Analytical Description of Hungarian

24.900 Paper 2

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Contents

1 Introduction

This paper discusses the Hungarian language. According to Ethonologue [1], this language belongs to the family of Uralic languages, and is mainly spoken in Hungary, with around 12,610,690 native speakers. Hungarian uses a writing system similar to the Latin alphabet, with a few extra variants of letters, such as ø, é etc. However, I will not study nor use the writing system in this paper.

Our native speaker consultant for this language is Csilla Fülöp ([t͡ʃilɒ fyløp]). Csilla calls her language [mɒɟɒr], or 'Hungarian' in English. She grew up in Hungary and said she does not have a very distinct dialect in her country, but she knows that some others from her neighbourhood do have a particular dialect, especially the elderly. She is bilingual, and Hungarian was the language of instruction at her school.

She is a freshman at MIT, so consultation was very accessible, around once or twice per week.

2 Method

As per the instructions of Assignment 2, 3, 4 and 5, Csilla and I had verbal discussions. I would prepare sentences in English, together with possible variants, and present them to Csilla. Then she will answer how she would say it most naturally in Hungarian. She will sometimes give several interpretations of the same sentence and I will record down all possibilities. Given a translation, I will think of other examples or counterexamples to gather more information on the structure of this language.

I have used the Interactive IPA Chart [2] to transcribe her pronunciation of Hungarian words. For every word she pronounced, I chose the sound from the IPA chart that matches the most to her pronunciation. Then I repeated the same word to her and made sure she agrees with my pronunciation.

Throughout this paper, I will gloss words according to the glossing rules of [3].

3 Morphology

3.1 Inflectional Morphemes

In Hungarian, a verb can stand alone as a sentence itself. This is similar to Japanese where a subject is not needed if the context is clear. In Hungarian, additionally, the verbs also contain information of the subject, so the inclusion of a subject is even more redundant (but still allowed). For example, as in the 10th entry in the table below, [enækæltæk] is a sentence itself, meaning 'you(pl) sing'. These extra information about subject and grammatical case come in the form of **inflectional morphemes**.

3.1.1 Tense and Definiteness

There is a present tense, past tense, and future tense. For present and past tenses, there is an inflectional morpheme on the verb itself. For future tense, the verb phrase will be a combination of 'fog' (will) and the verb in its infinitive form.

There is also verb-object agreement on *definiteness* [4]. If the object is null (for intransitive verbs) or indefinite (where in English we would use *a/an*), the verb will have a form that I will gloss as INDF. If the object is definite (where in English we would use *the*), the verb will have a form that I will gloss as DEF.

The word 'fog', used in future tense, albeit similar to the auxillary 'will' in English, is in fact a verb because the inflectional morpheme for definiteness is still applied to the word 'fog'.

	PRS Form	PST Form	Meaning	Example
1.	-ni		INF	ʃeːtalni (*to run*), ʃeːtalni fog (*he will run*)
2.	-æk/-ok	-tæm/-tom	1SG.INDF	ʃeːtalni fogok (*I will run*)
3.	-æm	-tæm	1SG.DEF	
4.	-s/-æl	-tel/-tal	2SG.INDF	
5.	-æd	-tæd	2SG.DEF	enækælæd (*you sing*)
6.	∅	-t/-æt	3SG.INDF	
7.	-iː/-jaː	-tæ	3SG.DEF	gondoljaː (*he/she believes*)
8.	-ynk/-unk	-tynk/-tunk	1PL.INDF	keɾdæzynk (*we ask*)
9.	-juk/-yk	-tyk	1PL.DEF	
10.	-tæk/-tok	-tætæk/-tatok	2PL.INDF	enækæltæk (*you sing*)
11.	-itæk	-tetæk	2PL.DEF	
12.	-næk/-nɒk	-tæk/-tɒk	3PL.INDF	ʃeːtalnɒk (*they walk*)
13.	-ik	-tek	3PL.DEF	

As shown above, the vast majority (if not all) of inflectional morphemes are suffixes.

