

## 6. From non-finite to finite subordination. The history of embedded clauses<sup>1</sup>

Júlia Bácskai-Atkári and Éva Dékány

### 6.1 Introduction

In this chapter we survey the principal changes that took place in the history of Hungarian embedded clauses. We will argue that finite subordination took over non-finite embedding alongside with the development of a functional left-periphery, that is, the CP-domain of finite embedded clauses.

The leading hypothesis of this book is that between the Proto-Hungarian and Old Hungarian periods, an SOV to SVO change took place. Chapter 2 presents evidence for remnants of a head-final CP, TP, and VP in Old Hungarian. Typologically, SOV languages prefer non-finite embedding (Koptjevskaja Tamm 1994), while finite subordination is typical of SVO languages. The hypothesized SOV to SVO change thus predicts that the role of non-finite subordination decreased from Proto-Hungarian to Old Hungarian, while finite embedded clauses gained more and more importance in the language.

There are no written records from the Proto-Hungarian era, and finite subordination is already present in the first written records of the language (these date back to the 12<sup>th</sup> century). This means that we cannot track the beginnings of the rise of finite subordination. In order to reconstruct Proto-Hungarian syntax, chapter 2 employed the method of *f*-curve reconstruction of ancient languages. This method holds that new constructions in language first spread slowly, then gain momentum, and the process of spreading slows down in the end. The spread of new constructions thus corresponds to an *f*-curve. Conversely, old constructions start losing ground slowly, then they decline rapidly, and their replacement slows down in the end (Kroch 1989; Croft 2000). The ousting of old constructions thus corresponds to a reverse *f*-curve. Chapter 2, section 2.2.1.1 argued that Old Hungarian still exhibited some rapidly vanishing non-finite constructions, which represented the last phase of reverse *f*-curves. Extending these curves backward, we arrive at the hypothesis that it was non-finite subordination that prevailed in Proto-Hungarian (cf. also É. Kiss 2013).

In this chapter we complement the analysis in chapter 2. We explore the status of non-finite and finite subordinate clauses in the written records of Old Hungarian, and examine the *f*-curve of finite clauses and the reverse *f*-curve of non-finites in the period between Old Hungarian and Modern Hungarian, showing that the rise of finite subordination and the fall of non-finites have not finished by Old Hungarian. Instead, both processes continued until the present day. Thus comparing Old Hungarian to Modern Hungarian, we find that the former has more types of non-finites, and non-finites in general are used more frequently in the language. At the same time, finite subordination gradually gains ground, and it is extended to more and more environments.

The chapter is organized as follows. First, we give an overview of the distinction between non-finite and finite embedding. In section 6.3, the history of Hungarian non-finite clauses will be examined in detail. The most interesting aspect of Old Hungarian non-finite subordination is the presence of agreement on many types of non-finite verbs, and the way the embedded subject is encoded, so these topics will receive special attention. Points of theoretical interest in this section include the gradience of non-finiteness, the presence of overt nominative subjects without overt agreement on the non-finite verb, the non-complementary distribution between overt lexical subjects and PRO subjects of infinitives, the existence of anti-agreement with infinitives (a phenomenon not attested in other languages, as far as we know). Finally, section 6.4 will be

devoted to the changes affecting Hungarian finite clauses and to the evolution of a functional CP domain. The theoretical point of interest in this domain, and so the focus of our attention, is that the C layer is already present in Old Hungarian, but it is undergoing changes and that these changes are not unique to Hungarian but can be observed in several other languages as well. In other words, the changes to be described here follow from general principles of economy and can be linked to cyclic changes (such as the relative cycle) that contribute to the evolution of functional left peripheries in general. In particular, it can be observed in the CP-domain that the need for overtly marking finite subordination arises, which manifests in the appearance of new grammaticalized left-peripheral heads, the presence of overtly filled multiple C-layers, and a rich interaction of left-peripheral elements. The results are summarized in section 6.5.

## 6.2 On the definition of finite and non-finite clauses

On the basis of their verbal morphology, subordinate clauses fall into two natural classes: finite and non-finite clauses.

As far as the definition of finiteness is concerned, there are various approaches both in generative and non-generative grammars (see for instance Cowper 2002). Two major properties seem to be of paramount importance: finite clauses contain a tensed verb, and this tensed (finite) verb has a subject. Although the relation between subjecthood and tense cannot be viewed as one characterised by mutual entailment (see George and Kornfilt 1981), most generative analyses of finiteness still build on the relation of these two. The Inflectional Phrase (IP) – and, to a lesser extent, the Tense Phrase (TP) – is responsible not only for introducing the inflection head into the structure but also for enabling agreement between the subject and the finite verb, as well as for assigning nominative Case to it (see Chomsky 1995, 1998, 2001; Hornstein 1990, 1995). More importantly, finiteness is also related to the left periphery of the subordinate clause, that is, to the CP-domain: finite clauses are full CPs and finiteness is encoded in the C head (see Kayne 1994 and also Pesetsky and Torrego 2001).

It is also infamously difficult to give a unified characterization of non-finite clauses (see Vincent 1998; Adger 2007; Ledgeway 2007 among many others), especially because while a clause can be finite only in one way, it can be non-finite in several ways (Adger 2007). There are three properties that characterize all Old Hungarian non-finites, so we define the class with the sum of these properties. Firstly, all Old Hungarian non-finites are extended verbal projections that preserve the argument structure of the base verb. Secondly, Old Hungarian non-finites either cannot head an independent main clause, or if they can, "they cannot have an independent tense interpretation, but they can only receive a modal interpretation" (Bianchi 2003). Finally, Old Hungarian non-finites don't bear temporal, mood and aspect affixes, and while some of them do agree with their subject, none of them distinguish the definite and indefinite conjugation like finite clauses do. Thus in this sense their agreement paradigm can be said to be defective.

Non-finites typically don't introduce a subject with independent reference (their unpronounced subject is co-referent with a DP in the matrix clause), or if they do so, that subject bears a case other than nominative. This property, however, holds only for a subset of Old Hungarian non-finites: there are several types that do introduce a referentially independent nominative subject (see section 6.3.1).

## 6.3 The changes affecting non-finite subordinate clauses

### 6.3.1 Non-finite clauses in Old Hungarian

Old Hungarian had a rich system of non-finite clauses: infinitives, adjectival participles, gerunds, and adverbial participles.

#### 6.3.1.1 Infinitives

Infinitives, marked by the suffix *-ni*, had either a covert controlled subject (1a) or an overt, referentially independent dative subject (1b). Control was obligatory when the matrix clause contained a potential controller DP. Referentially independent subjects were licensed only with monadic predicates whose sole argument was the infinitive, and so lacked a potential controller DP in the matrix clause (epistemic, non-directed deontic, and nominal predicates).

- (1) a. *ereztet a te angyalodat meg yzen-ny az isteny*  
send-PST-2SG the you angel-POSS.2SG-ACC PRT announce-INF the godly  
*zyletest*  
birth-ACC  
'you sent your angel to announce God's birth' (Gömöry C. 120r)
- b. *Hewsag [ nekthek wylaagh elewth fel kel-n-ethek: ]*  
vanity DAT-POSS.2PL world in.front.of up get-INF-2PL  
'it is vanity for you to stand up in front of the world' (Festetics C. 85)

Thus PRO and lexical subjects were not in complementary distribution in Old Hungarian; either could appear in the subject position of infinitives. See also Miller (2002); Szabolcsi (2009); Sundaresan and McFadden (2009) on the lack of complementary distribution between PRO and lexical subjects.

#### 6.3.1.2 Adjectival participles

Old Hungarian had several different kinds of adjectival participles: one type employed the non-finite ending *-ó/ő*, and three types employed the non-finite ending *-t*. The *-ó/ő* participle, also (erroneously) known as 'continuous' participle, had an unpronounced, referentially controlled subject. Its base verb could be either unergative, unaccusative, or transitive.<sup>1</sup>

- (2) a. *az [ ec<sub>i</sub> rezket-ew ] papnak<sub>i</sub>*  
the shudder-PART priest-DAT  
'to the shuddering priest' (Jókai C. 156)
- b. *Az rezogseg<sub>i</sub> [ <sub>vP</sub> ec<sub>i</sub> hizolkod-o ] ordog*  
the drunkenness coax-PART devil  
'drunkenness is a coaxing devil' (Guary C. 7)
- c. *Ky<sub>i</sub> ... [ ec<sub>i</sub> ganeebool zegenth feel emel-ew ]*  
who ... manure-from poor-ACC up raise-PART  
'who raises the poor from manure' (Festetics C. 108)

The *-ó/ő* participial ending could be preceded by the verbal suffix *-and/end*. Descriptively oriented historical grammars call *-and/end* the future tense suffix (E. Abaffy 1991: 111). Its use on its own is illustrated in (3a), while (3b) shows how it combines with the *-ó/ő* participial ending.

- (3) a. ha le-es-uen        **ymad-and-az**        engemeth  
          if down-fall-PART worship-MOD-2SG I-ACC  
          ‘if falling down (on your knees) you worship me’ (Könyvecse 20r)
- b. oluasta        uala    hoǵ ezuilagnak        megh ualtoia        zyztul  
          read-PRF-3SG be.PST that this-world-DAT PRT    saviour-POSS virign-ABL  
          uona        **zilet-end-o**  
          be-COND born-MOD-PART  
          ‘she has read that the world’s saviour was going to be born from a virgin’ (Kazinczy C. 20r)

There is no agreement in the literature about the status of suffixes and auxiliaries with a future time reference: in some analyses they fall under the category Tense, while in others they fall under the category Modality (see van de Vate 2011: ch. 6. for a recent overview). Descriptively oriented grammars (e.g. E. Abaffy 1992; Sárosi 2003) observed that the general future was expressed by the present tense in Old Hungarian, and *-and/end* was restricted to the uncertain, conditional future, and so it occurred only in embedded clauses. On the basis of this fact É. Kiss (2005b) argues that the Old Hungarian *-and/end* suffix expressed Modality.

We propose the following new arguments for É. Kiss’ analysis of *-and/end* as a Modal suffix. Firstly, non-finite forms in Old Hungarian are never formed from tensed verbs. If *-and/end* were a Tense head, we would expect it not to be followed by a participial suffix, contrary to fact. Modal suffixes, on the other hand, may co-occur with a participial ending, as in the case of the *-hat/het* ability/permission modal affix below.

- (4) az hoold mynth a    čillagok:, altal    **lat-hat-o**        is lezon  
          the Moon like    the star-PL    through see-POSSIB-PART too be.will  
          ‘the Moon, like stars, will be transparent’ (Sándor C. 4r)

Secondly, *-andó/endő* may express general necessity and possibility, without any temporal orientation. As necessity and possibility are modal categories, *-and/end* is better described as a Modal head rather than as an instance of Tense.

- (5) az vy bor vȳ tȳmlȳcbè        **èrèzt-ènd-o**  
          the new wine new leather.bottle-PL-ILL pour-MOD-PART  
          ‘new wine is to be put into new bottles’ (Munich C. 60rb)

- (6) kyk        mynd **lehet-end-ew**        dolgok az wr istennek  
          what-PL all    possible-MOD-PART thing-PL the lord God-DAT  
          ‘these are all possible for God our Lord’ (Érdy C. 510)

Thirdly, if *-and/end* was a tense morpheme specified for future, we would not expect it to have an anterior reading. However, such anterior readings are attested (even if they are rare). These arguments support the Mod analysis of *-and/end* over the T analysis.

- (7) **ragusyabalo zarmaz-and-o**        Gerlandus newew **hews**  
          Ragusa-ELA originate-MOD-PART Gerlandus named young.man  
          ‘a young man called Gerlandus, who was from Ragusia’ (Jókai C. 162)

The so-called ‘past’ participle was marked by the non-finite ending *-t* and obligatorily had an empty category in the position of the internal argument (the subject of unaccusatives and the object of transitives). As unergatives have no internal argument, this participle could

not be formed from unergative verbs. The external argument of this participle could only be expressed as an ablative-marked DP<sup>2</sup> (a *by*-phrase, cf. (8b)). As this participle could also express co-temporaneity, we will refer to it as "-*t* adjectival participle with a coreferential internal argument" rather than past participle.

- (8) a. menden [*ec<sub>i</sub>* **el mul-t**] vetkedett<sub>*i*</sub> meg boczatyak  
 every away past-PART sin-POSS.2SG-ACC PRT forgive-3PL  
 'all your past sins are forgiven' (Jókai C. 149)  
 b. Meg emlekezik az [**isten től** *ec<sub>i</sub>* **meg tilt-ott**] dolgokrol<sub>*i*</sub>  
 PRT remember-3SG the god ABL PRT forbid-PART thing-PL-DEL  
 'remembers about the things forbidden by God' (Bod C. 11r-11v)

Another kind of adjectival participle ending in *-t* was also formed from unaccusative and transitive verbs, but its empty category (co-indexed with the modified noun) was in the position of the internal argument's possessor. We will label this kind of non-finite as "-*t* adjectival participle with a coreferential possessor".

