

## Scope ambiguities among suffixes in Hungarian

Mood and modality at Logical Form

Timea Sarvas

The invariable order of verbal inflectional suffixes in Hungarian has been claimed to raise issues for the Mirror Principle. While the categories Mood, Tense and Modality can take scope over one another in various ways, this supposedly syntactic trait is not reflected in the morphological component. I propose a new analysis of the ambiguities, relocating their source from syntax proper to Logical Form. I show that affix movement at LF correctly predicts all possible and impossible scope relations.

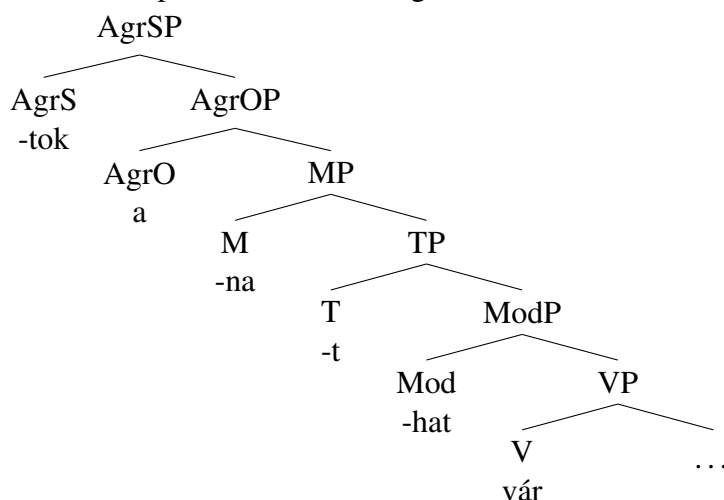
### *1. Introduction*

Hungarian, an agglutinating language of the Uralic family, makes extensive use of suffixes both in the derivational as well as inflectional domain. The inflectional morphology of verbs includes suffixes expressing Mod(ality), T(ense) and M(ood), followed by suffixes for both subject and object Agr(eement). Restrictions apply regarding which suffixes can appear on the stem of the main verb. If all categories are marked at the same time, an expletive root is employed to carry the mood suffix:

- (1) Vár-hat-t-a-tok                      vol-na.  
wait-**MOD-PST**-INDEF-2PL    EXPL-M  
'(You<sub>PL</sub>) could have waited.' (cf. É. Kiss 2002:44-45)

The explanation for this is the assumption of a morphophonological constraint, i.e. that certain suffixes cannot stand next to one another. Tense and mood are the offending categories in this case, which is why the corrective strategy is pursued whenever they are marked (cf. Bartos 1999; Rebrus 2000). The underlying syntactic representation of the heads corresponds to their morphological surface order, as represented below:

## (2) Structural representation of Hungarian verbs



(cf. É. Kiss 2002:44–45)

The aim of this paper is to show that there is more to these structures than a clear one-to-one mapping from one component of grammar to the other. Ambiguities arise in all (co-)occurrences of these suffixes, as illustrated by the following paradigm. The data in (3) constitute the regular cases where the scope of the affixes corresponds to their surface order: (3a) expresses past tense and root modality, (3b) expresses conditional mood and past tense, (3c) expresses conditional mood and root modality, and finally, (3d) denotes the basic relation between all three categories, resulting in conditional mood, past tense, and root modality. The examples in (4), on the other hand, exhibit the inverse scope readings of the respective data, i.e. the unexpected cases. With modality taking scope over tense, (4a) denotes epistemic modality (that is, possibility) opposed to root modality (permission). If tense takes scope over mood as in (4b), the result is the expression of a wish, i.e. a desiderative reading. The expression of some type of wish persists in (4c), and remains available in the presence of all three categories, yielding (4d). What is most interesting about (4c) (4d) is that the scope relations do not seem to change compared to (3c) and (3d), yet the same scope leads to different readings. In these cases, i.e. in the presence of modality, the desiderative shifts perspectives: it is the wish of the speaker that is expressed, rather than that of the agent as in (4b).

- |     |    |                            |  |    |  |
|-----|----|----------------------------|--|----|--|
| (3) | a. | T > MOD                    |  | c. | M > MOD                                |
|     |    | Vár-hat-ott.               |  |    | Vár-hat-na.                            |
|     |    | wait-MOD-PST               |  |    | wait-MOD-M                             |
|     |    | ‘She was allowed to wait.’ |  |    | ‘She would be allowed to wait.’        |
|     | b. | M > T                      |  | d. | M > T > MOD                            |
|     |    | Vár-t vol-na.              |  |    | Vár-hat-ott vol-na.                    |
|     |    | wait-PST EXPL-M            |  |    | wait-MOD-PST EXPL-M                    |
|     |    | ‘She would have waited.’   |  |    | ‘She would have been allowed to wait.’ |
- (Bartos 1999:76–79)

- (4) a. **MOD>T**  
 Vár-hat-ott.  
 wait-**MOD-PST**  
 ‘She may have waited.’
- b. **T>M**  
 Vár-t vol-na.  
 wait-**PST EXPL-M**  
 ‘She wanted to wait.’
- c. **M>MOD**  
 Vár-hat-na.  
 wait-**MOD-M**  
 ‘It is desirable that she would wait.’
- d. **M>T>MOD**  
 Vár-hat-ott vol-na.  
 wait-**MOD-PST EXPL-M**  
 ‘It is desirable that she would have waited.’  
 (Bartos 1999:76–79)

The ambiguities that do not arise are equally crucial. Such are the co-occurrence of epistemic modality with any type of mood, be it on their own or in combination with tense marking, thus there clearly seems to be an interaction between epistemic modality and mood. Likewise, the truly desiderative, i.e. agent-oriented mood observed in (4b) is only available in the absence of modality, further pointing to an interwoven relationship between the two categories. Contrary to mood and modality, tense does not seem to actively participate in these scope relations. The systematic nature of these observations constitutes the foundation of the current paper. The research questions are as follows: Why is the epistemic reading categorically unavailable in the presence of mood? How do mood and epistemic modality interact in Hungarian, and how can we derive the readings that do not correspond to the surface scope of the affixes?

Based on the re-evaluation of these ambiguities, I offer a scenario explaining why and how they could arise within a transformational framework of grammar, by adopting the idea of affix movement at Logical Form (LF). The remainder of this paper is structured as follows: first, the conceptual and structural properties of mood and modality are examined, focusing on how they differ from one another. In section 3, the empirical picture is presented in more detail, before summarizing the previous treatment of the phenomenon and how it has been described this far. I show that a morphosyntactic approach is bound to have technical difficulties and is insufficient to capture all facets of the data, while a purely pragmatic account is bound to overgeneralize due to the lack of structural constraints. Section 4 comprises the new analysis of the ambiguities, focusing on the representation at LF. I argue (i) that there is no mismatch between the syntactic and the morphological representation to begin with, but (ii) that the affixes move to their respective position to achieve the scope readings only at LF and not at an earlier point in the derivation, depicting (iii) that mood and modality closely interact with one another only in the semantic component, while being morphosyntactically distinguished. The implications of the approach and the impact that the presented ideas bear for the Mirror Principle are discussed in section 5. Section 6 concludes.

## 2. Mood versus modality

### 2.1. Distinction

Mood and modality are difficult to distinguish from one another conceptually, as both categories encompass a broad spectrum of meanings that may coincide. The two categories seem to interact in some ways in Hungarian based on the scope ambiguities dealt with here, and as shall be seen shortly, this seems to fit the cross-linguistic picture. Based on the structural distinction of the

two categories, the close link between the two is acknowledged by Cinque (1999), noting that the same category may be expressed by mood in one language and modality in another. On the other hand, Bybee (1985) does not even handle mood and modality as a morphological division to begin with, but a conceptual one: generally, mood is used to express the speaker's perspective, i.e. what they want to do with the proposition in the particular discourse, while modality alters the meaning of the verb itself with respect to the agent's circumstances (Bybee 1985; Cinque 1999). Crucially, mood takes scope over the entire proposition, not just the verb: it does not affect the meaning of the verb *per se*. Mood is used to put the proposition into context regarding the speaker's intentions about it. Modality, on the other hand, expresses the agent's ability, volition, or permission granted to them, constituting a strictly subject-oriented category.