3.1.2 Objects

In Hungarian, the object of a sentence is always marked by the suffix -t, as in example (1).

(1) ɒ   feɾfi enækæl   æɟ Taylor Swift saːmo-t
    the man sing.3SG.INDF a   Taylor Swift song-ACC
     'The man sings a Taylor Swift song'

In this case where the sentence has both a direct and indirect object, definiteness of the verb agrees with that of the *direct* object. See the following examples that have the same meaning in English:

(2) a. mæg-keɾdæz-i ɒ feɾfi-t vɒlɒmi-ɾøl
          ?-ask-3SG.DEF the man-ACC something-ABL
            'He asks the man about something'

     b. mæg-keɾdæz vɒlɒmi-t ɒ feɾfi-tøl
          ?-ask.3SG.INDF something-ACC the man-ABL
            'He asks something from the man'

In 2a, the direct object is 'the man', so it is marked by -t, and the verb 'ask' uses the definite form. The indirect object here is 'something', which is marked by the ablative suffix -ɾøl so that the word means 'about something'.

In 2b, the direct object is 'something', so it is marked by -t, and the verb 'ask' uses the indefinite form. The indirect object here is 'the man', which is marked by the ablative suffix -tøl so that the phrase means 'from the man'.

Note the prefix mæg- in front of the verb. This is attached to many verbs in Hungarian, but my consultant could not describe the exact purpose of it generally, nor could I infer what it really means. In the particular case of example (2), she states that mæg- (or -mæg sometimes) indicates that the subject (He) knows what to ask, whereas if it the affix is not present it would mean the subject just aims to ask something for the sake of asking.

3.2 Derivational Morphemes

In addition to inflectional morphemes, there are many derivational morphemes too. For example, the suffix -ʃeg/-ʃag is similar to the suffix -ness in English, turning an adjective X to a noun that means Xness. The suffix -tælæn is similar to the suffix -less in English, turning a noun X to an adjective that means *the absence of X*. The second example below, sæmtælæn, literally means eyeless (but, in most cases, means shameless).

```
          N                    Adj
         / \                   / \
       Adj  Aff              N    Aff
        |    |               |     |
      ɟøɲøɾy -ʃeg           sæm  -tælæn
     beautiful ness          eye   less
```
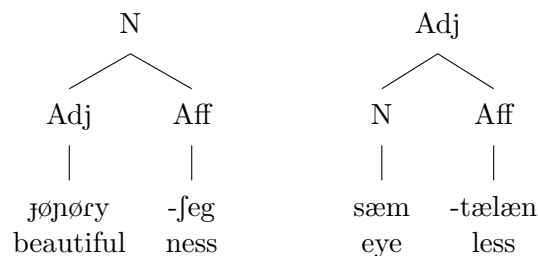
Figure 1: Derivational Morphemes (Beauty and Eyeless)

We can combine them together as well: sø:rtælænʃeg means hairlessness. I claim that, as in English, sø:r (*hair*) first merges with tælæn (*-less*), which then combines with -ʃeg (*-ness*). This is because -ʃeg selects adjectives and turns them into nouns, and does not attach to nouns (e.g. ɟøɲøɾy-ʃeg, *beautiful-ness*; boldog-ʃag, *happy-ness*; but *sø:r-ʃeg, *hair-ness*; nor *sæm-ʃeg, *eye-ness*). Therefore the morphology tree is
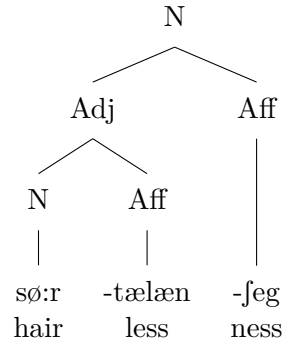

Figure 2: Merging Derivational Morphemes (Hairlessness)

There are also prefixes, like

(3) ɟøɲøɾy-b,   læg-ɟøɲøɾy-b,   lægæʃ-læg-ɟøɲøɾy-b
     beautiful-more, most-beautiful-more, most-most-beautiful-more
      'more beautiful, most beautiful, most beautiful ever'

4 Syntax

4.1 Declarative Sentences

One of the reasons why Hungarian has so many grammatical cases is because the subject, verb, and object can be reordered in different ways (though not all reorderings are acceptable). There is no fixed basic word order. Nonetheless, each reordering conveys a different expression of emphasis. Normally, whatever is emphasized is topicalized by putting it at the beginning of the sentence. For example, let's look at the sentence 'the man walks'.