- (9) a. & ot vala egy [[ (*possessor*)*ec<sub>i</sub>* kez-e ] **meg aź-ot** ]  
 and there was.3SG a hand-POSS.3SG PRT wither-PART  
 ember<sub>*i*</sub>  
 man  
 'and there was a man there which had a withered hand' (Munich C. 38ra)  
 b. [[ (*possessor*)*ec<sub>i</sub>* hit-e ] **zeg-ot** ] felesegenec<sub>*i*</sub>  
 faith-POSS.3SG transgress-PART wife-POSS.3SG-DAT  
 'to his wife, who has transgressed her faith' (Nádor C. 278v)

The possessed internal argument (*keze* in (9a), *hite* in (9b)) bore the morphologically unmarked nominative case. When the base verb was unaccusative, as in (9a), the verb's internal argument was also the subject of the participial clause. Such non-finites thus have an overt nominative subject (but note the lack of agreement on the participial verb). When the base verb was transitive, as in (9b), the verb's internal argument was the object of the non-finite clause. In this case the subject of the participial clause could not be expressed overtly.

Observe the similar use of the *-im* participle in Mansi (10), and the *-m* participle in Khanty (11), the Ob-Ugric languages (the closest relatives of Hungarian):

- (10) puknit **jakt-im** ēlmχōlas  
 navel-POSS.3SG cut-PART person.NOM  
 'person whose navel has been cut' (Riese 2001: 69)  
 (11) ŋa:wre:mlal wo:s-na **manəm** purəs ike:-t  
 child-PL-POSS.3SG city-LOC go-PASTPART old man-PL  
 'the old men whose children went to the city' (Nikolaeva 1999: 77)

The third kind of adjectival participle ending in *-t* employed an empty category in the place of the object and was formed only from transitive verbs. This participle had an overt nominative subject and the participial verb showed obligatory agreement with the subject. Typically, this non-finite comprised two overt elements: the agreeing participial verb and one other constituent. The latter was typically the subject (12), but in a few instances it could also be a different element (13), or it could be missing entirely (14). We will refer to this non-finite as "-*t* adjectival participle with a coreferent object".

- (12) erdemlyók<sub>i</sub> az [ ew *ec<sub>i</sub>* megh **yger-tte** ] bodogsagnak<sub>i</sub> dychósegeet  
 deserve-1PL the he PRT promise-PART happiness-DAT glory-POSS-ACC  
 ‘we deserve the glory of the happiness he promised’ (Érdy C. 96)
- (13) es ueged az [ *ec<sub>i</sub>* nekod **zor-zott-em** ] Coronat<sub>i</sub>  
 and take.IMP-2SG the DAT-2SG procure-PART-1SG crown-ACC  
 ‘take the crown that I procured for you’ (Kazinczy C. 17v)
- (14) az aldot zereto [ *ec<sub>i</sub>* **zy-lott-em** ] fyamnak zent  
 the bless-PART love-PART give.birth-PART-1SG son-POSS.1SG-DAT holy  
 vereuel  
 blood-POSS-with  
 ‘with the holy blood of my blessed, beloved son that I bore’ (Nagyszombat C. 148)

Compare the similar non-finite form in Eastern Khanty:

- (15) [ (mä) **tini-m-äm** ] loγ  
 I sell-PASTPART-1SG horse  
 ‘the horse I sold’ (Nikolaeva 1999: 79)

### 6.3.1.3 The gerund

The gerund of Old Hungarian also employed *-t* as a non-finite ending. As characteristic of gerunds, this non-finite clause had both verbal and nominal properties. It preserved the argument structure of the base verb (either transitive, unergative, or unaccusative), its object was marked with accusative case, and it could be modified by adverbs and negation (16).

- (16) vetkeztem [ en erzekensegym-et iora nem  
 sin-PST-1SG I sensibility-PL-POSS.1SG-ACC good-SUB not  
**byr-t-om-ba.** ]  
 hold-GERUND-POSS.1SG-INE  
 ‘I have sinned in not using my sensibilities for good’ (Virginia C. 2v)

The non-finite ending *-t* took the extended verbal projection as its complement and nominalized it: [NomP *-t* [clause]]. NomP was then embedded under nominal functional projections, and the nominalized clause distributed in the clause as a noun. Owing to the presence of nominal functional projections, the nominalized clause took the possessive suffixes and the case marking of garden variety nouns (case marking reflected the grammatical role that the gerund fulfilled in the sentence, e.g. accusative, inessive, etc). Compare the possessive agreement followed by the accusative marker on *-t* gerunds (17) and on ordinary nouns (18).

- (17) háromzèr tagačmeg [ ègemèt esmèr-t-**ed**-èt ]  
 three.times deny-2SG-PRT I-ACC know-GERUND-POSS.2SG-ACC  
 ‘thou shalt deny (your) knowing me thrice’ (Munich C. 81 va)
- (18) a. lel-k-et  
 soul-ACC  
 ‘soul’ (Bod C. 5r)
- b. lel-k-**ed**-et  
 soul-POSS.2SG-ACC  
 ‘your soul’ (Bod C. 6r)

The gerund, however differed from ordinary nouns in that it had to be formally possessed (i.e. it had to bear possessive morphology): unlike garden variety nouns, (17) has no non-possessed variant.

This non-finite form has a close parallel in Mansi, where the *-ke* gerundival ending is obligatorily followed by possessive agreement. The Mansi gerund is different, however, in that it always functions as a temporal adverbial and the case marking is invariantly the *-t* locative ending. (When used as a temporal modifier, the Old Hungarian gerund, too, bore inessive case. However, depending on the nominal function it fulfilled, the Old Hungarian gerund could also bear nominative, accusative, dative, and superessive case.)

- (19)    *màn ūsn        jal-ke-w-t*  
          *we   city-LAT go-GERUND-POSS.1PL-LOC*  
          ‘when we go to the city’ (Riese 2001: 70)

The gerund’s subject could not receive case in the verbal part of the gerund, so it moved up to the nominal layers of the gerund, into the position of the possessor. Here it could be case-licensed as a possessor. The presence of the possessor explains the obligatory possessive marking on gerunds.<sup>3</sup>

- (20)    *megakaria        nomoreitani èn<sub>i</sub> [ t<sub>i</sub> ièlèn    vol-t]-om-ban*  
          *PRT-want-3SG cripple-INF I        present be-GERUND-POSS.1SG-INE*  
          ‘will he force her (the queen) in my presence?’ (Vienna Codex 64)
- (21)    *hallottac        onèki<sub>i</sub> [ t<sub>i</sub> è    ièlènség    te-t]-è-t*  
          *hear-PST-3PL he-DAT    this phenomenon do-GERUND-POSS.3SG-ACC*  
          ‘they heard of his doing this deed’ (Münich Codex 98 vb)

If the possessor was coreferent with a matrix argument, as in (17), it underwent regular *pro*-drop. Its reference could be recovered from the possessive agreement on the gerund.

#### 6.3.1.4 Adverbial participles

Old Hungarian also had four types of adverbial participles: *-ván/vén*, *-va/ve*, *-val/vel*, and *-t* participles. Adverbial participles ending in *-va/ve* and *-ván/vén* could have either an overt, referentially independent subject or an unpronounced subject coindexed with the matrix subject or object. These non-finites could be formed from unergative, unaccusative, as well as transitive verbs.

- (22)    *-ván/vén* participles
- a.    [ *Es azoc e-uèn* ]    *ve-ue        i<sup>c</sup>    a·    kenèr-èt*  
          and those eat-PART take-PST.3SG Jesus the bread-ACC  
          ‘and as they did eat, Jesus took bread’ (Munich C. 50vb)
- b.    *kýlencz hónap el        mwl-waan*  
          nine    month away past-PART  
          ‘nine months having past’ (Festetics C. 147)
- c.    *ig        [ ec<sub>i</sub> meg-kotoz-uèn a    kötèlèckèl ] èl-hag-ac        ọ-tèt<sub>i</sub>*  
          this.way        PRT-tie-PART    the rope-PL-INS away-leave-3PL he-ACC  
          ‘they left him bound by ropes this way’ (Vienna C. 21)

(23) -va/ve participles

- a. & [ mù **alu-uāc** ] èl vroztac ȝtèt  
and we sleep-PART.1PL away steal-PST-3PL him  
'and they (=his disciples) stole him away while we slept' (Munich C. 35 vb)
- b. [ **hal-ua** ] lelic vala mellette  
dead-PART find-3PL be-PST next.to-3SG  
'found him dead next to her' (Guary C. 103)
- c. kezet **tew-ue** ylyesnek feyere  
hand-ACC put-PART Elijah-DAT head-POSS-SUB  
'putting his hand of Elijah's head' (Jókai C. 23)

Participles with -va/ve could optionally agree with their subject. We will take up this issue in more detail in section 6.3.3.2.

Participles in -val/vel can be found in many codices, but very little is known of this type of non-finite clause.

- (24) meg vilagozeytateek istennek malaztyaual [ el **hagy-ual** az  
PRT enlighten-PASS-PST.3SG God-DAT grace-POSS-with PRT leave-PART the  
eretneksegek setetsegeet ]  
heresy-DAT darkness-POSS-ACC  
'he was enlightened by God's grace, leaving the darkness of heresy' (Domonkos C. 39v)

Finally, adverbial participles in -t could have an overt, referentially independent subject with nominative case (25a), or a covert subject co-referent with the subject (25b), object (25c), or dative-marked DP (25d) of the matrix clause. These non-finites could be formed from unergative, unaccusative, as well as transitive verbs, and obligatorily agreed with their subject.

- (25) a. [ **azoc èuèz-ett-ec** kedig ] ȝ èlaluec  
those row-PART-3PL CONJ he PRT-sleep-3SG  
'as they sailed he fell asleep' (Munich C. 63vb)
- b. ȝ taneituani<sub>i</sub> [ *ec<sub>i</sub>* **iar-att-oc** ] kézden<sup>c</sup> gabona fȝt  
he disciple-POSS.PL walk-PART-3PL begin-PST-3PL corn ear-ACC  
žaggat-ni-oc  
pick-INF-3PL  
'his disciples began, as they went, to pluck the ears of corn' (Munich C. 37vb)
- c. Es latic azokat<sub>i</sub> [ *ec<sub>i</sub>* **èl-mèn-ètt-ec** ]  
and see-PST-3PL those-ACC away-go-PART-3PL  
'and the people saw them departing' (Munich C. 41va)
- d. Es **nemel'ècnèc<sub>i</sub>** [ *ec<sub>i</sub>* a· tèmplomrol **bèžèll-ètt-ec** ] [ hog io  
and some-PL-DAT the temple-DEL speak-PART-3PL that good  
kȝèckel & aiandokockal èkèsitètèt volna ]] mȝda  
stone-PL-with and gift-PL-with adorn-PART be-COND.3SG say-PST.3SG  
'and to some that spake of the temple, how it was adorned with goodly stones and gifts, he said' (Munich C. 79vb)



### 6.3.1.5 Interim summary

The table below summarizes the system of non-finite forms in Old Hungarian.

Table 1: The system of Old Hungarian non-finite forms

	independent subject	case of subject	agreement
infinitive	yes, when no controller	dative	yes, optional
adjectival participles			
-ó/ő	no	N/A	no
-t, internal arg. gap	no, <i>by</i> -phrase	N/A	no
-t, object gap	yes	nominative	yes, obligatory
-t, possessor gap	yes(w/ unaccusative V)	nominative	no
adverbial participles			
-t	yes	nominative	obligatory
-ván/vén	yes	nominative	no
-va/ve	yes	nominative	yes, optional
-val/vel	N/A	N/A	no
gerund	yes	nominative/genitive	yes, nominal

As the table shows, the often assumed correlation between nominative case and overt inflectional morphology (agreement) is not a universal property of language: *-va/ve* adverbial participles agreed only infrequently and optionally, yet they could have an overt nominative subject, and *-ván/vén* adverbial participles did not agree, but their subject was nominative if it was overt.<sup>4</sup> Adjectival participles with a possessor gap had an overt nominative subject when the base verb was unaccusative (that is, when the internal argument also served as the subject), but these participles never agreed with their subject.