Modality also differs from mood with respect to its morphological occurrence. While mood reliably surfaces as an inflectional category, modality is usually expressed through independent words like auxiliaries, verbs or particles (Cinque 1999:78). Likewise, Bybee notes that in the 50 languages she sampled, modality does not commonly occur as an inflectional category on the verb. The fact that Hungarian marks modality inflectionally is thus rather exceptional — note, however, that even here its status as an inflectional category can be called into question. Recall the data from our introduction, where an expletive root is necessary to express tense and mood at the same time, but not to express modality and tense or modality and mood. The morphophonological rule does not seem to apply to modality, and hence the suffix appears to have a somewhat distinguished status, one hypothesis postulating it to behave as a derivational suffix morphophonologically and as an inflectional one syntactically (Bartos 1999 based on Rebrus 2000). Yet, and this is what matters for our study, it clearly contributes an interpretation falling somewhere into the realm of mood or modality, and more importantly, it actively partakes in variable scope constellations. Going into its status as derivational or inflectional any further is thus not important for the study at hand.

To summarize, the following division is suggested: modality comprises a conceptual domain which may take various types of linguistic expression, while mood pertains to the inflectional expression of a subpart of this semantic domain (Bybee 1985:169). That is, in case a language has no inflectional markers for modality, modality-like meanings are most likely expressed with markers under the umbrella of mood (if modality is expressed by verbal marking at all). Diachronically, inflections are expected to have broader meanings and present fewer contrasts than free grammatical morphemes, based on the fact that inflection develops from non-bound forms. As they are phonologically reduced, the nuance of their meaning is reduced as well (Bybee 1985). We can thus conclude that based on the blurry lines between the two categories, syncretism and ambiguities, as found in Hungarian, are not unexpected.

## *2.2. Epistemics: mood or modality?*

A very prominent case of entanglement between the two categories seems to be that of epistemics. Going by the purely conceptual definition of mood and modality, markers expressing ability, desire and intention do not count as mood, but rather as 'agent-oriented modalities' (Bybee 1985:166). Along this line, epistemics, although usually regarded as modalities, are included in the definition of mood, since they 'signal the degree of commitment the speaker has to the truth of the proposition', which ranges from 'certainty to probability to possibility' (Bybee 1985:166). Even structurally, Cinque strikes a similar note with his observation that different

types of modals differ depending on what exactly they express, i.e. that the structural, hierarchical positions of different modals can vary substantially. It is to be noted that this division draws a line between epistemics and all other modalities. Root modals, although encompassing multiple expressions ranging from volition to permission, all appear to be strictly subject-oriented. On the other hand, epistemics are speaker-oriented and modify the entire proposition. It is therefore generally agreed upon that epistemics occupy a higher position than other modals, and are more similar to mood. The most fitting assertion is therefore the following: due to its high scope over the entire proposition, the epistemic category is more closely related to mood, even if it is morphologically expressed alike to root modals.

To put these considerations into more technical terms, Cinque (1999) comes up with a detailed hierarchy of projections based on cross-linguistic observations:

- (5) Mood<sub>speech act</sub> > Mood<sub>evaluative</sub> > Mood<sub>evidential</sub> > Mod<sub>epistemic</sub> > T<sub>past</sub> > T<sub>future</sub> > Mood<sub>irrealis</sub>  
 > Asp<sub>habitual</sub> > T<sub>anterior</sub> > Asp<sub>perfect</sub> > Asp<sub>retrospective</sub> > Asp<sub>durative</sub> > Asp<sub>progressive</sub> >  
 Asp<sub>prospective</sub>/Mod<sub>root</sub> > Voice > Asp<sub>celerative</sub> > Asp<sub>completive</sub> > Asp<sub>(semel)repetitive</sub> > Asp<sub>iterative</sub>  
 (Cinque 1999:76)

Notice that this hierarchy captures the distinct scope relations among the mood and modality types and depicts a very different perspective on the nature of these categories than the rigid morphological order of Hungarian may suggest. Epistemic modality is above tense and right below mood, while irrealis mood is below tense and above root modality, not delving into the various aspectual markers due to their absence in Hungarian. So, although there seems to be a general rule of thumb regarding the exact properties of mood and modality, they do not have to fit the picture uniformly. Depending on their value, they can have various (morphosyntactic) positions across languages.

Before I move on to what can be deduced from these cross-linguistic findings for the purposes of the study on Hungarian, some noteworthy interactions pointed out by Bybee (1985) shall be repeated. First, epistemic markers paired with past tense can yield an evidential reading, such as that of an unwitnessed event. Second, epistemic possibility very often coincides with the marking of commands. She further notes, beyond epistemics, that conditionals are often related to optatives. Importantly, it is also maintained that these markers are almost always mutually exclusive — that is, imperatives, subjunctives, epistemics and conditionals seem to form one grammatical category. Being aware of these interactions is useful not only to emphasize the flexibility of mood and modality, but going a step further, to show that the ambiguities witnessed in Hungarian are likely neither a matter of coincidence nor an exceptional phenomenon.

### 2.3. Implications for Hungarian

How do these observations carry over to the study of Hungarian inflectional categories? Epistemics fall under the umbrella of mood conceptually. They express a possibility or probability of the proposition stemming from the speaker's perspective. Notice also the mutual exclusivity of the categories counted as mood. This will become relevant further along in the current investigation. Discrepancies between the structural encoding and the conceptual definition of modality and mood appear to be widespread, and Hungarian seems to fall in line with this observation. I will follow the path of assuming a strong interwoven relationship between the categories mood

and modality, and postulate that the morphological form of a marker does not necessarily entail its conceptual category. This constitutes a basis for mismatches between form and meaning in the broad sense. The use of a marker to encode modality does not mean that all of the readings it can express likewise adhere to the conceptual definition of modality and vice versa, using a mood morpheme does not entail that the concept expressed by it must be one that takes scope over the entire proposition. Recall that Hungarian has a limited set of markers expressing at least two meanings each, hence it is reasonable to look for mismatches that may occur in the area of grammar dealing with meaning, i.e. Logical Form. The following simplified version of the hierarchy proposed by Cinque (1999) highlights the categories relevant for the Hungarian inflections:

$$(6) \text{ Mood}_{\text{evidential}} \succ \text{Mod}_{\text{epistemic}} \succ \text{T}_{\text{past}} \succ \text{Mood}_{\text{irrealis}} \succ \text{Mod}_{\text{root}}$$

The fact that mood occupies the outermost position morphologically is reflected in the hierarchy presented here and it is also correctly reflected that epistemic modality occupies a higher position than tense in terms of scope. Root modals associated with the agent's perspective according to Bybee (1985) are located below tense. Crucially, what this hierarchy illustrates is that mood can also take low scope below tense (opposed to the three different moods all located far above it in (5)). The tendency of mood taking scope over the entire proposition is thus cross-linguistically well attested, while also acknowledging the fact that this might not be the case for all of its meanings. Likewise, with epistemic modality located above tense, its wide scope is captured, while placing root modals below tense. Cinque (1999) makes a clear case against the assumption that all types of moods and modals have a fixed position in terms of scope, and further, against the view that this is cross-linguistically unusual. What is actually unusual is the fact that Hungarian uses a single morpheme to express different meanings within a category rather than distinguishing them morphologically.

As shall be seen in the following section, Bartos (1999) draws upon this hierarchy as well, using the proposed heads as landing sites for syntactic movement. It is important to note that the evidence for this hierarchy of projections presented by Cinque is based on the morphological order of suffixes and their scope cross-linguistically. The crucial point about Hungarian, however, is that the morphological order of affixes does not represent their semantic scope, and further, that the morphophonological forms of the suffixes do not stand in a one-to-one mapping relation to the expressed concepts either. We are presented with a rigid surface order and ambiguities pertaining to scope and even beyond. Keep in mind that the observations presented in this section have been made under the assumption of standard cases where mismatches are the exception. Before the current analysis is introduced, I examine the empirical facts more exhaustively, followed by a sketch and evaluation of previous accounts rooted in morphosyntax and pragmatics.