(4) a. ɒ   ferfi   ʃetal
         the man.TOP walk.3SG
          '**The man** walks'

     b. ʃetal   ɒ   ferfi
         walk.3SG.TOP the man
          'The man **walks**'

In (4a), 'the man' is emphasized. This emphasizes that it is *the man* that walks, not anyone else. In (4b), on the other hand, 'walk' is emphasized. This emphasizes that the man *walks*, instead of run, for example.

This flexibility of word order manifests in almost all Hungarian sentences. Returning to Example (1), multiple ways of saying 'the man sings a Taylor Swift song', according to increasing emphasis of the object 'a Taylor Swift song', are

(5) a. ɒ   ferfi enækæl   æɟ Taylor Swift sa:mo-t
       the man sing.3SG.INDF a   Taylor Swift song-ACC
       'The man sings a Taylor Swift song' (SVO)

   b. ɒ   ferfi æɟ Taylor Swift sa:mo-t   enækæl
      the man a   Taylor Swift song-ACC sing.3SG.INDF
      'The man sings **a Taylor Swift song**' (SOV)

   c. æɟ Taylor Swift sa:mo-t   enækæl   ɒ   ferfi
      a   Taylor Swift song-ACC sing.3SG.INDF the man
      'The man sings **a Taylor Swift song**' (OVS)

but not all orderings are accepted:

(6) a. ?enækæl   ɒ   ferfi æɟ Taylor Swift sa:m-ot
       sing.3SG.INDF the man a   Taylor Swift song-ACC
       'The man sings a Taylor Swift song' (VSO, not completely unacceptable but degraded)

   b. *æɟ Taylor Swift sa:m-ot   ɒ   ferfi enækæl
      a   Taylor Swift song-ACC the man sing.3SG.INDF
      'The man sings a Taylor Swift song' (OSV, unacceptable)

However, while a *post*positional phrase as a whole is allowed to move within a sentence, *within the postpositional phrase* itself, the postposition must come after the noun phrase (more on this later on head directionality):

(7) a. ɒ   ferfi ɒ   haz   fæle   ʃe:talt
       the man the house towards walk.3SG.PST
       'The man walked towards the house'

   b. *ɒ   ferfi fæle   ɒ   haz   ʃe:talt
      the man towards the house walk.3SG.PST
      * 'The house walked towards **the man**'

If there is an embedded clause, it must come after the complementizer hoɟ (*that*). However, there is also another word ɒst (*that*) at the beginning. Interestingly, the word ɒst (as a noun) is added before gondoljuk (*we think*) in order to mark the remaining clause as an object of the sentence, *as a way to add -t to the object* (see section 3.1.2).

(8) a. ɒst   gondoljuk,   hoɟ   te ɟøɲøry vɒɟ
       that(N) think.1PL.DEF, that(C) you beautiful are
       'We think that you are beautiful'