That cross-linguistically there is no correlation between nominative subjects and finiteness or overt inflection in non-finite clauses is also evident in other languages. In the Turkic language Karachay-Balkar the subject of *-yan* participles is nominative but the participle is uninflected (26). The same pattern can be observed in Northern (Kazym) Khanty with the *-əm* past participle, too (27). (See Wu 2011 for further examples and Sundaresan and McFadden to appear for a recent treatment of the independence of finiteness and nominative case.)

- (26) oquwču al-yan kitap  
 student buy-PART book  
 ‘the book that the student bought’ (Comrie 1998: 79-80)

- (27) [ nəŋ ewt-əm ] još-em χűw jām-a ănt jĩ-Λ.  
 you cut-PART hand-POSS.1SG long good-LAT NEG become-3SG  
 ‘my hand, which you have cut, will not heal for a long time’ (Csepregi 2012: 68)

The rich inventory of non-finite forms, still in place in late Old Hungarian, has undergone dramatic changes throughout the Middle Hungarian period, and by the emergence of Modern Hungarian it has become rather impoverished compared to its previous standing. The changes were of two kinds. On the one hand, non-finite clauses gradually lost ground: some types of non-finites completely died out, and the productivity and distribution of others became narrower than before. On the other hand, those non-finites that did remain in the language came to be

more typically non-finite: some lost the ability to license referentially independent first and second person subjects or pronominal subjects or overt subjects, and others lost the ability to agree with their subject. In the next two sections we are going to discuss these processes in detail.

### 6.3.2 Non-finite clauses losing ground

From the Old Hungarian period on, finite subordination became more and more prominent, and non-finite clauses were gradually driven into the background (cf. also Gugán's 2002 comparative study of three Old Hungarian, four Middle Hungarian, and three Modern Hungarian translations of chapters 26 and 27 from the Gospel according to Matthew). This process affected different types of non-finites to a different degree.

#### 6.3.2.1 Non-finites disappearing from the language

The supplantation of non-finite forms had the strongest effect on *-t* adverbial participles and *-val/vel* adverbial participles. These non-finites have completely disappeared from the standard language. Adverbial participles in *-t* could have either a referentially independent subject (28) or a phonologically empty subject co-referent with a matrix DP (29); both subtypes fell out of use after the era of the codices. In contemporary Hungarian speakers would use *-va/ve* adverbial participles, finite subordination, or in some cases an infinitival clause instead.

- (28) [ Nègèd èztèndòbèn **Phtolomeus & Cleopatra orzagl-att-oc** ] Dositheus ... &  
 fourth year-INE Phtolomeus and Cleopatra reign-PART-3PL Dosiheus and  
 Ptoleumus o fia hozac èl Fvrim epl-at  
 Phtolomeus he son-POSS.3SG bring-PST-3PL away Phurim letter-POSS-ACC  
 Iflm-bè  
 Jerusalem-ILL  
 'In the fourth year of the reign of Ptoleumus and Cleopatra, Dositheus, ... and Pto-  
 lemeus his son, brought this epistle of Phurim to Jerusalem.' (Vienna C. 73)
- (29) a. Azockal kedig i<sup>c</sup><sub>i</sub> [ *ec<sub>i</sub>* **vačoral-att-a** ] veue a· kenèrèt &  
 those-INS CONJ Jesus dine-PART-3SG take-PST.3SG the bread-ACC and  
 megalda  
 PRT-bless-PST.3SG  
 'And as he was eating with them, Jesus took bread, and blessed it.' (Munich C.  
 32va)
- b. m̃g lélec a· uèhmèt<sub>i</sub> [ *ec<sub>i</sub>* **all-att-a** ]  
 PRT find-PST-3PL the donkey-ACC stand-PART-3SG  
 'they found the colt standing' (Munich C. 78rb)
- c. Mèntol vtolbzèr ke a· tizenegn<sup>c</sup><sub>i</sub> [ *ec<sub>i</sub>* egembè **ul-ètt-ec** ] ièlenec  
 all-ABL last the eleven-DAT together sit-PART-3PL appear-PST.3SG  
 o nèk-ic i<sup>c</sup>  
 they DAT-3PL Jesus  
 'Afterward he appeared unto the eleven as they sat.' (Munich C. 53va)

The Székely dialect has two adverbs that represent a small fossil of this type of non-finite, though (Károly 1956: 214): the lexicalized forms *álmotta* 'sleeping' and *émëtte* 'awake' still show

the verb+*t*+agreement morphological make-up that characterized the productive *-t* adverbial participles, and their meaning is compositional.

The *-val/vel* adverbial participle, shown in (30), also fell out of use in the standard language (though it might have been restricted to certain dialects already in Old Hungarian); it was replaced by the *-va/ve* adverbial participle. However, some dialects (including the most archaic Csángó dialect) have retained the *-val/vel* ending, too (31).

- (30) iarunk kelwnk ... embereketes [ ver-uen **vagdal-ual** es meg  
go-1PL go.about-1PL person-PL-ACC-too beat-PART hew-part and PRT  
wldwk-uen ]  
kill-PART  
'we go on the loose, beating, cutting up, and killing people' (Virginia C. 25r)
- (31) A legnagyobb testvérem meg van **hal-val**.  
the biggest sibling-POSS.1SG PRT be.3SG die-PART  
'my eldest sibling is dead' (Ivácsony 2002-2003: 44)

### 6.3.2.2 Non-finites losing productivity

While *-t* adverbial participles were completely lost and *-val/vel* became (or remained) dialectal, other non-finites remained in the language with crippled productivity, that is, they can be formed from a narrower class of verbs than before. The most spectacular example of this is the *-t* gerund, which was completely productive in Old Hungarian, and is almost completely unproductive in Modern Hungarian.

- (32) a. Ne zегyenletek [ alamyznaert **ment-ett-ek-et** ]  
not be.ashamed-2PL alms-FINAL go-PART-2PL-ACC  
'don't be ashamed of asking for alms' (Jókai C. 81–82)
- b. mert vetkeztem [ hytemnek tyzenket agazatyat nem  
because sin-PST-1SG faith-POSS.1SG-DAT twelve branch-POSS-ACC not  
**tart-at-om-ba** ] es [ ellen-e **vett-et-em-be** ]  
adhere.to-PART-1SG-ILL and against-3SG sin-PART-1SG-ILL  
'because I sinned in not adhering to the twelve branches of my faith, and in transgressing it' (Virginia C. 7r)

Only very few *-t* gerunds have remained that can still take possessive suffixes other than third person.

- (33) a. jár-t-om-ban, jár-t-od-ban,  
walk-GERUND-POSS.1SG-INE walk-GERUND-POSS.2SG-INE  
jár-t-á-ban  
walk-GERUND-POSS.3SG-INE  
'in my/your/his going about'
- b. jár-t-unk-ban, jár-t-otok-ban,  
walk-GERUND-POSS.1PL-INE walk-GERUND-POSS.2PL-INE  
jár-t-uk-ban  
walk-GERUND-POSS.3PL-INE  
'in our/your/their going about'

- (34) a. hol-t-om-ig, hol-t-od-ig,  
doom-GERUND-POSS.1SG-TER doom-GERUND-POSS.2SG-TER  
hol-t-á-ig  
doom-GERUND-POSS.3SG-TER  
'until my/your/his doom'
- b. hol-t-unk-ig, hol-t-otok-ig,  
doom-GERUND-POSS.1PL-TER doom-GERUND-POSS.2PL-TER  
hol-t-uk-ig  
doom-GERUND-POSS.3PL-TER  
'until our/your/their doom'
- (35) a. nincs nyug-t-om, nyug-t-od,  
not.be rest-GERUND-POSS.1SG rest-GERUND-POSS.2SG  
nyug-t-a  
rest-GERUND-POSS.3SG  
'I am restless, you are restless, he is restless'
- b. nincs nyug-t-unk, nyug-t-otok,  
not.be rest-GERUND-POSS.1PL rest-GERUND-POSS.2PL  
nyug-t-uk  
rest-GERUND-POSS.3PL  
'we are restless, you are restless, they are restless'

The rest of the remaining *-t* gerunds are lexicalized forms. They have become lexicalized in the third person singular form, and cannot be inflected for other combinations of person and number. These serve mostly as adverbs (36), and to a lesser extent also as nouns (37) or postpositions (38) (see Radics 1992 for a more extensive list).

- (36) Adv lexicalized from *-t* gerunds
- a. valami lát-t-á-ra/lát-t-á-n  
something see-GERUND-POSS-SUB/SEE-GERUND-POSS-SUP  
'upon seeing sth'
- b. valami hall-at-á-ra  
something hear-GERUND-POSS-SUB  
'upon hearing sth'
- c. jár-t-á-nyi erő  
walk-GERUND-POSS-ful strength  
'strength enough to walk'
- (37) Ns lexicalized from *-t* gerunds
- a. nap-kel-t-e  
sun-rise-GERUND-POSS  
'sunrise'
- b. valaki vesz-t-e  
somebody lose-GERUND-POSS  
'somebody's doom'

(38) Ps lexicalized from *-t* gerunds

- a. men-t-é-n  
go-GERUND-POSS-SUP  
'along'
- b. múl-t-á-n  
past-GERUND-POSS-SUP  
'after'

Among the adverbial participles of early Old Hungarian, *-ván/vén* participles were by far the most frequent.

- (39) zent fferencz [ **fel-kel-uen** ymadsagtol ] tarsanak eleybe  
Saint Francis up-get-PART prayer-ABL fellow-POSS-DAT front-POSS-ILL  
mene  
go-PST.3SG  
'Standing up from prayer, Saint Francis went to greet his fellow.' (Jókai C. 134)

They were, however, gradually ousted by *-va/ve* adverbial participles; by the 19<sup>th</sup> century, already *-va/ve* dominates in the written language (Horváth 1991). For some speakers of colloquial Modern Hungarian, *-ván/vén* adverbial participles sound archaic, while the rest find them stylistically heavily marked and prefer *-va/ve* instead (Bartos 2009).<sup>5</sup>

The loss of productivity also affected *-t* adjectival participles with a coreferent possessor. It is not entirely certain how productive these participles were in Old Hungarian; only a handful of data are found in the codices.

- (40) a. Halwan ezeket az [ *ec<sub>i</sub>* ez-e **vez-ót** ] yffyw<sub>i</sub>  
hear-PART these-ACC the mind-POSS lose-PART boy  
'when the boy who lost his mind heard these' (Érdy C. 199)
- b. [ *ec<sub>i</sub>* *kølk-è-y* **èl-ragad-ot** ] nøsten mèdeue<sub>i</sub>  
cub-POSS.3SG-PL away-take-PART female bear  
'a bear that is bereaved of her whelps' (Vienna C. 199)

Given that the development of non-finites in Hungarian is characterized by a reverse *f*-curve, this participle must have been entirely productive at some point. Its productivity, however, has dropped close to nil in Modern Hungarian, and the generally accepted examples have a lexicalized flavour (see Nádasdi 2010 for a recent study eliciting native speaker judgments of this construction, and argumentation that at least some examples are constructed in the syntax rather than being stored in the mental lexicon). Whether the Old Hungarian period already saw the decline of this non-finite or this happened only later is not certain. But even if this participle started losing ground already in Old Hungarian, it was still more productive than it is today. In Old Hungarian the base verb of the participle could be either unaccusative or transitive (as in (9b) and (40b)), while the verb in Modern Hungarian must be unaccusative (Nádasdi 2010). Furthermore, not all unaccusative verbs are acceptable either.<sup>6</sup> In addition, in Modern Hungarian this participle must express a part-whole relationship (Nádasdi 2010), but this restriction was not operative in Old Hungarian (in (40b), for instance, the participle expresses a kinship relationship).

### 6.3.2.3 Non-finites assuming a narrower external distribution

So far we have seen that certain non-finites have disappeared from the language and that others have become less productive. We are now going to see that yet others remained fully productive, but in Old Hungarian they had a wider distribution than today.

Infinitives, for instance, could accompany more predicates in Old Hungarian than in Modern Hungarian. In (41a) the noun *meltosagh* ‘honour, dignity’ takes an infinitival complement. While infinitives as complements to nouns are still possible (e.g. *hiúság* ‘vanity’ + infinitive), the contemporary *méltóság* cannot take such a complement any more. In (41b) the verb *ysmer* ‘know’ is modified by an adjunct infinitive whose subject is controlled by the matrix object *ewtet* ‘him’. Although adjunct infinitives with object control are still possible in Hungarian, the verb *ysmer* cannot appear in this structure any more. In (41c) the verb *tehet* ‘can, able to’ takes an infinitival complement whose subject is controlled by the matrix subject. While complement infinitives with subject control are perfectly grammatical in contemporary Hungarian, too, the verb *tehet* is not used in this way any longer. Thus while infinitives have not lost their productivity, they can serve as adjuncts or complements to fewer predicates than before.