### 3. Observations and previous approaches

#### 3.1. Scope ambiguities in detail

The data presented in the introduction shall be examined more closely to tease apart the readings with regard to their scope, going through them one by one. Let us begin with the readings modality can exhibit:

- |      |    |                            |  |    |   |
|------|----|----------------------------|--|----|---|
| (7)  | a. | ROOT                       |  | b. | EPISTEMIC                                     |
|      |    | Vár-hat.                   |  |    | Vár-hat.                                      |
|      |    | wait-MOD                   |  |    | wait-MOD                                      |
|      |    | ‘She may wait.’            |  |    | ‘She might wait.’                             |
| (8)  | a. | ROOT+PAST                  |  | b. | EPISTEMIC+PAST                                |
|      |    | Vár-hat-ott.               |  |    | Vár-hat-ott.                                  |
|      |    | wait-MOD-PST               |  |    | wait-MOD-PST                                  |
|      |    | ‘She was allowed to wait.’ |  |    | ‘She might have waited.’                      |
| (9)  | a. | ROOT+CONDITIONAL           |  | b. | ROOT+OPTATIVE                                 |
|      |    | Vár-hat-na.                |  |    | Vár-hat-na.                                   |
|      |    | wait-MOD-M                 |  |    | wait-MOD-M                                    |
|      |    | ‘She could wait.’          |  |    | ‘It is desirable that she would wait.’        |
| (10) | a. | ROOT+PAST+CONDITIONAL      |  | b. | ROOT+PAST+OPTATIVE                            |
|      |    | Vár-hat-ott vol-na.        |  |    | Vár-hat-ott vol-na.                           |
|      |    | wait-MOD-PST EXPL-M        |  |    | wait-MOD-PST EXPL-M                           |
|      |    | ‘She could have waited.’   |  |    | ‘It is desirable that she would have waited.’ |

The pattern that we observe is that both the root and the epistemic reading is available if modality is the only category that is marked as in (7), or in combination with past tense, as in (8). This is fairly unsurprising — recall that Bybee (1985) assumes the epistemic reading to be a type of mood, and Cinque (1999) likewise notes that epistemic modality is located particularly high in the hierarchy of projections. Since the epistemic reading expresses a type of possibility, it must be above T to take scope over the entire proposition. In these examples, there is no category that might interfere with its position.

When the category of mood is added to the mix, as in (9) and (10), we observe that the epistemic reading becomes unavailable, trading places with an ambiguity of the mood morpheme. This is a type of root modality expressing the ability of the subject to wait. Besides the basic conditional mood, the ‘wishful’ reading appears optionally, as in (9b) and (10b). In both cases, the wish that is expressed is that of the speaker, in line with the assumption that mood takes scope over the entire proposition and that it expresses the speaker’s attitude towards it. Hence, it will henceforth be called optative (Dobrushina et al. 2013). The fact that the epistemic reading is unavailable in the presence of mood suggests that the positions of mood and epistemic modality interact. This perfectly falls in line with the assumption made by Bybee (1985) that epistemic modals are conceptually to be categorized as moods, and that every member of this group is mutually exclusive of one another. The fact that the optative and the conditional are in competition with one another suggests that their positions are distinct, yet the observation that the presence of modality is necessary to enable the optative reading suggests that there may be an interaction with the (lower) projection of modality.

Let us now examine the behaviour of mood without modality. We observe that (11) and (12), despite bearing a striking similarity to the two readings that mood has in the presence of modality, yield yet another kind of ambiguity. The alternative reading is still one that expresses a wish, yet this time, it is the subject whose perspective is expressed, not the speaker’s. Thus, this reading shall be labelled the desiderative (Haspelmath 2013).

- |      |   |   |
|------|---|---|
| (11) | a.    CONDITIONAL<br>Vár-na.<br>wait-M<br>'She would wait.'                               | b.    DESIDERATIVE<br>Vár-na.<br>wait-M<br>'She wants to wait.'                         |
| (12) | a.    PAST+CONDITIONAL<br>Vár-t    vol-na.<br>wait-PST EXPL-M<br>'She would have waited.' | b.    DESIDERATIVE+PAST<br>Vár-t    vol-na.<br>wait-PST EXPL-M<br>'She wanted to wait.' |

In the words of Bybee and Cinque, it is an agent-oriented category that is expressed here, thus being conceptually a type of modality rather than mood. As will be discussed in the newly proposed analysis later, it has not been previously noted in the literature that the two types of 'wishful' moods, the desiderative and the optative, have their own systematicity and are to be distinguished. Before presenting the proposal, the following sections characterize the two previous approaches to the scope ambiguities in Hungarian.

### 3.2. Morphosyntactic approach

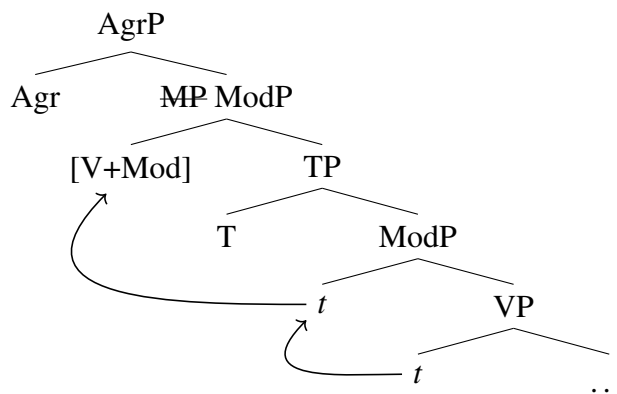
The first attempt to analyze the patterns presented in (3) and (4) was made by Bartos (1999), claiming that the cause of the ambiguities is a timing issue between syntax and morphology. All in all, this morphosyntactic analysis has been pursued along the lines of the Mirror Principle, aiming to examine whether Hungarian obeys it or not:

- (13) The Mirror Principle  
Morphological derivations must directly reflect syntactic derivations (and vice versa).  
(Baker 1985:375)

Assuming a post-syntactic morphological component as in Distributed Morphology (Halle & Marantz 1993), Bartos argues that the scope ambiguities are a result of proper syntactic movement. The essence of the approach can be summarized by examining the proposed derivation for data such as (4a), repeated here as (15) below. At the beginning, only the heads that are occupied are present in the hierarchy. In (14), MP is not present from the start, since mood is unmarked in this particular form, but is inserted for the purpose of providing an available landing position above T. In the first step, the V head moves to the Mod head, checking for its [+finite] feature. The remaining suffixes are cliticized via morphosyntactic merger, an operation chosen due to T (and the Agr heads) lacking any features that require checking. Thus, merging T and Agr with the newly formed [V + Mod] complex is not only the more economical, but also the necessary step in this derivation. This far the syntactic hierarchy corresponds to the order visible on the surface. To achieve the inverse scope, i.e. epistemic configuration, the [V + Mod] complex raises to MP, which is inserted as an empty proxy. Raising of the verbal complex to MP changes the category's features to that of its head, which is why instead of MP, the category above TP is likewise specified as ModP once these steps have been taken.



(14) Bartos' (1999) derivation of epistemic modality



(15) **MOD>T**

Vár-hat-ott.

wait-**MOD-PST**

‘She may have waited.’

Crucially, it is argued that morphology tracks every individual step of the syntactic derivation and spells out the order of heads as they are built. According to this logic, any movement taking place after the initial formation of the verbal complex (viz. after merging and movement induced by feature checking) should remain invisible on the surface. In the case of epistemic modality, [V + Mod + T + Agr] is shipped off to the morphological component right after the rightmost suffixes have cliticized, and importantly, before the verbal complex raises to MP. Since morphological operations can only target the edge of the form — i.e. only the outermost morpheme(s) can be accessed — reordering the inner modality and tense morphemes is impossible without also reordering the agreement morphemes. This is why the morpheme order corresponding to the final syntactic structure cannot be built, as seen in (15) based on the form-meaning mismatch.

