [-finite]]

Consequently, the two epistemic verbs will have a complementation structure different from that of the central auxiliaries.

The other subclass of verbs that raise their embedded subject to the matrix subject position and discharge a thematic role as well, i.e., the set of raising predicates, e.g. *látszik* 'seem' and *tűnik* 'appear', differ from auxiliaries and epistemic verbs in that they have full inflectional and nonfinite paradigms and they do not allow the copula to occur in their complement clause.

48 a. Péter olvas-ni látsz-ott /látsz-hat /látsz-ván
Peter read-INF seem-PAST.3SG/seem-POT.3SG/seem-PART
'Peter seems/may seem/having seemed to be reading'

b. Péter okos szokott len-ni.
Peter clever used be-INF
'Peter used to be clever.'

c. Péter-nek okos-nak kell len-ni
Peter-DAT clever-DAT must be-INF
'Peter must be clever.'
d. Péter okos-nak látsz-ott (*len-ni)
Peter clever-DAT seem-ed be-INF
'Peter seemed (to be) clever.'

6.2. Deontic auxiliaries

In this section deontic predicates are discussed, namely *kell* 'must', *lehet* 'may', and *szabad* 'is allowed to', of which the last one tends to be used more and more widely as a verb in that it can take up verbal inflection in past tense or conditional and subjunctive moods, though not person/number marking.[17]

One conspicuous difference is between deontic $kell_D$ and epistemic $kell_E$: the latter has no infinitive:

49 a. Holnap Péter-nek korábban fog kell-eni$_D$ felkel-ni-(e).
Tomorrow Peter-DAT earlier will must-INF get-up-INF-(3SG)
'Tomorrow Peter will have to get up earlier.'
b. *Holnap korábban fog kell-eni$_E$ beesteled-ni-(e).
night-fall-INF-(3SG)
ca. *'Night should fall earlier tomorrow.'

Since (49b) can only be understood in epistemic modality, it follows that (49a) is acceptable only in a deontic interpretation.

Another observation concerns their thematic grids; since they have not been subjected to the Agent test, below relevant examples are given.

50 a. éter-nek nem kell$_D$ [szántszándékkal el-guríta-ni-a a labdá-t]
Peter-DAT not must deliberately away-roll-INF-3SG the ball-ACC
'Peter need not deliberately roll away the ball.'
b. Mari-nak lehet$_D$ [azért el-guríta-ni-a a labdát, hogy nyer-j-en]
Mari-DAT may so away-roll-INF-3SG the ball-ACC that win-SUBJ-3SG
'Mary may roll away the ball so that she would win.'
c. Anná-nak szabad$_D$ [szántszándékkal ugrál-ni-a az asztal-on]
Anna-DAT is-allowed deliberately jump-INF-3SG the table-SUP
'Anna is allowed to jump deliberately on the table.'

Although the testing expressions can be positioned in the matrix clauses, they are construed, when acceptable at all, as parts of the embedded sentences, rather than as modifying the matrix

[17] The predicate *szabad* comes from the adjective *szabad* 'free', and the novel forms mentioned are *szabad-ott* 'be-allowed-PAST', *szabad-na* 'be-allowed-COND = would be allowed', and *szabad-j-on* 'be-allowed-SUBJ-3SG = (that it) be allowed'. Note that the 3SG suffix is obligatory and unalterable; that is, no other form of person marking is possible, whatever person or number the subject may have.

clauses, whose subjects have Experiencer roles.

Note that rationale clauses can be adjoined to sentences containing deontic predicates even if there is no Agent expressed anywhere in the constituent clauses.

51 a. Az ebéd-nek azért kell időben elkészül-ni-e [hogy elérjük a vonat-ot]
the lunch-DAT so must in-time be-prepared-INF-3SG that reach-1PL the train-ACC
'Lunch must be ready in time so we could reach the train.'

b. A könyv-nek azért lehet kék-piros borítója [hogy nagyobb legyen a bevétel-ünk]
the book-DAT so may-be blue-red cover that bigger be the proceeds-our
'The book may (=is allowed to) have a blue-and-red cover so our proceeds would be bigger.'

c. Az ajtó-nak azért volt szabad nyitva marad-ni-a
the door-DAT so was allowed open remain-INF-3SG
[hogy a nap be-süssön a szobá-ba]
that the sun in-shine the room-ILL
'The door was allowed to stay open so that the sun would shine in the room.'