- (41) a. apostoloknak nağh meltosagah: [ **lat-ny** az cristust testy zemekkel: ]  
disciple-PL-DAT big honor-POSS see-INF the Christ-ACC bodily eye-PL-INS  
‘it is a great honour for the disciples to see Christ with their eyes’ (Könyvecse 24r)
- b. hogý ewtet’ [ mý eertwenk **esedez-ny** ] ysmeryek  
that he-ACC we FINAL-1PL beg-INF know-SBJV-3PL  
‘that he be known to beg (the Lord) for us’ (Festetics C. 331)
- c. Ees meegýs [ **fel kel-n-em** ] nem tehettem  
and yet up get-INF-1SG not can.do-POSSIB-PST-1SG  
‘and yet, I could not get up’ (Festetics C. 403)

Adverbial participles with *-ván/vén* and *-ó/ő* adjectival participles have also assumed a narrower distribution. In Old Hungarian they could appear in predicative position, serving as the complement of the copula.

- (42) Vala kedig pèter [ **al-uan** ]  
was.3SG CONJ Peter stand-PART  
‘and Simon Peter stood’ (Munich C. 104va)
- (43) valanac [ **e-uo-c** & **i-uo-c** ]  
be.PST-3PL eat-PART-PL and drink-PART-PL  
‘they were eating and drinking’ (Munich C. 30va)

This use completely disappeared: *-ó/ő* adjectival participles can only be used as nominal modifiers, and speakers who do accept *-ván/vén* adverbial participles in an adverbial, verb-modifying use reject them in a predicative position.

Not only did *-ó/ő* adjectival participles lose their predicative use, but their temporal interpretation has also become narrower. As already mentioned in section 6.2, non-finite clauses do not have an independent tense interpretation; when embedded under a matrix clause, they anchor the event time with respect to the time of the matrix event. In Old Hungarian, the event described in the non-finite clause typically precedes or is co-temporaneous with the event in the matrix clause. In a few rare instances, however, the event described by a predicatively used *-ó/ő* adjectival participle is posterior to the event of the matrix clause.

- (44) a. ysa mend [ ozchuz **iar-ov** ] vogmuc  
indeed all that-ALL go-PART be-1PL  
'indeed, we are all approaching that' (Funeral Sermon and Prayer)
- b. ki vala [ ȝèt **èl arol-o** ]  
who was he-ACC PRT-betray-PART  
'which should betray him' (Munich C. 98va)

Both the predicative use and the posterior interpretation of *-ó/ő* adjectival participles were lost over time, however, and the examples in (44) would be ungrammatical in contemporary Hungarian. Their meaning would be expressed by a finite clause or by the combination of the future auxiliary *fog* and an infinitive.

- (45) a. majd mind ahhoz járul-unk  
one.day all that.ALL go-1PL  
'we will all go there'
- b. mind ahhoz fog-unk járul-ni  
all that.ALL will-1PL go-INF  
'we will all go there'

In Old Hungarian and Middle Hungarian, adverbial participles ending in *-va/ve* (46) and *-ván/vén* (47) could also be coordinated with finite main clauses (Velcsov 1957; 1981; Horváth 1991; Varga 2012). This is not possible in Modern Hungarian any more.

- (46) Es [ bè-mē-**uè-iec** Moabitidisnèc videkébè ] & lakoznakuala oth  
and in-go-PART-3PL Moab-DAT land-POSS-ILL and live-3PL-be.PST there  
'And having come into the country of Moab, they continued there' (Vienna C. 1)
- (47) a. Es elewe **hyw-a** az ȝ zolgalo leanyat Abráth, **es**  
and forward call-PST.3SG the she servant maid-POSS.3SG-ACC Abrat-ACC and  
[ le **zal-wan** az ȝ hazaba, ] **es** le **vét-ée** ȝn magariol az  
down go-PART the she house-ILL and off take-PST.3SG own self-DEL the  
zȝȝr yngeth  
haircloth shirt-ACC  
'and she called her maid, Abra, and went down into her house, and she pulled off the sackcloth which she had on' (Székelyudvarhely C. 31v)
- b. [ az hytetlenek azon sem **eeleghód-ween** ] **de** meeg az  
the incredulous-PL that-SUP neither satisfy-PART but even the  
testeet ees egy oonos edeenben **rekezt-ek**  
body-POSS.3SG-ACC too a tin pot-INE close-PST.3PL  
'the incredulous not being satisfied with that either, but they even hid the body in a tin pot' (Érdy C. 336)

In some cases these adverbial participles could function as the sole predicate of a main clause, without being coordinated with another finite main clause. Such root participles are not grammatical in Modern Hungarian.

- (48) eztendőnek alatta                      hal-a                      meg wra.                      **Akar-wan** esmeg  
 year-DAT    under-POSS.3SG die-PST.3SG PRT husband-POSS.3SG want-PART again  
 hazassagra    adny    myeert    hogy    yffyw    es    kazdagh    vala;                      Ew keddeeg  
 marriage-SUB give-INF because that    young and rich                      be.PST.3SG she CONJ  
 valaszt-a                      mas    eeletet    maganak  
 choose-PST.3SG different life-ACC self-DAT  
 'Her husband died within a year. They wanted her to marry again because she was  
 young and rich. But she chose a different life for herself.' (Érdy C. 371 a)

These data present a conundrum to standard assumptions about non-finite clauses. One of the defining properties of non-finites is that they cannot head an independent main clause (or if they can, they can only have a modal interpretation, but the examples under consideration don't have such an interpretation).<sup>7</sup> Furthermore, as only similar categories can be coordinated, finite main clauses are expected to be coordinated with other finite main clauses but not non-finites (which are complement or adjunct clauses).

Some descriptively oriented historical grammars suggest that in these examples the non-finite form "gets a role similar to finite verbs" (Károly 1956: 205) or it "comes near a finite form" (A. Jászó 1992: 449). We argue in line with Velcsov (1957; 1981); Horváth (2003) that in the relevant examples the verb is not just similar to a finite predicate, but it actually is a finite form. Specifically, Old Hungarian speakers optionally reanalyzed *-ván/vén* and *-va/ve* participles as finite forms, and this naturally allowed their use as the sole predicate of a finite clause and their coordination with finite clauses. This reanalysis was optional and did not replace the previously existing non-finite structure.

Velcsov (1957; 1981) and Horváth (2003: 432) suggest that the finite use of *-ván/vén* was due to the analogical effect of a small group of verbs with an exceptional finite inflectional paradigm. It is typical of Hungarian throughout its history that the third person singular suffix is zero in the indefinite agreement paradigm, present tense, indicative mood.

- (49) a. ad-∅  
           give-3SG  
           'he gives' (Bod C 3r)  
       b. Fel-kël-∅  
           up-get-3SG  
           'he gets up' (Vienna C. 161)

A small group of verbs: *lesz* 'be.FUT/become', *tesz* 'do, take, put', *vesz* 'take (away)', *eszik* 'eat', *iszik* 'drink', *hisz* 'believe', *visz* 'carry', however, exceptionally took an *-n* ending in this case (E. Abaffy 1991; 1992).<sup>8</sup>

- (50) a. tez-en  
           do-3SG  
           'he does' (Marosvásárhely Lines)  
       b. vez-en  
           take-3SG  
           'he takes' (Könyvecse 14v)

In Old Hungarian, from the earliest remaining texts (e.g. Funeral Sermon and Prayer cca. 1195, Königsberg Fragment cca. 1350) on, this group of verbs also regularly took the *-n* ending in third person singular, simple past, indicative mood (52). Compare the regular verbs in (51) with a zero ending in this cell of the paradigm:



- (51) a. ad-a- $\emptyset$   
give-PST-3SG  
'he gave' (Bod C. 10r)
- b. fel-kèl-è- $\emptyset$   
up-get-PST-3SG  
'he got up' (Vienna C. 5)
- (52) a. tew-n  
do.PST-3SG  
'he did' (Jókai C. 3)
- b. ve-n  
take.PST-3SG  
'he took' (Jókai C. 1)

Regular verbs take an *-n* ending in the third person singular only in the imperative/subjunctive mood:

- (53) a. ad-y-on  
give-SBJV-3SG  
'may he give' (Bod C.14r)
- b. fel-kèll-en  
up-get.SBJV-3SG  
'may he get up' (Vienna C. 221)

Velcsov (1957; 1981); Horváth (2003) suggest that the reanalysis of *-ván/vén* was triggered by the analogical effect of the third person singular *-n* ending of *tesz*, *vesz*, etc. We agree that the paradigm of *tesz* 'do, take, put', *vesz* 'take (away)', etc. put the process of reanalysis into motion, but add that the fact that regular verbs also take the *-n* ending in the (finite) imperative/subjunctive mood probably contributed to the reanalysis. Furthermore, it must have been crucial for the reanalysis that *tesz* 'do, take, put' *vesz* 'take (away)', etc. were (and still are) frequently used verbs in the language (note that these verbs have exceptional past tenses in many European fusional languages, too, and the survival of exceptional forms depends on the frequency of use). In Old Hungarian, the verbs *tesz* 'do, take, put' and *vesz* 'take (away)' used to be even more frequent than today, because these verbs were used as light verbs in 'light verb + noun' complex predicates with a wider range of nouns than today. For instance, the complex predicates with *tesz* 'do' in (54) are still used in Modern Hungarian, but the ones in (55) have already become obsolete.

- (54) a. bewnt tewtel  
sin-ACC do.PST-2SG  
'you have sinned' (Jókai C. 32)
- b. ueg uacorat totte uala  
last supper-ACC do.PRF.3SG be-PST  
'was having the last supper' (Kazinczy C. 5r)
- (55) a. tewtell sok kart  
do.PST-2SG lot damage-ACC  
'you did a lot of harm' (Jókai C. 148)
- b. tot cudakat  
do.PST.3SG miracle-PL-ACC  
'he worked miracles' (Vienna C. 208)

Over time, the paradigm of *tesz* ‘do, take, put’, *vesz* ‘take (away)’, etc. has changed, and in the standard language they don’t take the *-n* 3SG ending any more either in the present or the past tense. Instead, they employ the regular paradigm, with a zero agreement in both the present tense (*tesz-∅* ‘does’, *vesz-∅* ‘takes’, etc.) and the ordinary *-t* past tense (*tett-∅* ‘did, took’, *vett-∅* ‘took (away)’, etc.). (The *-n* ending has remained in some dialects, though.) We hypothesize that the loss of the *-n* inflection from the paradigm of *tesz* ‘do, take, put’, *vesz* ‘take (away)’, etc. has contributed to the disappearance of optional reanalysis. Adverbial participles with *-ván/vén* are unambiguously non-finite in present day Hungarian.

The exceptional finite paradigm with *-n*, however, cannot have had a direct effect on the finitization of *-va/ve* participles, as these don’t end in *-n*. We hypothesize that first *-ván/vén* forms were reanalyzed, and later this had an effect on the phonologically similar *-va/ve* forms. Furthermore, the third person singular past tense form of some verbs, including *teremt* ‘create’, *vet* ‘case’, *hall* ‘hear’, *hív* ‘call’ and *iszik* ‘drink’, also ended in a *-va/ve* segment (56), and this may also have contributed to the reanalysis. The reanalysis must have taken place in Proto-Hungarian, as it was already in place in the Old Hungarian period.

- (56)
- a. **teremt-eve** ... adamut  
create-PST.3SG ... Adam-ACC  
‘he created Adam’ (Funeral Sermon and Prayer 2)
  - b. **Hadl-aua** choltat  
hear-PST.3SG death-ACC  
‘he heard of his death’ (Funeral Sermon and Prayer 7)
  - c. **vet-eve** wt ez munkas vilagbele  
cast-PST.3SG him this toilsome world-into  
‘he cast him into this toilsome world’ (Funeral Sermon and Prayer 12)
  - d. elö **hiv-a**  
forth call-PST.3SG  
‘he called him forth’ (Döbrentei C. 53v)
  - e. merget ... meg **iu-a**  
poison-ACC ... PRT drink-PST.3SG  
‘he drank it (the poison)’ (Debrecen C. 73)

When the finiteness of a clause is changed, it is typically the case that finite forms get reanalyzed as non-finites. However, the change sometimes goes in the opposite direction, with non-finites being reanalyzed as finite forms (see Ledgeway 2007 and Miller 2002: ch. 4. for specific case studies in Old Neapolitan and Welsh, Evans 2007 for a cross-linguistic overview, and chapter 2 of this volume, which claims that the Modern Hungarian *-t* past tense suffix came about via reanalysis of a perfective marker in Old Hungarian). The reanalysis of adverbial participles in Old Hungarian and Middle Hungarian is an example of the latter, less typical change.