The solution offered for ambiguities involving mood is a bit more abstract: supposedly, (11b) and (12b) denote modality syntactically due to their meaning, despite being expressed by a mood marker. In that sense, the data does not yield an ambiguity in terms of scope, but a regular T>MOD relation. It is argued that Hungarian lacks the adequate morphology to express this wishful reading, which is why mood is used as a representative category. Further, according to its meaning, the head is postulated to occupy ModP in the syntactic derivation. In the same spirit, the reading of (9b) is attributed to an expected M>MOD relation, and likewise this assumption applies to (10b). Thus, whenever this wishful reading is encountered, it is supposedly an expression of modality, due to its low scope and meaning. The difference between (12a) and (12b), as well as (10a) and (10b) is thus a matter of ambiguity between two types of modality, the derivation of which does not require movement at all.

Returning to the initial question, i.e. whether Hungarian verbal morphology obeys the Mirror Principle, the following conclusion is reached: the data supposedly constitute a violation of the principle, but only in one direction. Bartos (1999) argues that the mirroring relation between syntax and morphology should be distinguished based on its direction. Therefore, in Hungarian, syntax mirrors morphology at the point of the derivation where the output is shipped off. On the other hand, in the other direction, morphology does not mirror syntax because the syntactic derivation is incomplete at the point where morphology receives the input from it. This ‘violation’ is argued to follow naturally and to be inevitable based on the order of operations, and the Mirror Principle is concluded to hold nevertheless (Bartos 1999:90).

Some issues need to be pointed out regarding a morphosyntactic treatment of the scope

ambiguities. Let us begin by dissecting the theoretical prerequisites underlying the proposed derivation. Firstly, morphosyntactic merging is applied because there are no features that require V to raise further than ModP. At the same time, however, the verbal complex is moved to the higher position in MP, to achieve the intended scope. MP is inserted as an empty proxy based on the projectional hierarchy by Cinque (1999), discussed previously in section 2. With no feature checking or saturation involved, and with semantic considerations being irrelevant in syntax proper, this step appears to lack all formal motivation. In addition, it violates the Head Movement Constraint by skipping over T (Travis 1984), which is justified by a supposed necessity: movement to T is impossible due to the lack of features on T attracting the verbal complex, and therefore, moving straight to MP is necessary to inverse the scope relations. Regarding the targeted use of movement versus merging, the derivation appears to contradict Bartos' own foundation of how the structure is built, i.e. that morphosyntactic merging is a necessary step because movement is only justified when it is utilised for feature checking. However, if the verbal complex is eligible to raise into MP despite the lack of checkable or attracting features, morphosyntactic merging becomes superfluous. Without making this explicit, semantic interpretation on its own is taken to be a legitimate trigger of syntactic movement.

Secondly, a particularly crucial point concerns the source of the inverse scope reading of mood. In the morphosyntactic derivation presented by Bartos, the respective data express a type of modality, presumably. If this reading was truly attributed to modality in the morphosyntactic sense, it would not be entirely absent from the verb form only suffixed by modality (yet present in the counterpart marked with mood):

- |      |    |   |    |  |
|------|----|---|----|--|
| (16) | a. | Vár-na.<br>wait-M<br>'She would wait.'<br>'She would like to wait.' | b. | Vár-hat.<br>wait-MOD<br>'She is allowed to wait.'<br>'She could wait.' |
|------|----|---|----|--|

This entails that morphological form and semantic representation are mismatched, while necessarily assuming a fairly free arrangement of heads in syntax. While Bartos acknowledges this issue, the explanation that he provides does not necessarily make the picture any clearer. Recall that, supposedly, Hungarian lacks the morphology to express this type of modality. It remains unclear why this would be the case since ambiguities between distinct types of modalities and moods are the norm in Hungarian. If this reading would truly be indebted to a type of modality morphosyntactically, it would remain nebulous why it is not the respective marker that is used at spell out. Again, semantic information is taken to be available in syntax proper and is the key to determining the insertion or movement of elements.

A further problem tying into the analysis of the mood ambiguity is that some form of it persists in all examples that feature mood, which means that its presence cannot be dependent on the vacancy of ModP alone. Note that no division is drawn regarding the perspective, recall the difference between (9b) and (10b) compared to (12b). This, indeed, forces Bartos to postulate the existence of an additional ModP projection to which the morpheme can raise in order to achieve the intended scope while retaining the modality-like reading.

The option of proposing a derivation at LF is acknowledged, yet argued not to be restrictive enough to exclude impossible scope readings. The alternative that is proposed, however, appears to violate general principles of syntax. In that sense, as much as LF is argued to be lacking the necessary restrictions, syntax appears to have too many of them to carry this analysis. Despite the aforementioned problems concerning the technical details of the approach, Bartos (1999)

points out the importance of viewing the relationship between mood and modality in Hungarian as a complex interdependency. Further, he concludes that the availability of readings clearly depends on the presence of certain morphemes, or rather, the vacancy of distinct landing positions. Indeed, an approach postulating movement of some sort, and in particular, movement to positions that may not be originally designated for the exact category in question (at least in the syntactic representation) appears to be inevitable. I will rely on this crucial discovery, building the new strategy by drawing from these observations. Before moving on to the current approach, I briefly touch on a different account that is not based on structural restrictions at all.

### 3.3. Pragmatic approach

In Alberti, Dóla & Kleiber (2014), the authors develop a pragmatic-semantic account that supposedly predicts all scope relations and readings, particularly the ones that the morphosyntactic account claims to be absent from the hierarchy. The appearance of those readings is derived by assuming ‘two different kinds of “semantic blending” between the contribution of mood and modality’ (Alberti, Dóla & Kleiber 2014:174). Discourse Representation Theory is taken as the foundation to model the dynamic, while also considering observations from cognitive linguistics. The benefit of the approach is argued to be that the use of the language system is put into the context of human communication, i.e. that the subjective construal of the speaker’s and hearer’s roles and perspectives are integrated into the analysis.

The main focus of the analysis is the use and effect of particles, adjectives, adverbials, and also modal verbs that enforce a certain reading and manipulate the speaker’s information state, that is, their perspective on the truth value of the proposition. The authors conclude that the alternative, non-conditional readings of the mood morpheme, in particular the optative, is only available in the presence of additional context such as an if-clause or an exclamation such as *bárcsak* ‘if only’. Following from this, it is argued that the remaining permutations can be associated with meaning, and not with a structural alternation, although only in part. It is the relationship of the high scope, epistemic modality and mood where the above mentioned ‘blending’ takes place, since their semantic contribution blends when they are next to each other in the scope hierarchy.

Although there are no gross technical issues concerning this account, there are some empirical predictions that do not quite fit the picture. In particular, the desiderative and epistemic readings do not merely appear based on context (cf. Bartos 1999). A thorough discussion of how the pragmatic account overgeneralizes is provided in section 4.3. In the following, I argue for a discourse-independent, LF-based account — a semantic derivation completing the trinity of possible approaches to this phenomenon. I will show that the inherent properties of LF and the rules it follows (or rather, the ones it does not have to follow), without assuming additional heads or differences between heads in syntax and LF, constitutes the ideal ground for the scope ambiguities we observe.

4. Relocating to Logical Form  
4.1. In favour of Affix Movement

In part, the morphosyntactic analysis posits that the Hungarian language does not have the inventory to express the different types of moods and modalities according to their underlying representation. At the same time, the language does have the capacity to express these concepts ‘invisibly’, which is why I argue that the respective scope relations are achieved at a point in the derivation where (i) the syntactic form has already solidified and (ii) no reference can be made to the morphological form, yielding no morphosyntactic mismatch. Luckily, the area of grammar that is responsible for form-meaning mismatches at sentence-level is one that follows the syntactic derivation and is entirely independent of the morphological component, i.e. Logical Form. Research concerned with affix order and the Mirror Principle seems to rely on the assumption that word- and sentence-level processes fundamentally differ from one another. I argue that this view remains unmotivated, and claim that essentially the same set of rules should apply to the word-internal reordering of affixes as to the reordering of words within a sentence. Multiple sources support such a view, as sketched below.