These examples indicate that there are suppressed Agents hiding, as it were, behind the deontic predicates, and identical with the person imposing the obligation - usually, though not exclusively, the speaker. There should be nothing surprising in finding this to be the case: deontic predicates denote obligation by means of relying on some authority empowered to oblige or allow others to carry out some or another action.[18] But these 'Initiators' cannot be accommodated in the syntactic structures of these sentences, relating these expressions to the passive clauses in which the Agent test demonstrates the presence of an Agent, in contrast with the constructions involving unergative verbs, which fail the Agent test, showing the absence of any trace of an Agent in their clauses.

52 a. The boat was sunk to collect the insurance.
b. *The boat sank to collect the insurance.

The agentive verb in (52a) preserves its capacity to discharge the Agent thematic role in its passive, i.e. past participial, form, but its lexically derived unergative counterpart in (52b) does not. In the syntactic structure of (52a), however, there is no vacant 'slot' for the Agent, whose interpretation, incidentally, is presumed to be PRO_{arb}, i.e., an arbitrary (set of) human being(s). The Agent of deontic verbs can also be construed as PRO_{arb} when distinct from the speaker.

As far as their dative marked subjects are concerned, deontic verbs assign dative case to their Experiencer argument, which is higher in the thematic hierarchy than Proposition or Theme, much in the same way as they do when they have a non-propositional complement, as the following illustrates.[19]

[18] The thematic role initiating and controlling such intentional actions is dubbed by Farkas (1988) "Initiator".

[19] The example shows how the relevant meanings are related. Since *kell*, in its original 'main verb' use, denotes 'necessary for the subject', this sense can be extended to 'necessity as imposed

53 Péter-nek kell ez a könyv.
Peter-DAT must this the book
Peter needs this book.

The three deontic predicates are, in fact, hardly comparable beyond what has been summarized here. *Kell* derives from a regular verb, and that is why it can have an infinitive - at least in its deontic meaning. *Lehet* 'may' is derived from the copula/verb of existence *van/lenni* 'be' by adding the potential affix *-het*, while *szabad*, as was stated above, comes from an adjective and is now on the way of becoming a defective or irregular verb.

7. Conclusion

Having reviewed the proposals concerning auxiliaries in Hungarian and the criteria for identifying auxiliaries in general, it was suggested that a list of properties can be drawn up to test prospective auxiliaries. All five properties of (32) apply only to three items, which we have dubbed 'central auxiliaries'. They are then word-size lexical items missing nonfinite or nominalized forms, without subjects of their own, with (possibly subjectless) complements defined in syntactic/lexical categories including +/- features but no thematic roles, i.e., argument structures. The tests made use of here were based on the differences between thematic roles with respect to 'agentive' adverbs and clauses on the one hand, and, on the other, on the characteristic properties of weather verbs, raising verbs and subjectless clauses. The three central auxiliaries that have emerged from the investigation are: *fog* 'will', *szokott* 'used to', and *talál* 'happened to'.

Lexical categories are distinguished from functional ones by the property of thematic discharge, thus the inference is self-evident that central auxiliaries constitute a functional category of their own. Our analysis, however, has suggested that since their behavior is not uniform in what inflectional endings can be affixed to them, it is not practicable, although not impossible, to posit separate functional categories to accommodate them. The criteria applied would anyway define them as individual functional heads.

These Hungarian auxiliaries are then not be inserted under Infl, Tense or the like, as English *can, may, must,* etc., have been supposed to be, but are placed in the head of a VP, whose external argument is left vacant and whose complement position is occupied by a nonfinite, i.e. infinitival, TenseP. The subject of this infinitival clause has to move to the empty subject position above the auxiliary in order to check its case feature, by which its φ-features will also be checked, resulting in (subject) agreement. Auxiliaries behave as functional heads without necessarily constituting functional categories themselves, as is also evidenced by the fact that they do not undergo any derivational process and have no nonfinite forms. All in all, while there certainly are auxiliaries in Hungarian inasmuch as auxiliaries are defined by the criteria introduced here, it is best not to regard them as a separate grammatical category, but as a subclass of verbs with a number of specific properties setting them apart from main verbs and making them resemble functional heads.

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by some authority on the subject', thus turning it into obligation. But of course the ambiguity between the main verb and the 'quasi-auxiliary' on the one hand, and the deontic and epistemic senses, on the other, will remain.

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