### 6.3.3 Non-finites becoming more dependent on the main clause

Non-finite clauses are generally taken to have a defective C domain, lacking temporal, spatial, and speech-event information, or to entirely lack the CP (in some cases even the IP) domain (Bianchi 2003; Sigurðsson 2004; Adger 2007; Giorgi 2010; Sundaresan 2010, among many others). The more such information a clause is lacking, the more prototypically non-finite and the more dependent on the main clause it is. That is, non-finiteness is a scalar or gradient phenomenon (see Givón 1990; Vincent 1998; Bisang 2007; Ledgeway 2007). Further properties

that non-finites often exhibit and can be taken to indicate dependence on the main clause is the lack of agreement with the subject, and the lack of a referentially independent subject.

Comparing Modern Hungarian to Old Hungarian, we find that not only did non-finites lose ground in the grammar, but those that did remain in the language tend to have developed a greater degree of dependence on the main clause, too. In other words, they have shifted towards being more prototypically non-finite.

### 6.3.3.1 Losing the referentially independent subject

Non-finite clauses often require their subject to be an empty category whose reference is determined by a DP in the matrix clause. These non-finites are thus dependent on the main clause for the identification of their subject. Old Hungarian *-ó/ő* adjectival participles, *-t* adjectival participles with a coreferent internal argument belong to this group. Other non-finites are able to license a potentially overt, referentially independent subject, thus they show a greater degree of independence from the main clause. Old Hungarian infinitives,<sup>9</sup> *-va/ve*, *-ván/vén*, and *-t* adverbial participles as well as *-t* gerunds could license a subject without any restrictions. The *-t* adjectival participle with a coreferent object could certainly license a singular subject, and it possibly licensed a plural subject, too, but the latter are not attested in the remaining linguistic records.

Of the Old Hungarian non-finites that could license an independent subject, three have become limited with respect to what sort of subject they may introduce. Adverbial participles with *-va/ve* used to place no restriction on their subject's overtness, and overt subjects could be of any person or number. See (57a) for a first person plural subject, (57b) for a second person singular subject, (57c) for a third person plural (lexical DP) subject, and (57d) for a covert coreferent subject.

- (57) a. & [ mù **alu-uā-c** ] èl vroztac ȝtèt  
and we sleep-PART-1PL away take-PST-3PL he-ACC  
'and they stole him away while we slept' (Munich C. 35 vb)
- b. [ te kezedet meg **nít-ua-d:** ] mendennek be tell'esednek  
you hand-POSS.2SG-ACC PRT open-PART-2SG all-PL PRT filled-3PL  
'You having opened your hand, all are filled (with your goodness).' (Apor C. 68)
- c. Azert [ azoc egbè **gölèkez-uei-ec** ] monda azocnac pilatus  
therefore those together gather-PART-PL say-PST.3SG those-DAT Pilate  
'and when they gathered together, Pilate said to them' (Munich C. 34 rb)
- d. az tanoytwanyok [ Nagy **syr-wa** ] fwtnak hozyam  
the disciple-PL big cry-PART run-PST-3PL ALL-1SG  
'the disciples were running to me, crying very much' (Apor C. 168)

In Modern Hungarian these non-finites can only have a covert subject (58).

- (58) \*Meg-szület-ve a gyereke, Jóska új életet kezdett.  
PRT-be.born-PART the child-POSS.3SG Jóska new life-ACC start-PST.3SG  
'His child having been borne, Jóska started a new life.' (Komlósy 1992: 465)

Furthermore, it is highly preferred (and for some speakers, it is obligatory) for the covert subject to be co-referent with a DP in the matrix clause (Komlósy 1992; Sárik 1998; Tóth 2000a; É. Kiss 2002: ch. 9; Kenesei 2005). (These non-finites cannot agree with their subject any more either, see 6.3.3.2).

- (59) a. ??Beesteled-ve betértünk egy fogadóba.  
 evening.fall-PART in-go-PST-1 PL an inn-ILL  
 ‘The shadows of the evening having fallen, we called at an inn.’ (Komlósy 1992: 466)
- b. \*(Péter korán érkezett haza.) A szobába be-lép-ve, a  
 Peter early arrive-PST.3SG home the room-ILL in-step-PART the  
 kutyája mindjárt elébe szaladt.  
 dog-POSS.3SG immediately to.in.front.of run-PST.3SG  
 ‘Peter came home early. Him having entered the room, his dog immediately ran to greet him.’ (Komlósy 1992: 466)

Adverbial participles with *-ván/vén* could have any kind of overt subject. Cf. (60a) for a first person singular subject, (60b) for a plural lexical DP subject, and (60c) for a covert coreferent subject.

- (60) a. Èn ked- **kèrès-uèn** èn tanalčosimtol miképpèn èz  
 I CONJ search-PART my counsellor-POSS.PL-1 SG-ABL how this  
 tèllèsedhètneç bè-  
 pass-POSSIB-COND-3SG PRT  
 ‘when I asked my counsellors how this might be brought to pass’ (Vienna C. 75)
- b. Iouo i<sup>c</sup> [ aitoc **bè-tè-uē** ] & [ ablakoc  
 come-PST.3SG Jesus door-PL PRT-close-PART and window-PL  
**bè-rèkèžt-uēn** ]  
 PRT-close-PART  
 ‘then came Jesus, the doors and windows being shut’ (Munich C. 107 rb)
- c. Azert mennyetekel [ **byz-uan** ]  
 therefore go.IMP-2PL-away trust-PART  
 ‘therefore go away, having faith’ (Jókai C. 82)

Over time, these participles have lost the ability to co-occur with overt pronominal subjects (É. Kiss 2002: ch. 9.5). According to Nádasdi (2013), even overt lexical DP subjects are restricted to the third person singular, while Márkus (2009) remarks that some speakers reject overt independent subjects altogether, and require a covert coreferent subject instead.

Finally, *-t* adjectival participles with a coreferent object are attested only with singular subjects in Old Hungarian, but the person of the subject is unrestricted: it can be either first (61a), second (61b), or third person (61c).

- (61) a. az aldot zeretq [ **zyl-ott-em** ] fyamnak zent  
 the bless-PART love-PART give.birth-PART-1 SG son-POSS-1 SG-DAT holy  
 vereuel  
 blood-POSS-with  
 ‘with the blood of my blessed, beloved son that I bore’ (Nagyszombat C. 148)
- b. Es adom the naked es te nemednek. te vtannad  
 and give-1 SG you DAT-2SG and you kind-POSS.2SG-DAT you after-POSS.2SG  
 ez [ te **lak-t-ad** ] feldet  
 this you live-PART-2SG land-ACC  
 ‘And I will give unto thee, and to thy seed after thee, the land wherein thou art living.’ (Jordánszky C. 7b)

- c. wég mond rola wrwnk Iesus [ zent Mathe  
 this.way say.3SG DEL-3SG lord-POSS.1PL Jesus saint Matthew  
**yr-t-a** ] kenyweenek heeted reezeben.  
 write-PART-3SG book-POSS-DAT seventh chapter-POSS-INE  
 ‘this is what Jesus says in chapter seven of Saint Matthew’ (Érdy C. 131)

The overt subject in Modern Hungarian, however, can only be third person (singular or plural); (61a) and (61b) are ungrammatical to contemporary speakers.

How could such a restriction on subjects arise? Baker (2008) argues that the following Person Licensing Condition is operative in grammar:

- (62) All matrix clauses and certain embedded clauses have two special null arguments generated within the CP projection, one designated S (for speaker) and the other A (for addressee). (Baker 2008: 125)

Overt first and second person pronouns in the clause get their reference from these null arguments via operator-variable agreement. We suggest that the loss of first and second person subjects with *-t* participles with a coreferent object can be traced back to changes in the C domain of these non-finites. Specifically, in Old Hungarian Baker’s S and A arguments could be readily introduced into the participle’s C domain, and these arguments could operator-variable agree with a first or second person subject of the participle. As this non-finite has shifted towards being more typically non-finite, however, the introduction of the S and A arguments has become impaired: either a functional head in the C domain became defective, or the left periphery of the participle was truncated and the relevant positions were not projected any more. So in the absence of an S or A, the participle’s subject could only be third person.

To summarize, several types of non-finites became constrained with respect to the kinds of subjects they can take. The *-t* adjectival participle with a coreferent object lost the ability to license first and second person subjects, the *-ván/vén* adverbial participle lost the ability to license pronominal subjects (for some speakers, all overt subjects), while the *-va/ve* adverbial participle lost the ability to license overt subjects. These non-finites have thus shifted towards being more dependent on the main clause.

### 6.3.3.2 Losing the ability to agree

It is a typical, though certainly not an obligatory, property of non-finite clauses that they do not show agreement with their subject; this is another property that can be taken to reflect the dependence of non-finites on the main clause. In Old Hungarian several types of participial verbs could agree with their subject, but some of them lost the ability to agree either completely or partially. This, too, shows that non-finites that did remain part of the language had a tendency to become more dependent on the main clause, to become more typically non-finite.

The *-t* adjectival participle with a coreferent object and the *-t* adverbial participle agreed obligatorily: see (63) and (64) respectively.<sup>10</sup>

- (63) Az [ teen magadnak walazt-ott-ad ] warasodban  
 the your self-POSS.2SG-DAT choose-PART-2SG city-POSS.2SG-INE  
 ‘in the city that you chose for yourself’ (Thewrewk C. 2v)

- (64) [ tú a- varosba bè-men-ett-èc ] èlötöcbè kel tünèc-tec eg  
 you the city-ILL in-go-PART-2PL in.front-POSS.2PL-ILL come you-DAT-2PL a  
 neminèmo ember  
 certain man  
 ‘Behold, when ye are entered into the city, there shall a man meet you.’ (Munich C. 80vb)

As we have already seen, the *-t* adverbial participle has disappeared from the language. The *-t* adjectival participle with a coreferent object is still in use with limited productivity, and it still obligatorily agrees with its subject in Modern Hungarian, too.

The other agreeing non-finites of Old Hungarian were infinitives and *-va/ve* adverbial participles. Already in Old Hungarian, these bore agreement optionally rather than obligatorily, and their ability to agree with their subject has further decreased since the Old Hungarian period. As for *-va/ve* adverbial participles, the lack of agreement was statistically far more frequent even in Old Hungarian. Agreeing *-va/ve* participles are attested in significant numbers only in Matthew in the Munich Codex (35 examples) and in the first half of the Vienna Codex (31 examples) (Károly 1956).<sup>11</sup> There are only a handful of examples in all the other forty-some codices taken together. (65) illustrates the full paradigm.<sup>12</sup>

- (65) a. sem èlèuènèn sèm hal-**ua-m** nem tauoztatom èl  
 neither alive neither die-PART-1SG not leave-CAUS-1SG away  
 ‘should I not escape it (the hand of the Almighty), neither alive, nor dead’ (Vienna C. 91)
- b. mel` föld tègedèt m̃g-hal-**ua-d** fogadād  
 which earth you-ACC PRT-die-PART-2SG accept-2SG  
 ‘the land that you are buried in when you die’ (Vienna C. 2)
- c. hogh ymar tarthassam ötet meg-hal-**va-ia**  
 that now hold-POSS-IMP-1SG he-ACC PRT-die-PART-3SG  
 ‘so that I can hold his dead body’ (Winkler C. 116v)
- d. hog nē meg-hal-**uā-c** m̃v vèzèdelm-ōc-bèn  
 that not PRT-die-PART-1PL our peril-POSS.1PL-INE  
 ‘than to die amidst this peril’ (Vienna C. 14)
- e. gonozoc val-**ua-toc**  
 evil-PL be-PART-2PL  
 ‘ye, being evil’ (Munich C. 18 vb)
- f. ọ aĩa es aĩa meg-hal-**ua-ioc**  
 she father-POSS.3SG and mother-POSS.3SG PRT-die-PART-3PL  
 ‘her father and mother having died’ (Vienna C. 51)

Over time these participles have completely lost their ability to agree with their subject; in Modern Hungarian they can only be uninflected.

Agreeing infinitives were common in Old Hungarian. In some codices infinitives with agreement are less frequent than infinitives without agreement (Jókai Codex: 121 with and 305 without, Vienna Codex: 150 with and 262 without, cf. Károly 1956), while in others it is the other way around (Guary Codex: 79 with and 59 without, Könyvecse: 20 with and 6 without, cf. Dékány 2012). In Old Hungarian the infinitive’s ability to agree did not correlate with any other syntactic properties of the non-finite clause. The matrix subject could control the subject of both object and adjunct infinitives (66), the matrix object could control the subject of adjunct infinitives (76b), and the matrix dative could control the subject of either subject or

object infinitives (68). Agreement was possible but not obligatory in all of these configurations. In the interest of space, only agreeing infinitives are shown below.