First, Pesetsky (1985) argues for the application of Affix Movement, akin to Quantifier Raising (or Rule) by May (1977). A number of bracketing paradoxes observed in English and Russian can be resolved by assuming two distinct levels of representation to every stem and its affixes. The relevant properties Pesetsky attributes to each of the levels are reproduced below in Table 1:

Level of representation 1	Level of representation 2
Prefix c-commands root and suffixes	Suffixes c-command root and prefix
Phonological restrictions satisfied	Phonological restrictions not satisfied
Phonological rules apply	Phonological rules do not apply
Logical scope not given by c-command	Logical scope given by c-command
Semantic compositionality may be violated	Satisfies semantic compositionality

*Table 1.* The two word-internal levels of representation and their properties (Pesetsky 1985:206–207).

In Minimalist terms, *Level of representation 1* would be the structure at Phonological Form (PF), while *Level of representation 2* corresponds to the structure at Logical Form (LF) — assuming a structure of grammar where the output of syntax proper is shipped off to PF and LF, respectively, which constitutes the necessary foundation for mismatches between the two modules.<sup>1</sup> What Pesetsky observes are precisely the considerations relevant to our issue at hand. The phonological restrictions, in our case comprised by the fixed order suffixes, cannot be satisfied while maintaining the correct logical scope in the inverse scope readings.

Returning to the aforementioned word- and sentence-level contrasts, Pesetsky (1985) puts forth the idea that words also have a logical representation entirely parallel to that of sentences. Support for this view comes from idiosyncratic readings of individual words. For example, the

<sup>1</sup> One may argue that the suffixes can appear in an order corresponding to their scope pattern in syntax proper, with phonological operations reordering the affixes to their respective order. This, as argued in the previous section assessing the morphosyntactic approach, does not account for the fact that semantic considerations alone do not motivate syntactic movement, and likewise, would only account for the reordering of affixes at the outermost edge of the form.

word *rarity* has a compositional reading, i.e. ‘the fact that X is rare’, but also an idiosyncratic one, as in ‘something that is rare’. Within a word, the stem and the suffix must be sisters based on locality restrictions applying to sentence-level idioms (Chomsky 1965). In Pesetsky’s model, affixes correspond to heads, and their movement leaves traces.

Julien (2002), more broadly speaking, argues that morphological constituents are also minimal elements of syntax and likewise assumes them to be syntactic heads. She points out that words are perceived rather than formed in the sense that there seems to be no solid grammatical word formation device (Julien 2002:36). Thus, the distinction between processes that apply within or between words supposedly only gain relevance at a late point in the derivation, but crucially not within morphosyntax. Therefore, it is undesirable to fundamentally distinguish between word- and sentence-level processes. Movement at LF should be applicable within forms, regardless of their phonological perception as a word or a larger unit.

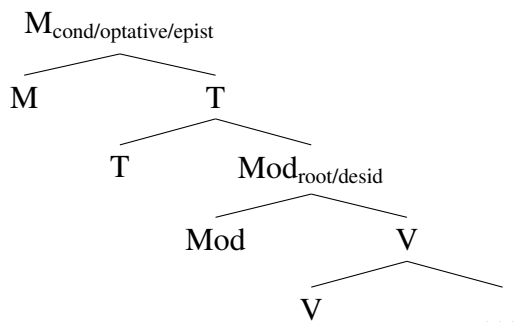
#### 4.2. *Deriving the structures*

Taking into account the distinction of different moods and modalities by Cinque (1999), I propose that Hungarian only distinguishes the different types of mood and modality based on their position at LF. This module, constituting the representation of semantic meaning, could very well be the place where scope ambiguities are resolved, rather than the arguably restricted representation that is syntax proper. Cinque’s hierarchy is based on cross-linguistic observations where the categories map to individual, distinguishable morphemes, while in Hungarian, one suffix expresses two, potentially three readings each. Based on morphological order, it is likely that there is only a single position for each of the categories in the syntactic representation, much like suggested for bracketing paradoxes by Pesetsky (1985).

Before we delve into the analysis, the assumptions made regarding the architecture of grammar need to be clarified. I assume that the output of syntax proper serves as the input for distinct levels of representation, both preceded by spell-out in the sense of Minimalism (Chomsky 1995). One of them is Phonological Form (PF), where phonological processes apply and shape the final form of the utterance; and the other one is Logical Form (LF), where the semantic properties of the structure are represented. Furthermore, I assume a postsyntactic morphological component that has no interface with LF, but follows spell-out and precedes PF, much in the sense of Distributed Morphology (Halle & Marantz 1993). This constitutes the Y-model — the ‘root’, if you will, is syntax, with the two ‘branches’ being the distinct levels of representation.

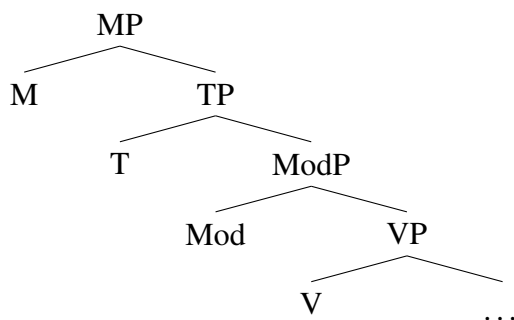
Let us now combine the ingredients presented in the previous sections. I rely on the ideas that (i) the available syntactic tools are insufficient to derive the scope ambiguities, (ii) only the logical representation at LF, in turn, is where movement takes place according to the intended scope relations, and that (iii) the derivation of word-level ambiguities is identical to the derivation of sentence-level ambiguities, based on the observation that words are not isolated units in the morphosyntactic sense. The logical representation itself does not differ from the syntactic one with respect to the order of heads. Due to the mutual exclusivity of the readings, I am assuming a single ModP and a single MP in the logical representation, too:

## (17) Structure of Hungarian verbs at LF



The structure is headed by mood, which has the widest scope of all categories. It expresses the speaker's perspective on the proposition. As we have established, it does not merely make reference to the verb itself, but to all of the properties of the event expressed by the remaining categories, modality and tense. Tense stands between mood and modality without engaging in scope alternations in any way. The position closest to the verb is occupied by modality, which directly modifies the meaning of the verb with regards to the subject. Notice that I am making a distinction not based primarily on morphosyntactic encoding, but rather on the scope of each meaning. Recall the underlying representation of the heads in syntax proper, indicative of the order of morphemes observed on the surface:

## (18) Structure of Hungarian verbs in syntax proper

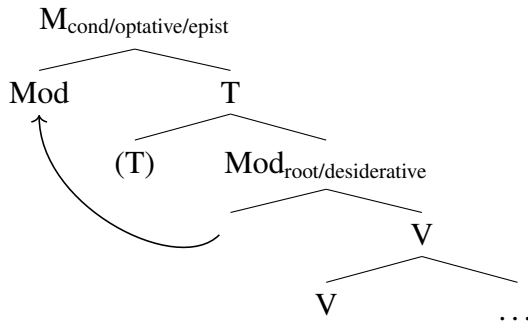


The regard in which the two structures actually differ from one another is the categories that can occupy each of the heads, or more precisely, the types of movement that are permitted. The key is that the mood suffix may occupy a position that is unusually low for its category, i.e. ModP, and that the modality suffix, by virtue of modifying the entire proposition from the speaker's perspective, occupies MP. Categorical specifications relevant for the surface form do not need to be adhered to at LF, since there is no interface between LF and the morphological component, nor LF and PF. The advantage gained from this is the option to postulate positions with regard to their conceptual and scopal properties, rather than morphosyntactic categories that entail morphophonological forms. As shall be seen in the remainder of this section, such a proposal receives empirical in addition to the theoretical support already provided.