b. *ɒst   gondoljuk,   te   ɟøɲøɾy   vɒɟ hoɟ
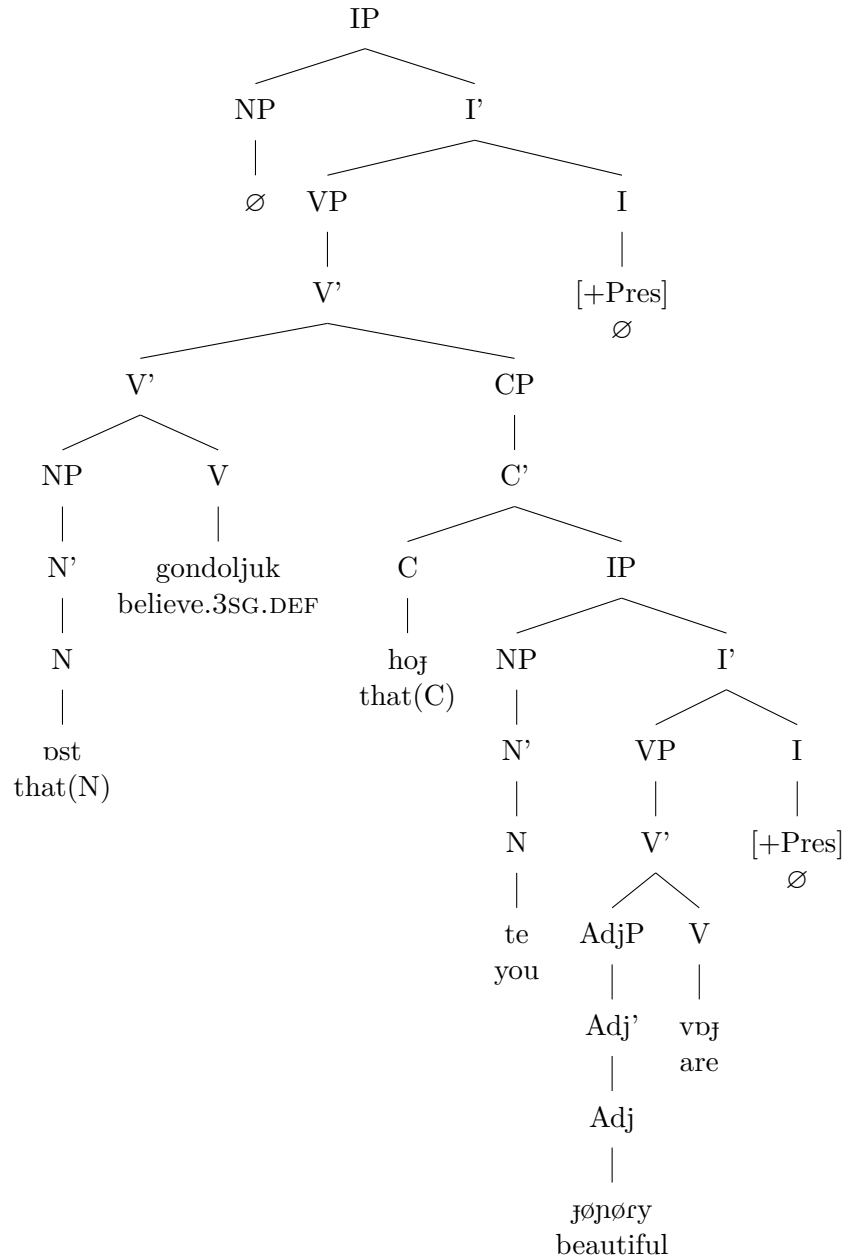   that(N) think.1PL.DEF, you beautiful are that(C)

Figure 3: Embedded Clause

4.2 Interrogative Sentences

Yes/No sentences have the same word order as declarative sentences. The only difference that makes it a question is the intonation of it. To ask a yes/no question, there is an upstep in tone on the last word of the sentence. An upstep in tone on any other word will sound peculiar.

(9) ɒ feɽfi ɒ haz fæle ↑ʃe:talt?
    the man the house towards walk.3SG.PST
     'Did the man walk towards the house?'

To ask a WH question, on the other hand, the WH word is put at the very beginning of the sentence (see (12)).

(10) ki ʃe:talt ɒ haz fæle?
     who walk.3SG.PST the house towards
     'Who walked towards the house?'

(11) mi-t enækæl-t ɒ feɽfi?
     what-ACC sing-3SG.INDF the man
     'What did the man sing?'