(66) subject control

- a. ne akariatoc      **fel-n-etèc**  
not want-IMP-2PL fear-INF-2PL  
'don't want to be afraid' (Munich C. 42ra)      object inf.
- b. Mert    nem iöttem      hy-**n-om**    igazakot  
because not come-PST-1SG call-INF-1SG good.and.true-PL-ACC  
'I have not come to call the good and true' (Döbrentei C. 205v)      adjunct inf.

(67) object control

- a. èn èrèztettèlec    tütöket      arat-**n-otok**  
I send-PST-1SG you-PL-ACC harvest-INF-2PL  
'I sent you to reap' (Munich C. 88rb)      adjunct inf.

(68) dative control

- a. legyen alkalmas    ennekem    zol-**n-om**    tynektek  
let.be appropriate I-DAT-1SG say-INF-1SG you-DAT-2PL  
'let it be appropriate for me to speak to you' (Jordánszky C. 712)      subject inf.
- b. hagyad en nekem    be tellyeseyt-**en-em** azt.      ammy-re    ievttem.  
let-2SG I DAT-1SG in fulfil-INF-1SG that-ACC what-SUB come-PST-1SG  
'let me fulfill what I have come for' (Cornides C. 113v)      object inf.

Control infinitives in Old Hungarian could also optionally anti-agree with their subject; that is, show 3SG agreement with a non-3SG subject (Dékány 2012).

- (69) Ne akaryatok      **feel-ny-e.**  
not want-IMP-2PL fear-INF-3SG  
'Do not want to be afraid.' (Jordánszky C. 55)

Compare with the same sentence with regular agreement and without agreement on the infinitive:

- (70) a. ne akariatoc      **fel-n-etèc**  
not want-IMP-2PL fear-INF-3PL  
'Do not want to be afraid.' (Munich C. 42ra)
- b. Ne akaryatok      ty **ffel-ny**  
not want-IMP-2PL you fear-INF  
'Do not want to be afraid.' (Jordánszky C. 450)

This might be a sign that infinitival agreement started to become less strong in this period. While infinitives have retained their ability to agree with their subject to date, an important restriction came into force: their ability to agree now correlates with the controller's case marking. Specifically, only dative control allows agreeing infinitives (Tóth 2000b; 2011).<sup>13</sup> Furthermore, anti-agreeing infinitives are only found with third person plural subjects in Modern Hungarian. Thus the across-the-board optionality of agreement that characterized Old Hungarian has been lost, and infinitival agreement has become subject to strict constraints.

To summarize, those non-finites that obligatorily agreed with their subject in Old Hungarian still do today (unless the non-finite in question has been lost from the language itself),

while those non-finites that optionally agreed with their subject in Old Hungarian have lost this ability completely or partially.

### 6.3.4 Linguistic fossils from the head-final period

It is the hypothesis of this book that Proto-Hungarian was a head final SOV language, and this word order had changed to Topic Focus V X\* before the Old Hungarian period, i.e. before the emergence of written documents (see also É. Kiss 2013). Lightfoot (1991) argues that syntactic innovations always begin in finite matrix clauses. The change affects non-finite subordinate clauses only later on, thus these retain the original order for a longer period. In Old Hungarian the dominant word order is already Topic Focus V X\* (or SVO) in both finite matrix and non-finite subordinate clauses. The latter, however, do indeed preserve some SOV-related features that are not attested in finite matrix clauses.

#### 6.3.4.1 Head-final non-finite clauses

The most obvious remnant from the SOV period is the existence of strongly or strictly head-final non-finite clauses. The *-t* adjectival participle with a coreferent possessor, for instance, is always head-final.

- (71) & ot vala [ *ec<sub>i</sub>* egy kez-e                    **meg aź-ot** ]            ember<sub>i</sub>  
 and there was            a    hand-POSS.3SG PRT wither-PART man  
 ‘and there was a man there which had a withered hand’ (Munich C. 38ra)

This also holds for *-t* adjectival participles with a coreferent object.

- (72) mynden [ Isten *ec<sub>i</sub>* **at-t-a** ]                    yokat<sub>i</sub>                    ember el feledne  
 every            God            give-PART-3SG good-PL-ACC man    PRT forget-COND.3SG  
 ‘and man would forget all the good given by God’ (Érdy C. 129)

Old Hungarian *-t* gerunds are also strictly head-final: the object, negation, and adverbs all precede the nominalized verb.

- (73) vetkeztem az vr istenek elene.                    [ **en erzekensegymet**  
 sin-PST-1SG the lord God-DAT against-POSS.3SG I    sensitivity-POSS.PL-1SG-ACC  
**iora            nem byr-t-om-ba** ]  
 good-SUB not    have-PART-1SG-INE  
 ‘I have sinned against God, in not using my sensitivities for good’ (Virginia C. 2r)

Adjectival participles ending in *-ó/ő* also have a strong tendency to be head-final, though a few counter-examples do exist (75).

- (74) az [ *ec<sub>i</sub>* haborusagot **zerz-ő** ]                    angaloc<sub>i</sub>  
 the            unrest-ACC make-PART angel-PL  
 ‘the angels who brought war’ (Guary C. 127)
- (75) vag            ... [ **meg-bočat-o**                    gonossagokat ]  
 be.2SG            PRT-forgive-PART evil-PL-ACC  
 ‘forgivest thou the evil’ (Vienna C. 244)

There is a clear tendency for head-final structures with *-t* adverbial participles, too. Károly (1956) has determined that in the Jókai Codex, Vienna Codex, and Munich Codex, there are



altogether 83 *-t* adverbial participles (1, 17, and 65 respectively). We have checked these participles and have found that 17 have an overt object (16 cases with a DP object and 1 case with a clausal object). Of these, only 4 are VO, and 13 are OV.

We suggest that the few counter-examples to the head-final character of *-ó/ő* adverbial participles and *-t* adverbial participles involve clause-internal right dislocation. Chapter 2, section 2.3.2 argues that right dislocation played a crucial role in the SOV to SVO reanalysis of Proto-Hungarian.

The participles mentioned above have retained their strongly or strictly head-final character up to the present day (except for the *-t* adverbial participle, which has been lost), preserving the old SOV order in a fossilized form. Adverbial participles with *-val/vel*, *-va/ve*, and *-ván/vén* had lost their previous head-final nature by the Old Hungarian period, and examples in which one of the verb's arguments or an adverb follows the participial verb were not rare.

#### 6.3.4.2 Preverbal unmarked objects

This book hypothesizes that Proto-Hungarian was an SOV language, and the preverbal object was morphologically unmarked. Over time it became possible for the object to bear overt case-marking, and this allowed it to appear not only in the immediately preverbal position but elsewhere as well. Without the overt object marking it would not have been possible for the word order to become more relaxed, as the subject and object could not have been distinguished either on the basis of their position or their morphology.

Non-finite clauses in Old Hungarian still feature morphologically unmarked objects from time to time, and such objects are always found in the immediately preverbal position. In other words, non-finites are still able to show the previous SOV order with an unmarked object in a limited way (see also chapter 2, section 2.2.1.1). This is illustrated below for infinitives (76a), *-ó/ő* adjectival participles (76b), *-t* adjectival participles with a coreferent possessor (76c), *-va/ve* adverbial participles (76d), *-ván/vén* adverbial participles (76e), and *-t* adverbial participles (76f). (Obviously, *-t* adjectival participles with a coreferent internal argument or object don't have overt objects.)<sup>14</sup>

- (76) a. mykoron ez soror megyen vala [ az ora meg lat-ny ]  
 when this sister go-3SG be.PST the clock-Ø PRT see-INF  
 'when this sister was going to check the clock' (Margaret Legend 7v)
- b. [ ō igeie tou-ō-k ]  
 his word-POSS.3SG-Ø do-PART-PL  
 'those fulfilling this words' (Apor C. 66)
- c. agyad meg ymmar [ bewn-e zan-t-nak ]  
 give.IMP-2SG PRT now sin-POSS.3SG-Ø grieve-PART-DAT  
 'give it to the one who is grieving his sins' (Jókai C. 158)
- d. Te kedig [ alamisna tè-uè-d ]  
 you CONJ alms-Ø do-PART-2SG  
 'and ye doing your alms' (Munich C. 12ra)
- e. [ az aitoc meg-nit-uan ] ki zalada  
 the door-PL-Ø PRT-open-PART out run-PST.3SG  
 'and opening the doors, he ran out' (Vienna C. 171)

- f. Az parasztrol ky zent fferenczet lewlteuala [ egyhaz  
 the peasant-DEL who Saint Francis-ACC find-PRF-3SG-be.PST church-Ø  
 sepr-ett-e ]  
 sweep-PART-3SG  
 ‘about the peasant who found Saint Francis sweeping the church’ (Jókai C. 97)

This fossil from the Proto-Hungarian period is already unattested in Old Hungarian finite clauses; it is featured only in a small part of the data in Old Hungarian non-finites. Károly (1954; 1956) has found that in the Jókai Codex, for instance, out of 240 *-va/ve* and *-ván/vén* adverbial participles only 35 have unmarked objects. Unmarked objects have not survived into standard Modern Hungarian. In the most archaic Csángó dialect, however, preverbal unmarked objects are still possible (Hoppa 2012: 72).<sup>15</sup>

### 6.3.5 Interim summary

Table 2 summarizes how non-finite clauses have lost ground from the Old Hungarian period to Modern Hungarian. Basically only *-t* adjectival participles with a coreferent internal argument (a.k.a. adjectival past participles, cf. English *the fallen leaves*, *the reserved tables*) have not suffered any loss, all the other non-finites underwent some change or another that resulted in a narrower distribution and/or greater dependence on the main clause.

Table 2: Changes in the use of non-finite clauses from Old Hungarian to Modern Hungarian (the comments refer to the current state)

	disappeared entirely	narrower external distribution	narrower class of base verbs	independent subject loss	agreement loss
infinitive	no	yes, with fewer predicates	no	no	yes, some
adjectival participles					
- <i>o/ő</i>	no	yes, no predicative/posterior adnominal use	no	N/A	N/A
- <i>t</i> , internal arg. gap	no	no	no	N/A	N/A
- <i>t</i> , object gap	no	no	no	some loss, no 1st or 2nd person	no
- <i>t</i> , possessor gap	no	no	yes, no transitive and only some unacc.	N/A	N/A
adverbial participles					
- <i>t</i>	yes	N/A	N/A	N/A	N/A
- <i>ván/vén</i>	for some	yes, no predicative use, coordination w. finites or use as finite	no	yes (some: only pronominal, or only 3sg or only coreferent)	N/A
- <i>va/ve</i>	no	yes, no coordination with finites	no	yes (only covert subject)	yes, total
- <i>va/ve</i>	remained dialectal	N/A	N/A	N/A	N/A
gerund	no	no	yes	N/A	N/A

The gradual extension of finite subordination at the expense of non-finite subordination can also be documented in a number of other Indo-European, Uralic, and Tungusic languages. Ancient Greek, for instance, frequently employed infinitives. The category of infinitives, however, has been completely lost from the language, and Modern Greek makes use of finite subjunctives with a controlled PRO instead (Terzi 1992; 1997; Sampanis 2011). In Russia, the Tungusic and Uralic minority languages with an SOV word order are currently undergoing a shift towards finite relative subordination under contact with and cultural pressure from Russian. The Tungusic language Ewenki began to use finite relatives headed by a relative pronoun instead of non-finite relatives using the gap strategy (Comrie 1998). The same process is in effect in the Uralic language Khanty, one of Hungarian's sister languages. In Khanty, the shift has three stages (Csepregi 2012). In the first stage, prenominal non-finite relatives using the gap strategy are replaced by postnominal non-finite relatives (still using the gap strategy), and the participial agreement is dropped. In the second stage a proto-relative pronoun is included in the postnominal non-finite relative, and the non-finite form is used more as a predicate rather than an adnominal modifier. Finally, in the third stage the non-finite form is replaced by a finite one, and a proto-relative pronoun is near-obligatory in the clause. Thus the shift from non-finite to finite complementation goes hand in hand with the formation of a left periphery, where the relative element is housed. (The relative cycle in Old Hungarian will be detailed in section 5.4.) Note, however, that language change may also proceed in the other direction: in Amharic (SOV), for instance, it is non-finite subordination that is gaining ground at the expense of finite embedding (Koptjevskaja Tamm 1994).

In the first Old Hungarian texts, finite subordination is already in place, so we cannot track the process by which embedded finite clauses began to emerge. There are two possible ways in which this could have happened. First, it is possible that the finite C layer emerged as head-final, in keeping with the general head-final character of Proto-Hungarian, and it was later re-analyzed as a head-first layer. Support for this position comes from the fact that while Old Hungarian *yes/no* questions normally feature the interrogative particle *-e* attached to the verb, sporadically it still occurs in a clause-final position (then it is always accompanied by a clause-initial negative interrogative discourse particle (*mi*)*nemde*, see chapter 2).