In the case of regular scope readings, the order and c-command relation of the heads in syntax proper corresponds to the structure at LF without the need of movement. The conditional mood expressed by the morpheme in its default reading occupies M, and root modality likewise requires to be scoped over by other suffixes, occupying Mod. Thus, the above structure readily

accounts for the basic M>T>MOD reading. The more interesting cases follow when we consider the ability of the modality morpheme to express an epistemic reading besides its root root meaning. In that case, the suffix raises to M, occupying the position usually filled by the mood suffix:

(19) Epistemic modality

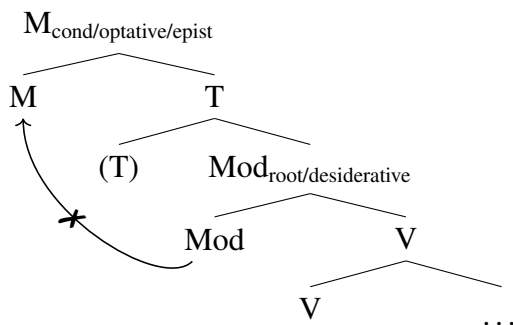


In a configuration where mood is not expressed, the modality suffix can freely move upwards to the mood projection. The presence or absence of tense marking makes no difference, as we do not need to adhere to syntactic constraints prohibiting movement beyond the closest landing position, nor does the presence of tense marking interfere with the intended landing position. In the case when mood is marked, i.e. when such an interference is given, the derivation correctly predicts that the epistemic reading becomes unavailable. Recall that mood and epistemic modality mutually exclude one another, because both of them express the perspective of the speaker:

- |      |    |                                      |    |  |
|------|----|--------------------------------------|----|--|
| (20) | a. | ROOT+MOOD                            | b. | *EPISTEMIC+MOOD                              |
|      |    | Vár-hat-na.                          |    | Vár-hat-na.                                  |
|      |    | wait-MOD-M                           |    | wait-MOD-M                                   |
|      |    | ‘She could wait.’                    |    | *‘It could be the case that she might wait.’ |
|      |    | ‘It is desirable that she can wait.’ |    | *‘It is desirable that she might wait.’      |

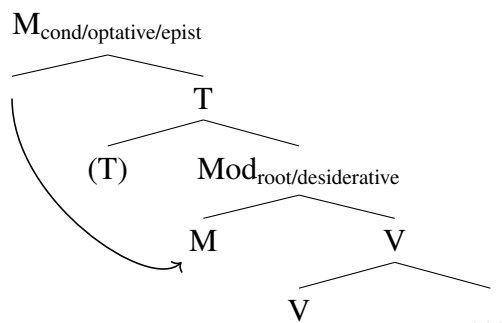
When both categories are marked, modality can only take the lower scope, scoping only over the verb, because its presence modifies the meaning in a subject-oriented manner. Raising to M becomes unavailable when mood is marked, which is predicted by the structure:

(21) Mutual exclusivity of epistemic modality and mood



The model thus depicts that epistemicity, in the semantic sense, is a type of mood, as postulated by Bybee (1985) and Cinque (1999). Nothing new is brought to the table by the model itself yet, apart from the advantage that syntactic restrictions on movement do not hold at LF. The innovative aspect of this derivation, that is, its benefits opposed to a morphosyntactic proposal, become more obvious when we examine the alternative readings of the mood suffix. Mood has two further readings that express a type of wish. Let us begin with the desiderative reading. It occurs only if modality remains unmarked, and appears to have a similarly special status among moods as the epistemic has among modalities. Although it is morphosyntactically encoded by a category with typically high scope, i.e. mood, it does not modify the entire proposition. The desiderative expresses the wish of the agent that the proposition be the case. I thus postulate that this type of mood is particularly low and close to the verb, occupying Mod:

## (22) Desiderative mood



The derivation requires downward movement, or lowering, of the suffix into Mod. While unthinkable in the syntactic representation, Quantifier Lowering is indeed a viable operation at LF. It has received recent attention from Lasnik (2021), who revisits the ideas of May (1985) among others, and supports the existence of such a lowering mechanism to derive scope ambiguities in particular. Further independent motivation comes from Dawson & Deal (2019), showing that scope lowering is necessary to derive third readings of prolepsis in Tiwa.<sup>2</sup> Based on the observation that sentence-level operations should also be applicable word-internally, scope lowering on affix-level should be as valid of a step as affix raising is. Again, the presence or absence of tense marking makes no difference for the availability of readings. Analogous to the derivation

<sup>2</sup> The reviewer wonders whether the proposed operations have implications for ambiguities on sentence-level, i.e. in conditional clauses. Minimal cases can be construed where either reading of mood is available (focusing on true differences in scope, i.e. conditional vs. desiderative):

- (i) *Örül-né-k, ha vár-na.*  
 be.happy-M-1SG if wait-M  
 'I would be happy if she would/wants to wait.'

Indeed, the desiderative reading can only be construed through the morpheme in this case, while omitting the morpheme yields the basic conditional reading induced by *ha*. In the case of modality, it is very difficult to get an epistemic reading, as we expect if the co-occurrence of (conditional) mood and epistemic modality are barred:

- (ii) *Örül-ök, ha vár-hat.*  
 be.happy-1SG if wait-MOD  
 'I'm happy if she is allowed to wait/#might wait.'

A very specific context may be construed to enforce a marginal epistemic reading. Imagine a dialogue where, when discussing where person X is, person A says 'She might be waiting outside', and person B replies 'In that case I'm happy, if she might be waiting', yet this is very odd. Compare (27), where we have a similar situation.

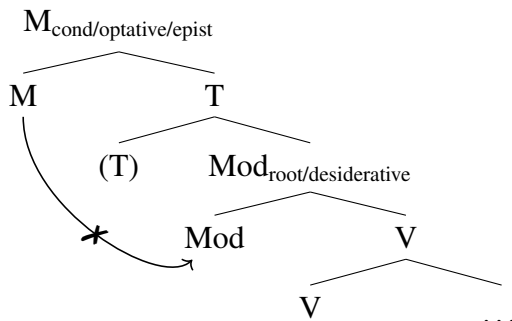


of epistemic modality, the interfering category this time is modality. When both modality and mood are marked, the desiderative reading of mood becomes unavailable:

- (23) a. MODALITY+CONDITIONAL      b. \*MODALITY+DESIDERATIVE  
 Vár-hat-na.                              Vár-hat-na.  
 wait-MOD-M                              wait-MOD-M  
 ‘She could wait.’                        \*‘She is allowed to want to wait.’  
 ‘It is desirable that she can wait.’    \*‘She wants to be allowed to wait.’

This is predicted under the assumption that desiderative mood and modality occupy the same position at LF, since the mood suffix cannot lower into Mod if the latter is already occupied:

- (24) Mutual exclusivity of desiderative mood and modality



Now, recall that there exists a further reading of the mood suffix, which likewise expresses a type of wish, although that of the speaker (compare this to the desiderative reading which clearly expresses the wish of the agent). No further assumptions can be made about this optative reading in terms of logical representation due to it having the exact same scope as the conditional reading, and therefore not constituting a scope ambiguity in the sense that the other suffixes do. The properties of the optative do however deserve a thorough discussion, which is provided in the following section, most importantly because it will make clear the reason why pragmatic considerations may play a significant role after all.

The core benefit of relocating the source of ambiguity to LF is the fact that movement can be governed freely by the intended scope relations that the speaker wants to express. The proposed derivation circumvents assuming non-standard, costly syntactic operations. On the other hand, the freedom gained at LF is also adequately restricted as we have seen: the conceptually interwoven dependency of mood and modality is correctly depicted by the possible movements, while also accounting for the mutual exclusivity of low-scope mood and modality (in the case of the desiderative), as well as high-scope modality and mood (in the case of the epistemic). The analysis does not need to rely on additional projections, or an unclear relationship between syntax and semantics, and hence also offers a solution without arbitrary movement in the syntactic component. All these points constitute strong arguments for a semantic account and against a morphosyntactic one.

## 4.3. Ambiguity without scope

The optative, which expresses the speaker's wish that the proposition be the case, occupies the same position as conditional mood and epistemic modality in the previously presented LF-hierarchy. The structure of suffixes remains unchanged for its derivation, which predicts that the conditional and optative should be in direct competition. Note that the earlier morphosyntactic analysis by Bartos (1999) does not differentiate between what I have been calling the desiderative and the optative, it treats all expressions under this umbrella as expressions of modality and thus low-scope. On the other hand, my account presented here does not cover the observation that the conditional and the optative are indeed not in direct competition in all cases. The optative is notably absent from utterances unless modality is marked. We thus, again, observe a certain interaction between mood and modality — the optative, only available with modality, and the desiderative, only available without modality, stand in complementary distribution.