(12) a. kinek ɒ sa:m-at enækæl-tæ ɒ feɽfi?
        whose the song-GEN sing-3SG.DEF.PST the man
         'Whose song did the man sing?'

      b. kinek enækæl-tæ ɒ sa:m-at ɒ feɽfi?
        whose sing-3SG.DEF.PST the song- GEN the
         'Whose song did the man sing?'

In English, there is no definiteness article for 'whose song' (*the whose song), but in Hungarian a definiteness article is required, as shown in Example (12). Since WH words must be at the beginning, there is a movement operation of kinek (*whose*) to the front, regardless of whether the complement is moved (as in (12b)). To answer a question, the answer must be placed at the beginning of the sentence as the emphasized topic.

(13) ɒ Taylor Swift sa:m-ot enækæl-tæ ɒ feɽfi
     the Taylor Swift song-ACC sing-3SG.DEF.PST the man
     'The man sang **the Taylor Swift song**' (answer to (10))

4.3 Head Directionality Analysis

While there is flexibility in reordering, some phrases have only one correct order.

Firstly, the postpositional phrase 'ɒ(*a*) haz(*house*) fæle(*towards*)' must have the postposition 'towards' after the noun phrase 'a house' (see (7)), and hence Hungarian is **head final for PP**.

Complements of a noun come before the noun too, such as

(14)　ɒ　boldog-ʃag -kæræʃeʃ　　*ɒ　kæræʃeʃ- boldog-ʃag
　　　 the　happy-ness search　　　 the　search　 happy-ness
　　　　 'the search for happiness'

This suggests that Hungarian is **head final for NP**.

In (8), we also showed that an embedded clause comes after the complementizer. The complementizer is the complement of the clause, so Hungarian is **head final for CP** too.

For VPs, however, Hungarian is ambiguous in terms of head directionality. As example (5) shows, the complement (a Taylor Swift song) of the verb (sing) could come before or after the verb.

In light of PP and NP being head final, there might also be an alternative hypothesis: Hungarian **may be head final for VP**, and reordering is due to movement operations for emphases (see trees in Figure 4). Indeed, whenever a phrase is emphasized, it is always moved to the front (see example (4b)).
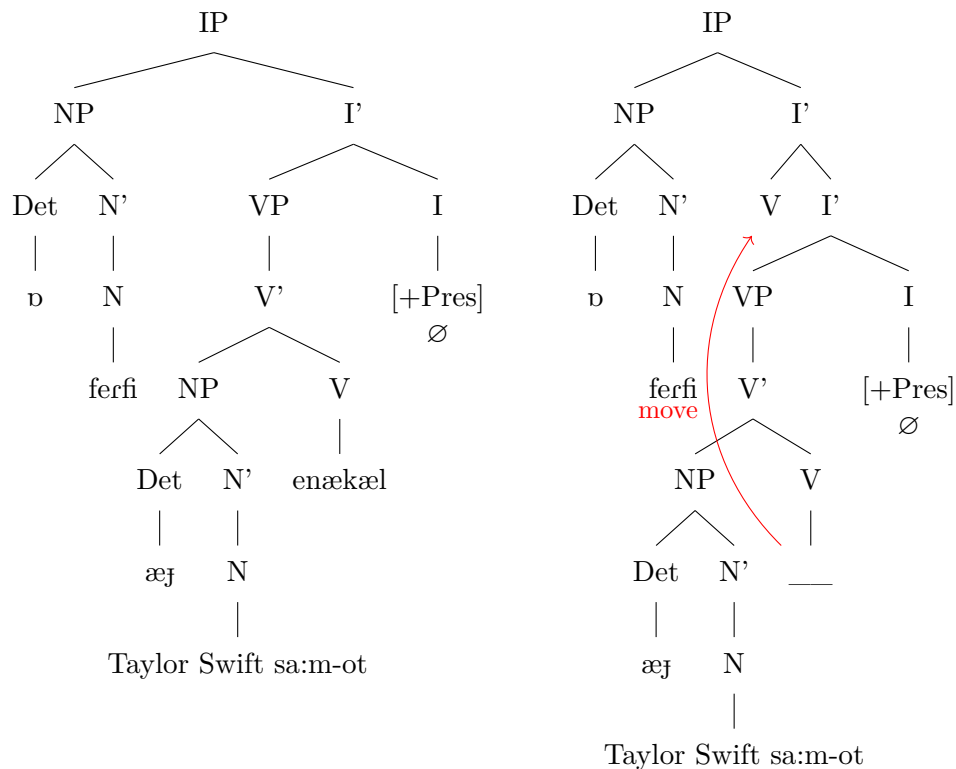