- (77)    *nemde ȝ    ańńa                      mondatic            marianac ẽ*  
          QPRT   he mother-POSS.3SG say-PASS.3SG Mary-DAT Q  
          'Is his mother called Mary?' (Munich C. 20 va)

In a few cases the interrogative particle *-e* appears both in a clause-final and a verb-adjacent position. (77) and (78) show that finite CPs are sporadically still head-final in Old Hungarian.

- (78)    *Mínemde elfeledhetí-e                      az ańńa      ı    kis      ģermȝket-e*  
          QPRT       PRT-forget-POSSIB-3SG-Q the mother she small child-POSS.3SG-ACC-Q  
          'Can the mother forget her small child?' (Nádor C. 26r)

The intermediate stage represented by (78) is attested in contemporary finite object clauses in Udmurt (Finno-Ugric) as well, with the native *šuiśa* 'that' occupying a clause-final position, and the Russian loanword *čto* 'that' appearing clause-initially (see Tánčzos 2013 for a detailed discussion of when such complementizer doubling occurs). Udmurt features a proliferation of non-finite complementation and is currently undergoing an SOV to SVO change that also took place between Proto-Hungarian and Old Hungarian, so the processes that we can observe in this language may show us what might have happened in the period of Hungarian that preceded the era of linguistic records.

- (79) Mon malpaško, čto ton bertod                      šuisa.  
I think-1SG that you get.home-FUT-1SG that  
'I think that you get home.' (Tánczos 2013)

The other logically possible course of development is that the finite C layer came to be introduced as head-initial in the first place, with a head-initial finite CP dominating a head-final TP and VP in Proto-Hungarian. (Chapter 5 analyzes the development of PPs in this vein: it is argued that the newly introduced *pP* layer starts its life as a head-initial projection dominating a head-final PP.) Neither option would violate the Final Over Final Constraint (Biberauer et al. 2007; 2008a;b; 2009), which predicts that diachronic changes from head-final to head-initial proceed top down.<sup>16</sup>

In the next section we are going to examine how finite clauses developed a fine-grained left periphery in Old Hungarian and how they spread in the language.

## 6.4 The development of finite subordinate clauses

This section aims at providing an overview of how finite subordinate clauses developed in Old and Middle Hungarian and how the system of finite subordinate clauses became enriched as the importance of non-finite subordination diminished. The processes will be linked to structural changes affecting the CP-domain of embedded clauses, and we will show that these changes follow from general economy principles and hence are present in several other languages as well. In this way, the findings concerning the development of Hungarian subordination are crucially important in cross-linguistic terms as well.

### 6.4.1 Finiteness and the CP-domain

As was mentioned in the introduction, finiteness is also related to the left periphery of the subordinate clause, that is, to the CP-domain: finite clauses are full CPs and finiteness is encoded in the C head (see Kayne 1994 and also Pesetsky and Torrego 2001) – in a cartographic approach such as that of Rizzi (1997), the lowest CP is headed by the C responsible for Finiteness, while the highest one is responsible for Force.

For the present investigation, what is crucial is that the marking of finiteness, as well as the marking of diverse kinds of finite clauses, is related to the CP-domain of the subordinate clause. The increasing importance of finite subordination over non-finite structures brought about changes in the CP-domain too, which fall into two major categories. On the one hand, if there was a CP-layer in Proto-Hungarian (an SOV language), then it was presumably head-final, as shown by the clause-final position of the interrogative marker *-e* in main clause questions (on this and for further arguments, see Chapter 1 of this volume); the evolution of a functional left periphery of finite subordinate clauses brought about a change from head-final to head-initial CPs.

On the other hand, there are changes that can be observed within a head-initial CP domain, and these changes have two main aspects. First, one type of change involved the grammaticalization of various elements in the CP-domain, that is, elements that had previously appeared in the CP-domain only as a result of movement from within the clause now became C heads. Second, the evolution of a rich system of various C elements in diverse positions also enabled the combinations thereof and, until the point when the grammaticalization of all C elements into the highest node was completed, several complementizer combinations are attested.

The combinations partly involved the marking of new functions, or the combination of existing functions, but were partly the result of reinforced marking of finite subordination.

#### 6.4.2. The diachronic system of finite clauses in Hungarian

As far as the structure of the left periphery is concerned, we basically adopt Rizzi's analysis, which claims that the CP is iterable, such that there are two CP projections,<sup>17</sup> between which the optional Topic and Focus, when present, are situated (topics are iterable), if there are any (see Rizzi 1997: 297; 2004: 237–238):

(80) [CP [TopP\* [FocP [TopP\* [CP]]]]]

In what follows we will mainly be concerned with the C heads and the intermediate topic and focus projections will not be of much interest, especially because in Hungarian topics and focus normally occur below the CP-domain (see É. Kiss 2002).<sup>18</sup> Apart from the C heads themselves, operators may also occur in the CPs, that is, operators may move to the specifier of a CP (see Chomsky 1977: 87; Kennedy and Merchant 2000: 89–90); in Hungarian, this is the lower [Spec,CP] position (see Kántor 2008).

Though typically there is only one overt C head in the structure, some languages may allow both C heads to be filled at the same time. Consider the following example from Welsh (from Roberts 2005: 122):

(81) Dywedais, **i** mai 'r dynion fel arfer **a** werthith y ci.  
 say I that the men as usual that sell the dog  
 'I said that it's the men who usually sell the dog.'

There are four major complementizers that have to be considered in the history of the Hungarian language: *hogy* 'that', *ha* 'if', *mint* 'as/than' and *mert* 'because'. Though in Modern Hungarian they are all complementizers located in the higher C node, historically they all derive from operators that moved to the specifier of the lower CP (cf. Juhász 1991a: 479–481; 1992: 781, 783–785, 801; Haader 1991: 729–737; 1995: 510–677). The functional split from these original operator functions did not take place at the same time, which also has a bearing on whether they still have their etymologically related operator counterparts in Modern Hungarian. The differences are summarized in Table 3:

Table 3: The major complementizers and the related operators in Hungarian

Complementizer	Original operator	Time of split	Present-day related operator
<i>ha</i> ‘if’	<i>ha</i> ‘when’	before Old Hungarian – Early Old Hungarian	–
<i>hogy</i> ‘that’	<i>hogy</i> ‘how’	before Old Hungarian – Old Hungarian	<i>hogyan</i> ‘how-Int.’, <i>ahogy</i> ‘how-Rel.’
<i>mint</i> ‘than/as’	<i>mint</i> ‘how’	Old and Middle Hungarian	<i>miképpen</i> ‘how’, <i>miként</i> ‘how’, <i>amint</i> ‘how-Rel.’
<i>mert</i> ‘because’	<i>mert</i> ‘why’	Old and Middle Hungarian	<i>miért</i> ‘why-Int.’, <i>amiért</i> ‘why-Rel.’

One major development in terms of the CP-domain was hence the grammaticalization of operators into C heads. Another aspect of the CP-layer being reinforced was the appearance of complementizer combinations. Consider:

Table 4: Complementizer combinations in Hungarian

	<b>ha</b>	<b>hogy</b>	<b>mert</b>	<b>mint</b>
<b>ha</b>	–	hahogy	–	hamint
<b>hogy</b>	hogyha	–	hogymert	hogymint
<b>mert</b>	–	merthogy	–	–
<b>mint</b>	mintha	minthogy	–	–

As can be seen, the system is symmetrical: if a given combination existed in the order XY, then it also existed in the YX order, such that the original meaning of the two was the same. While in each pair both members are attested in Old and Middle Hungarian, it is invariably only one member that survives into Modern Hungarian; these are, as highlighted in Table 4, *hogyha* ‘that if’, *merthogy* ‘because that’, *mintha* ‘as if’ and *minthogy* ‘as that’.

Apart from the basic C + C combinations given in Table 4, there are also combinations involving negative-like elements and ones that can morphologically be decomposed into more than two C heads. These additional combinations also tend to appear in symmetrical configurations and if so, then it is again only one of the orders that survives (in Standard Hungarian). As will be shown later on in this chapter, the surviving order is never the original one but the one derived from that. This is summarized in Table 5:

Table 5: The overview of complementizer grammaticalization in Hungarian

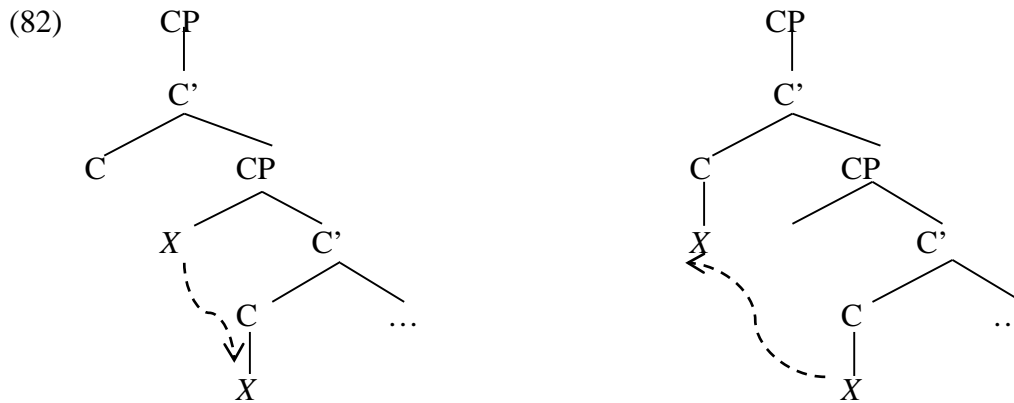
Original (extinct) order	Grammaticalized (surviving) combination
<i>hahogy</i> ‘if that’	<i>hogyha</i> ‘that if’
<i>hogymint</i> ‘that than’	<i>minthogy</i> ‘than that’
<i>hogymert</i> ‘that because’	<i>merthogy</i> ‘because that’
<i>hamint</i> ‘if as’	<i>mintha</i> ‘as if’
<i>hogynemmint</i> ‘that not than’	–
<i>hogysemmint</i> ‘that neither than’	<i>mintsemhogy</i> ‘than neither that’
<i>hogyhamint</i> ‘that if as’	<i>minthogyha</i> ‘as that if’

The appearance of the combinations in the left-hand column of Table 5 is due to the reinforcement of the CP-domain by filling both C positions with overt elements, while the evolution of the right-hand column combinations is the result of all C elements being reanalysed as Force-marking C heads.

#### 6.4.3. The evolution of complementizers

The evolution of complementizers from the original operators involved two successive steps of reanalysis. First, one type of reanalysis was responsible for the reinterpretation of operators into (lower) C heads. This is in line with the mechanism of the relative cycle, where an operator – an original pronoun – is reanalysed as a complementizer head, cf. Roberts and Roussou (2003), van Gelderen (2009). This is also attested for English *that*, and is hence far from being language-specific. Second, a further step of reanalysis caused elements to be reanalysed from lower C heads to higher C heads, which is again attested in the case of English *that*, see van Gelderen (2009).

The two processes are summarized in (82):



As can be seen in the left-hand side diagram, an element X (an operator) that is located in the lower [Spec,CP] position is reanalysed as the head of that CP (hence as a complementizer). The second step is shown in the right-hand side diagram: the element X (a complementizer) is reanalysed as a higher C head (hence still a complementizer).

Both steps are motivated by economy and hence are required by general principles governing linguistic processes. The relevant requirements on economy are summarized in terms of the Head Preference Principle (HPP) and the Late Merge Principle (LMP) by van Gelderen



(2004), both going back to the idea that Merge is preferred over movement (see Chomsky 1995). The HPP states that it is preferable to be a head than a phrase, i.e. base-generation is preferred over movement – hence the reanalysis from operator to complementizer.

The LMP states that it is more economical to be base-generated in a higher position than to be moved to that position – hence the reinterpretation of the original lower C as a higher one. The reason behind this latter step is simply that it is the higher C head that is responsible for defining the Force of the clause and the fact that certain overt lower C heads become associated with carrying Force implies that these elements also start moving up to the higher C head. This again leads to a choice between movement and base-generation at a higher point in the structure – and just as in the case of the HPP, the latter configuration is preferred.

As has been mentioned earlier, the functional split between the original operators and the new complementizer functions took place at different times (cf. Table 3 in section 6.4.2). That is, while for *hogy* ‘that’ and *ha* ‘if’ it happened before the Old Hungarian period and partly in Early Old Hungarian, for *mint* ‘than/as’ and *mert* ‘because’ it took place in Old and Middle Hungarian. This led to a difference in their typical positions in Old and Middle Hungarian: *ha* was invariably an upper C head, while *hogy* was typically an upper C head but could also be base-generated in the lower C position. By contrast, *mint* and *mert* were either lower C heads or were still located in the lower [Spec,CP] position.