This distribution clearly causes issues for the current proposal. The shift from a desiderative to optative reading occurs when the desiderative becomes unavailable. Observe (12b) opposed to (9b) and (10b), repeated here as (25a), (25b) and (25c), respectively:

- (25) a. T>M  
 Vár-t vol-na.  
 wait-PST EXPL-M  
 'She wanted to wait.'
- b. M>MOD  
 Vár-hat-na.  
 wait-MOD-M  
 'It is desirable that she would wait.'
- c. M>T>MOD  
 Vár-hat-ott vol-na.  
 wait-MOD-PST EXPL-M  
 'It is desirable that she would have waited.'

In the absence of modality, it is the subject of the clause that the modification applies to: it is her who wanted to wait (this can also be observed in (16a)). As soon as the verb is marked for modality, the perspective shifts, it is not the subject who wishes to wait, but the speaker who wishes that the subject may wait.<sup>3</sup> Although the desiderative and optative may seem strongly related in meaning, they differ with regard to their scope. In the absence of modality, the mood morpheme potentially stands closer to the verbal stem, thus modifying the meaning of it directly in an agent-oriented manner. If this lower projection is occupied by a root modal, the mood morpheme is forced to take scope over the entire proposition and therefore express the speaker's perspective. These are the facts that the current analysis straightforwardly accounts for. The problem is, however, that the optative is not predicted to be unavailable under any circumstances if it is treated entirely equal to the conditional reading. Hence, there must be a source of contrast for the two that is not predicted by purely structural accounts, but follows from a pragmatic analysis.

Suppose that my structural approach is incorrect. Suppose that the optative and desiderative are not to be distinguished in terms of scope, i.e. as a structural ambiguity, but assume that they both occupy the same position. Consider the following data:

<sup>3</sup> Note that the default conditional reading is likewise available in all of these examples regardless of the presence of modality.

- (26) Bárcsak vár-na/vár-t vol-na!  
 if.only wait-M/wait-PST EXPL-M  
 'If only she would wait/would have waited!'

Although the desiderative should be available in this example because of the vacant ModP, one can add an exclamation to block it and instead enforce an optative reading that is unavailable otherwise, presumably for contextual reasons. I refrain from taking a stance on the exact technicalities of this blocking effect. They could be presuppositional in nature, as the reviewer suggests, but have yet to be formalized in future research. This would mean that the distribution of the two meanings is strongly context-dependent. However, the speaker's wish can merely be attributed to the presence of the exclamation *bárcsak* 'if only', since it is notably absent from the examples without it. This observation supports the pragmatic account by Alberti, Dóla & Kleiber (2014). The inflected mood most likely bears a default conditional reading, not an optative.

Such contextually enforced data may be deemed supportive to the idea that the difference between the two meanings is not necessarily structural. For all we know, there may be pragmatic reasons that simply make the desiderative a paradoxical reading not worth pursuing, comprising something along the lines of 'being allowed to want to wait'. While the intended meaning is indeed odd, this is not a particularly compelling argument. The optative versus desiderative distinction does very clearly align with the conceptual distinction between mood and modality rooted in scope and orientation that we adopted from Bybee (1985) and Cinque (1999). This view is supported by the observation that enforcing the reading that is predicted to be structurally, not merely contextually, unavailable, yields a much less well-formed expression. Observe the case of trying to enforce a desiderative reading upon a structurally optative (or conditional) form through context:

- (27) #Nem ért-em, miéért nem men-nek még haza, talán vár-hat-ná-nak?  
 not understand-1SG why not go-3PL yet home, maybe wait-MOD-M-3PL  
 I don't understand why they aren't going home yet, maybe they want to wait?  
 (Bartos 1999:78)

Interpreting the sentence in the way that it is intended is indeed quite difficult, as pointed out by Bartos (1999). The issue in (27) is that the formula for a desiderative reading is not simply 'conditional plus wish', it involves a real change in scope. On the other hand, such a formula could very well work for the optative reading, which has the same scope as the conditional. It appears reasonable to call into question whether the optative deserves to be treated as a separate reading at all. Based on the observations presented here, it could much rather be that the conditional mood allows for an additional nuance to its meaning, rather than being in competition with an entirely different one. Due to the lack of difference in scope between the conditional and optative, it becomes clear that a purely structural account cannot derive this particular contrast. Bybee (1985) also notes that conditionals are often related to optatives, and this behaviour may very well be a manifestation of such a relation. The conditional-desiderative alternation is the only clear case of scope ambiguity regarding the category of mood, and is therefore entirely analogous to the alternation of root and epistemic modality. Epistemic modality is only available as long as mood remains unmarked, and in a parallel fashion, desiderative mood is only available if modality remains unmarked.

Alberti, Dóla & Kleiber (2014) thus undoubtedly shed light on the issue that the system is more complex than can be modeled by means of strictly hierarchical terms alone, which is reflected in the conclusion that the occurrence of the optative cannot be predicted purely based on structural properties. Of course, judgments from individual native speaker authors in support of their own theories, mine included, cannot and should not be the end of this debate. A future endeavor of testing the discourse (in-)dependence of the studied expressions is necessary to solidify the cases in which the respective readings are available.

I conclude that although lexical material, such as exclamations or a fitting context, may facilitate a certain reading, they do not have the power to override structural restrictions. This is based on the ubiquitous option to interpret the morpheme as a conditional and attribute additional meanings to context, which only seems to result in a well-formed utterance when the provided context is in line with the structurally permissible scope patterns. The availability of readings without context makes it clear that the root of the cause are indeed the verbal suffixes, and that additional material can merely support one reading over the other within the limits of what is viable structurally. In this sense, I argue that the presented approach does not suffer from its inability to accommodate the optative reading, since the optative reading is not a matter of structural ambiguity depicted at LF to begin with. The next section, wrapping up the study, discusses the relevancy of the Mirror Principle in light of the current investigation.

### *5. Discussion: a hall of mirrors?*

I have argued that the inverse scope readings of Hungarian verbal suffixes cause problems both for a purely morphosyntactic derivation of affix order as well as a purely pragmatic account with no structural constraints. To return to the question that originally facilitated the investigation of this topic, the presented data does not constitute a violation of the Mirror Principle based on my assessment. Indeed, it has nothing to do with it because there is no compelling evidence for the assumption that the syntactic derivation differs from the morphological order of the suffixes.

Broadly speaking, the Mirror Principle as a whole is rooted in the assumption that mismatches between syntax and morphology are detectable through form-meaning mismatches. This becomes possible if the semantic component is entirely passive — it is shaped by the syntactic derivation and the syntactic derivation only, and it thus serves as a depiction of what operations have or have not taken place in the underlying structure. The observation that morphology and syntax do not always reflect one another is thus based on the implicit assumption that the syntactic and semantic representations of a structure always do. When looking at sentence-level scope ambiguities, however, it has been much less debated whether they comprise a semantic or morphosyntactic phenomenon, with research clearly favoring the former domain. My aim has been to show that we can easily circumvent the problems that scope ambiguities seem to cause for syntactic accounts by getting rid of the division between word and sentence-level operations, making it possible for affixes to move at LF like entire words would. Words are not morphosyntactic, but rather conceptual, phonological units, which contradicts the view that the mechanisms deriving sentence-level ambiguities are unavailable on a smaller scale (Pesetsky 1985; Julien 2002; Haspelmath 2011).