Figure 4: Possible Movement of V for Emphasis

There is no separate word that marks the tense of the sentence, since the tense is marked by the verb itself. Hence it is difficult to see the head directionality for IPs. However, considering that the tense markers are suffixes and that everything else are likely head final, I propose that **Hungarian is head final for IP** too.

In conclusion, despite the bold predictions for IP and VP, we can say Hungarian is a **head final language**.

5 Phonetic Description and Phonological Constraints

5.1 Vowels

		Front	Central	Back
High	(Tense)	i y		u
	(Lax)			
Mid	(Tense)	e ø		o
	(Lax)			
Low	(Tense)	a		ɒ
	(Lax)	æ		

Figure 5: Vowels in Hungarian

The following examples show the existence of the vowels.

(15) t**eg**æd,   k**u**cɒ, s**a**:m-**o**t,   ɟ**ø**ɲ**ø**ɾ**y**,   m**i**
       you.ACC, dog,   song-ACC, beautiful, what
         'you, dog, song, beautiful, what'

Many vowels in Hungarian are rounded ([y], [ø], [ɒ], [o], [u]). In fact, all back vowels are rounded. Most of the vowels are tense, with the exception of the low front unrounded lax vowel ([æ]). There are also no central vowels at all. Furthermore, diphthongs are rare. The closest sounds that resemble diphthongs usually have a [j] between the two vowels, such as si:ja (*hello*).

5.2 Consonants

	Bilabial	Labiodental	Alveolar	Post-Alv.	Palatal	Velar	Glottal
Stop	p b		t d		c ɟ	k g	ʔ
Nasal	m		n		ɲ		
Flap			ɾ				
Fricative		f v	s z	ʃ			h
Approximant					j		
Lateral Appr.			l				

Affricates: t͡s, t͡ʃ

Figure 6: Consonants in Hungarian

Examples with the stops listed:

(16) (**ʔ**)ɒ**p**ɒ, ɟøɲøɾy-**b**,   t**eg**æ**d**,   k**u**c**ɒ**
       father,   beautiful-more, you.ACC, dog.SG
         'father, more beautiful, you, dog'

Examples with the fricatives listed:

(17) **h**az, ʃe:tal, **f**erfi, ɒ**s**t, **v**ɒɟ
      house, walk.INF, man, that(N), COP
         'house, walk, man, that, to be'

Examples with the other consonants (nasal, flap, approximant, lat. approximant, affricate) listed:

(18) e**n**ækæ**l**, **m**i, ɟø**ɲ**ørَy, gondo**lj**uk, **t͡ʃ**ilɒ, le**t͡s**i
      sing.3SG.INDF, what, beautiful, think.1PL.DEF, Csilla(name), please
         'sing, what, beautiful, think, Csilla, please'

The consonants in Hungarian are similar to those in English, with the addition of palatal vowels ([c], [ɟ], [ɲ]) and the affricate [t͡s]. However, there are no dental fricatives, and the 'r' sound is a flap [ɾ] instead of an approximant.

Hungarian contrasts voiceless and voiced consonants. For example, all stops have voiceless and voiced versions (except the glottal stop, which voiced version is judged impossible anyway). A specific example is [pɒp] (*priest*) v.s. [bɒb] (*bean*), where the only consonant changed is b (voiced) and p (unvoiced).