Let us suppose that the Mirror Principle extends to the semantic (and potentially, also the phonological) component of grammar, thus entailing that every single area of grammar needs to reflect one another, with individual modules constituting a hall of mirrors, if you will. In

that case, Hungarian would technically violate the principle after all. An inherent flaw of the Mirror Principle that becomes obvious once we move past the notion of wordhood as I am proposing here, is that there is no clear diagnostic that could reveal which area of grammar the ambiguity is located in. The mirroring relation between morphology and syntax only falls out if words are subject to a fundamentally different set of constraints than sentences regarding logical representation, for which, as I have argued in this paper, there is no evidence. As the reader will have noticed, no data has been presented that corroborates whether an ambiguity is derived in syntax and undone on the surface, or skipped over in syntax and spelled out at a point to which the surface form cannot make reference to. The different perspectives do not make different predictions that could be verified, they merely try to explain how the phenomena could arise. Although I have argued for a solution at LF (and, in some way, against the Mirror Principle as a whole because of its vagueness), my main line of reason has been that it is less costly and more likely within the the given theoretical framework. Future work should, on the one hand, identify how the predictions of a syntactic versus a semantic account differ to test the proposal, and on the other hand, provide experimental support for the availability of the proposed readings to clarify the role of pragmatics. One may raise the question how widespread such word-internal scope ambiguities are if they may be derived so easily at LF. The simplicity of the account predicts that similar alternations should be present all over the languages of the world. This prediction seems borne out, even if it comes in a number of different shapes. As pointed out by Bybee (1985), modality is rarely encoded as an inflectional category and often involves auxiliaries or adverbs, and therefore, such word-internal ambiguities can only be as frequent as the relevant categories' encoding as inflectional morphology is. For these cases, it is reasonable to expect some flexibility with regard to scope, as the morphosyntactic realization of a suffix does not always correspond to its conceptual properties. Beyond inflection, derivational affixes such as causatives, applicatives, reciprocals and passives in Bantu languages have been argued to violate the Mirror Principle, too, and have facilitated the proposal of fixed morphological templates (Hyman 2003). There seems to be evidence against a violation as recently proposed by Bruening (2021), however, who claims that the patterns have been misanalyzed. The ongoing debate shows that the mapping between form and meaning can be quite unclear. Hungarian likewise has an extensive set of verbal derivational morphology, although in that case, it very strictly adheres to the Mirror Principle — the surface order of suffixes varies based on scope (Sarvas & Rothert 2020).

Scope ambiguities are likely not as rare as one may be led to believe based on the alleged unavailability of word-internal movement at LF. Going through data from other languages is beyond the scope of this paper, though based on the observation that modality and mood are often entangled, the current analysis should be applicable cross-linguistically. The rigidity of morphological ordering stands in sharp contrast to the meanings that can be derived from the structures. This supports breaking down the borders between word- and sentence-level operations, enabling movement at LF. What this means for the Mirror Principle is that it must be extended to keep its relevance unless the nature of words as morphosyntactically solidified units can be proven compellingly. It further remains debatable whether it should be kept at all. Clearly separating (morpho-)syntactic from semantic proposals based on their predictions, as mentioned earlier, is also crucial to evaluate the importance of the Mirror Principle. Since the predictions may overlap, this could be achieved by comparing the ambiguities in Hungarian to phenomena known to operate either on LF or in syntax, and see which ones they pattern with — this account predicts them to be in line with LF phenomena.

## 6. Conclusion

This paper provides a study of the Hungarian mood and modality interactions in the verbal inflectional domain. The proposed structural derivation reflects that epistemicity is to be treated as a type of mood, and likewise, that the desiderative is much rather a type of modality conceptually, despite morphosyntactic properties suggesting otherwise. From a more general point of view, I have shown that resolving conflicts between form and meaning in the semantic component comes with many benefits, while also maintaining that true scope ambiguities are contextually independent. I have further argued that overcoming the practice of treating words and sentences as categorically distinct in nature enables us to use established technical tools to solve issues that would otherwise require tedious derivations. Based on the Hungarian data, it is desirable to shift perspectives and transfer established mechanisms to a smaller scale, gaining explanatory power by doing so.

## Acknowledgements

I thank Johannes Rothert for collaborating with me on earlier ideas leading up to this approach, and for helpful discussions along the way. I am also indebted to an anonymous reviewer for their constructive and enriching comments. All remaining errors are my own.

## Abbreviations

1	first person	M	mood
2	second person	MOD	modality
3	third person	PL	plural
EXPL	expletive	PST	past
INDEF	indefinite	SG	singular

Timea Sarvas  
 University of Potsdam  
[sarvas@uni-potsdam.de](mailto:sarvas@uni-potsdam.de)  
<https://timeasarvas.github.io/>

## References

- Alberti, G., M. Dóla & J. Kleiber (2014). Mood and modality in Hungarian: Discourse Representation Theory meets Cognitive Linguistics. *Argumentum* 10, pp. 172–191.
- Baker, M. C. (1985). The Mirror Principle and morphosyntactic explanation. *Linguistic Inquiry* 16, pp. 373–415.
- Bartos, H. (1999). *Morfoszintaxis és interpretáció: a magyar inflexiós jelenségek szintaktikai háttere*. [PhD thesis]. ELTE.
- Bruening, B. (2021). Mirror Principle violations in Bantu languages have been misanalyzed. Talk presented at Structural Asymmetries in African Languages, April 2021.

- Bybee, J. L. (1985). *Morphology: a study of the relation between meaning and form*. John Benjamins Publishing Company, Amsterdam/Philadelphia.
- Chomsky, N. (1965). *Aspects of the theory of syntax*. MIT Press, Cambridge, MA.
- Chomsky, N. (1995). *The Minimalist Program*. MIT Press, Cambridge, MA.
- Cinque, G. (1999). *Adverbs and functional heads. A cross-linguistic perspective*. Oxford University Press, Oxford.
- Dawson, V. & A. R. Deal (2019). Third readings by semantic scope lowering: prolepsis in Tiwa. Espinal, M. T., E. Castroviejo, M. Leonetti, L. M. McNally & C. Real-Puigdollers (eds.), *Proceedings of Sinn und Bedeutung* 23, pp. 329–346.
- Dobrushina, N., J. van der Auwera & V. Goussev (2013). The optative. Dryer, M. S. & M. Haspelmath (eds.), *The world atlas of language structures online*, Max Planck Institute for Evolutionary Anthropology, Leipzig, <https://wals.info/chapter/73>.
- É. Kiss, K. (2002). *The syntax of Hungarian*. Cambridge University Press, Cambridge.
- Halle, M. & A. Marantz (1993). Distributed Morphology and the pieces of inflection. Hale, K. & S. J. Keyser (eds.), *The view from building 20: essays in honor of Sylvain Bromberger*, MIT Press, Cambridge, MA, pp. 111–176.
- Haspelmath, M. (2011). The indeterminacy of word segmentation and the nature of morphology and syntax. *Folia Linguistica* 45:1, pp. 31–80.
- Haspelmath, M. (2013). ‘Want’ complement subjects. Dryer, M. S. & M. Haspelmath (eds.), *The world atlas of language structures online*, Max Planck Institute for Evolutionary Anthropology, Leipzig, <https://wals.info/chapter/124>.
- Hyman, L. M. (2003). Suffix ordering in Bantu: a morphocentric approach. Booij, G. & J. Marle (eds.), *Yearbook of Morphology 2002*, Springer, Dordrecht, pp. 245–281.
- Julien, M. (2002). *Syntactic heads and word formation*. Oxford University Press, Oxford.
- Lasnik, H. (2021). Levels of representation and semantic interpretation: a brief history and case study. *Cadernos de Linguística* 2:1, pp. 1–15.
- May, R. (1977). *The grammar of quantification*. [PhD thesis]. MIT.
- May, R. (1985). *Logical Form: its structure and derivation*. MIT Press, Cambridge, MA.
- Pesetsky, D. (1985). Morphology and Logical Form. *Linguistic Inquiry* 16:2, pp. 193–246.
- Rebrus, P. (2000). Morfofonológiai jelenségek a magyarban. Kiefer, F. (ed.), *Strukturális magyar nyelvtan 3 – morfológia*, Akadémiai Kiadó, Budapest, pp. 763–947.
- Sarvas, T. & J. Rothert (2020). Challenges for theories of post-syntactic head movement: tense and modality in Hungarian. Poster presented at SinFonIJA 13 – 13th conference on Syntax, Phonology, and Language Analysis, Budapest.
- Travis, L. (1984). *Parameters and effects of word order variation*. [PhD thesis]. MIT.