Furthermore, all stops are **unaspirated**. As far as the data I have collected, there are no aspirated stops. When I presented the sounds [p] and [pʰ] to my consultant, she could not tell the difference too, but by default she would pronounce the unaspirated form. This is further backed up by the following occurrences of the /p/ sound:

(19) **p**iroʃ, **p**ɒɾɒlælogrɒm:ɒ, ɒ**p**ɒ, lam**p**ɒ, tɒl**p**, følkɒ**p**
      red, parallelogram, father, lamp, sole(feet), catch
         'red, parallelogram, father, lamp, sole, catch'

whose /p/ sounds are all unaspirated, even though they are in different contexts (word-initial, medial, and final).

Hungarian does have contextually predictable variants for the /r/ sound: the voiced alveolar flap [ɾ] and the voiced alveolar trill [r]. If /r/ is word-initial or final, it is pronounced as an [r]. If /r/ is word-medial, it is pronounced as an [ɾ]. E.g. rombus, rohɒn, ferfi, sø:ɾtælæn, sø:r. Notice the [r] becomes [ɾ] when a suffix is attached to sø:r, even if it is the same morpheme.

There is also a complementary distribution for final stops: Audible released stops and non-audible released stops. Take /b/ as a final sound, then /b/ is non-audibly released ([b˺]) if it precedes another consonant, but is audibly released ([b]) otherwise. For example, [tegæd] and [tegæd˺ særætlek]

In Hungarian, there is no word stress after the first syllable. The default pitch for all words is high to low: [ˈɟøɲørَyb]. However, when stringed together as a sentence, words can have changes in pitch according to emphasis, or if the sentence is turned into a question (example 8 in section 4.2).

6   General Discussion

There are a few points of uncertainty throughout the paper.

In 3.1.1, there could be two forms for a given case (e.g. -tæk/-tok for 2PL.INDF), but each verb selects only one form (e.g. enækæltæk but *enækæltok). The data I have collected was not enough to infer what the underlying rule is as to which form to use. It may be dependent on the ending syllable of the verb, or may just be outright irregular. To test any of these hypotheses, a larger sample of conjugated verbs should be collected.

In 3.1.2, we also introduced the prefix mæg- that is frequently used for verbs. This prefix is sometimes also transformed into a suffix according to the word order of the sentence. However, I am unable to infer the exact meaning of this affix as it seems to indicate different meanings in different sentences. In (2), mæg is used to indicate that the subject knows what to ask (even though we don't), instead of the subject asking for the sake of asking. But in sentences like 'I eat', æsæk (*eat*) means 'taking a bite currently' whereas mægæsæk means 'eating as a whole' such as 'eating dinner'. Therefore mæg is a modifier whose meaning differs from word to word, or there might be an underlying logic that governs when mæg- is used, which shall be confirmed by more collections of sentences in which verbs use mæg-.

There is also the question of VP and IP head directionality. It is difficult to force Hungarian into one of the categories (head final or head initial) given the flexibility of word order and the limited sample of data. I have noticed, some verbs, such as vɒɟ (*be/is/am/are*), are more natural to be after the object, whereas other verbs are more preferably put before the object. Therefore, to study this aspect, more samples of sentences should be collected and the subtle differences of semantics between sentences with different word order should be analyzed.

7   Conclusion

In conclusion, Hungarian is a mostly head final language, although sometimes phrases can be moved to place emphasis, especially verb phrases. Syntactically, sentences can come in forms like SVO, SOV, OVS depending on what is emphasized in the sentence. Even when there is no emphasis, a sentence could be SVO or SOV. In addition, inflectional and derivational morphemes are very abundantly used in Hungarian. Aspects such as grammatical gender, tense, intent and definiteness are all represented as affixes that attach to verbs, and aspects such as plurality and grammatical cases (ACC, ABL, GEN, etc) are also represented as affixes that attach to nouns. Similar to other European languages, its phonology is not very complex. It is not tonal, and there are no non-pulmonic sounds such as clicks. However, Hungarian grammar is fairly complicated due to the large variety of forms a word can appear in, and a more complete and detailed analysis of it will require further sampling of sentences and further distinctions of grammatical cases not available in English.

References

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