The positional differences will be important especially in terms of combinations; for the time being, let us focus on the evolution of the individual C heads. There are two fundamental ways in which they contributed to the shift from non-finite to finite subordination. On the one hand, the general finite subordinator *hogy* ‘that’ was extended in its functions and came to be preferred over non-finite structures. On the other hand, the appearance and the strengthening of specific complementizers also meant that finite subordinate clauses could be used for several functions.

#### 6.4.3.1. The evolution of *hogy* ‘that’

The complementizer *hogy* ‘that’ is etymologically related to the operator *hogy* ‘how’ and the split between the two can be dated back to the period prior to Old Hungarian. Hence even the early texts display the complementizer function in the vast majority of the cases, though there are still some examples for the original operator function:

- (83) furiscte    musia    etety    ýmletí    ug **hug** ana  
 bathe-3SG wash-3SG feed-3SG breastfeed-3SG so how mother  
 sciluttet  
 child-POSS.3SG-ACC  
 ‘she bathes, washes, feeds and breastfeeds him as a mother does her child’ (Königsberg Fragment)

Since *hogy* was grammaticalized relatively early as a (lower) C head, it appears as a higher C head already in Old Hungarian and was typically base-generated in this position and only rarely as a lower C head – in the latter case, it preferably moved up. The importance of this, as well as the arguments in favour of this stance, will be discussed in section 6.4.4 in detail.

Most functions of *hogy* are attested in both Old/Middle and Modern Hungarian. First, *hogy* introduces finite declarative subclauses (*that*-clauses), as shown by the following example from Old Hungarian (note that in this function *hogy* alternates with the zero):

- (84) hallotta            vala    **hog** vr    tèkèntètè        volna    ɒnèpèt  
 hear-PERF-3SG be-PST that Lord see-PERF-3SG be-COND he-people-POSS.3SG-ACC  
 ‘she had heard in the country of Moab that the Lord had visited his’ (Vienna C. 1)

Second, *hogy* introduces embedded imperatives (again, it may alternate with zero):

- (85) a. &    kèzdec            kèrni    **hog**    èltaoznec            ɒ  
 and begin-PST-3PL ask-INF that off-depart-COND-3SG they  
 videkecből  
 coast-POSS.2PL-ELA  
 ‘And they began to pray him to depart out of their coasts.’ (Munich C. 40ra)  
 b. dawyd    keńyerewk    Istennek    **hogy**    az    ew    ellensegyt            meg  
 David beg.3SG God-DAT that the he enemy-POSS.PL.3SG-ACC PRT  
 roncza  
 destroy-SBJV-3SG  
 ‘David begs God to destroy his enemies.’ (Apor C. 2)

Third, *hogy* appears optionally (that is, alternating with the zero) in embedded *wh*-questions together with the *wh*-pronoun itself, resulting in the sequence *hogy* + interrogative pronoun:

- (86) vetőködtec            vala    **hog** ki    ɒ    közöttök    nagob    volna  
 dispute-PERF-3PL be-PST that who they among-3PL greater be-COND.3SG  
 ‘they had disputed among themselves, who should be the greatest.’ (Munich C. 45rb)

Fourth, *hogy* introduces purpose clauses from Old Hungarian onwards:

- (87) a. Meńńètec    a    rokon    falucba            &    varosocba    **hog** ot    es  
 go-IMP-2PL the nearby village-PL-ILL and town-PL-ILL that there also  
 p̄dical’l’ac  
 preach-SBJV-1SG  
 ‘go into the next towns, that I may preach there also’ (Munich C. 37ra)  
 b. ada            az    k̄ouetnek            ég    k̄ouet,    ki    vala    emberi  
 give-PST.3SG the ambassador-DAT a stone-ACC which be-PST human  
 zemnek    hasonlatossagara,    **hog**    vinneek            ɒ    vroknak  
 eye-DAT similarity-POSS-SUB that take-COND-3PL they lord-POSS.3PL-DAT  
 ‘he gave the ambassador a stone, which was similar to a human eye, so that they  
 take it to their lord’ (Bod C. 4r)

In this case *hogy* is responsible for encoding that the subclause expresses purpose and hence cannot be replaced by the zero.

Fifth, *hogy* is also responsible for introducing clauses with a consecutive meaning; in these cases the subclause is attached to a degree expression (DegP – *olyan* ‘so’ or *úgy* ‘so’) in the matrix clause:

- (88) a. Es    oz    gimilsnec wl    keseruv    uola            vize            **hug**  
 and the fruit-DAT so bitter be-PST.3SG water-POSS that  
 turchucat            mige    zocoztia    vola  
 throat-POSS.3PL-ACC PRT cut-3SG be-PST  
 ‘and the fruit tasted so bitter that it hurt their throats’ (Funeral Sermon and Prayer)

- b. ug vigaziatoc mēden idōbēn imadkozuan **hog** mēltac  
 so watch-IMP-2PL all time-INE pray-PART that worthy-PL  
 legētec èltaoztatnotoc mēd èzekèt  
 be-SBJV-2PL off-leave-CAUS-INF-2PL all these-ACC  
 ‘watch ye therefore, and pray always, that ye may be accounted worthy to escape  
 all these things’ (Munich C. 80va)
- c. & sokaŋ gōlekezen<sup>c</sup> egbè ug **hog** sem a hazba sem  
 and many gather-PST-3PL together so that neither the house-ILL neither  
 az aitoŋoz nē fērnen<sup>c</sup>  
 the door-ALL not reach-COND-3PL  
 ‘And the multitude cometh together again, so that they could not get either into the  
 house or to the door.’ (Munich C. 37rb)

It is worth mentioning that the sequence of *ügy* and *hogy* was reinterpreted into the coordinating conjunction *ügyhogy* ‘so that’ (cf. D. Máta 2003: 423; Rácz 1995: 699–702); this may be the case in example (88c) as well. The same is not true for *olyan* since it was typically not adjacent to the subordinate clause in the linear structure: the adjective or the noun modified by *olyan* appears between the two and the verb may do so too. The mechanism of this kind of reinterpretation will be addressed in section 6.4.5 in more detail.

Apart from the five functions mentioned above, the subordinator *hogy* had one additional function historically: it introduced comparative subclauses (either ones expressing equality or ones expressing inequality), typically co-occurring with the element *nem* ‘not’:

- (89) iob hog megfog’dosuā algukmég’ vrat èlèuènèn **hog** nē  
 better that PRT-catch-PART bless-SBJV-1PL-PRT Lord-ACC alive that not  
 mēghal’l’ōc  
 PRT-die-SBJV-1PL  
 ‘it is better to bless the Lord if we are captured alive than to die’ (Vienna C. 25)

In this function *hogy* was widespread and it was only in Middle Hungarian that it came to be replaced by *mint* ‘than/as’.

These functions of *hogy* mentioned so far are attested in Old Hungarian; note that *hogy* introduces embedded yes-no questions in Modern Hungarian (appearing together with the interrogative marker *-e*) but this function evolved only later. These clauses were introduced by the C head *ha* ‘if’ even in the 17th century, as will be shown in section 6.4.3.2. In Modern Hungarian, the complementizer is *hogy*, which alternates with zero in this function.

Apart from functional changes, it has to be stressed that clauses introduced by *hogy* became more frequent. The following chart summarizes the findings of a small corpus study carried out on three translations of the gospel of Mark: the Munich Codex (1416/1466), György Káldi’s translation (1626), and the Neovulgata translation (1997). Altogether there are 219 loci where *hogy* occurs in at least one of the translations as a sole complementizer (hence not as part as complementizer combinations or together with relative pronouns). The occurrences of *hogy* are as follows:

Table 6: The increased use of *hogy* ‘that’

	Munich Codex (1416/1466)	Káldi’s translation (1626)	Neovulgata (1997)
<i>hogy</i> ‘that’	115	159	172

As can be seen, the number of the occurrences – and hence the frequency – of *hogy* increased from Old Hungarian onwards. It is important to mention that alongside with this, the number of the zero alternates of *hogy* also increased in the loci under discussion; that is, in cases where the earlier texts had different constructions, hence not finite subordination, later texts may contain a zero complementizer instead of *hogy*, and the number of these increased too:

Table 7: The increased use of the zero subordinator

	Munich Codex (1416/1466)	Káldi's translation (1626)	Neovulgata (1997)
Ø 'that'	11	18	20

It is worth having a closer look at the structures the Munich Codex and Káldi's translation use where the Modern Hungarian translation has *hogy* (hence there are altogether 57 such instances in the Munich Codex and 13 in Káldi's translation). Of course, there are a number of cases where the structure is too different to allow systematic comparison; disregarding these, however, there are some typical syntactic structures that appear instead of finite subordinate clauses introduced by *hogy*, in line with the general marginalization of non-finite subordination (see section 6.3):

Table 8: Structures used instead of finite subordination

		Munich Codex (1416/1466)	Káldi's translation (1626)
non-finite clauses	adverbial participles	5	2
	infinitives	16	10
	coordination ( <i>és</i> 'and')	2	2
other	<i>mert</i> 'that'	29	–
	nominal expressions	10	6

As can be seen, the use of *mert* 'that' in *that*-clauses is significant in the Munich Codex; this was possible in Old Hungarian (Haader 2003: 506) but not later (when *mert* could only mean 'because'); in other words, initially there were two possible candidates (*hogy* and *mert*) for the role of a general subordinator but it was clearly *hogy* that eventually won. Note that this is in line with the fact that *hogy* became a general marker of finite subordination and hence when there is no other Force to be expressed then the head of the subclause is either *hogy* or its zero alternate. We will return to the issue of the functions of *hogy* when discussing complementizer combinations.

The chart above also shows that the constructions used instead of clauses introduced by *hogy* are in most cases not even instances of finite subordination: they are very often non-finite clauses such as infinitives and adverbial participles (see section 6.3 for more details); in addition, there are several instances of coordination and of nominal expressions (DPs containing nouns derived from verbs via the suffix *-ás/-és*). The frequency of these is lower already in Middle Hungarian, in accordance with the increased significance of finite subordination in general (see section 6.3 of the present chapter and also Haader 2001).

It is worth noting that the complementizer introducing simple declarative subclauses tends to appear in a number of other constructions as well in languages in general. For instance, *that* in English has likewise several functions:

- (90) a. I heard **that** Ralph had arrived.  
b. Ralph was so tired **that** he fell asleep in class.

- c. I have seen the film **that** you mentioned last week.
- d. We took the train so **that** we would arrive on time.

As can be seen, *that* in English can introduce simple declarative subclauses such as the one in (90a) and it also appears in the *so...that* construction, as in (90b). Furthermore, *that* in English is able to introduce relative clauses on its own, as in (90c), which is not the case in Hungarian – however, as will be shown later on, Hungarian *hogy* could also appear in relative clauses historically, if combined with relative pronouns. Last but not least, *that* appears in purpose clauses in the sequence *so that*.

Apart from comparatives, *that* in English crucially does not appear in two constructions: embedded imperatives and embedded *wh*-interrogatives (or in embedded yes-no questions either). As far as the first is concerned, English uses infinitive constructions and there is simply no overt complementizer in embedded *wh*-interrogatives (and embedded yes-no questions are introduced by *if* or *whether*). This is demonstrated by the following examples:

- (91) a. I told him to clean the windows.  
 b. I asked him when he wanted to leave.  
 c. I asked him if he wanted to leave.

This reveals an interesting property of Hungarian *hogy*, namely that it is truly a marker of finite subordination and was so historically as well. This has two main aspects. First, as was mentioned above, in Hungarian finite subordinate clauses introduced by *hogy* appear instead of non-finite structures, which is the result of finite subordination gaining over non-finite subordination. Naturally, such changes were possible only by using a complementizer that was not incompatible with the Force of the clause; that is, *hogy* was already general enough to accommodate even more functions. Second, unlike *that* in English, *hogy* is not specified for [–wh] but may appear in [+wh] clauses as well, which would be incompatible with the properties of a simple declarative complementizer that is inherently marked for [–wh].

#### 6.4.3.2. The evolution of *ha* ‘if’

The etymologically related operator of the complementizer *ha* ‘if’ meant ‘when’ and since the functional split between the two took place mostly before the Old Hungarian period this latter function is relatively infrequent in Old Hungarian as well (though it is possible even later on):

- (92) fele mvnybe [le] **ha** tekunte [ek]essen tegud e[s] **ha**  
 up heaven-ILL when look-PST.3SG embellished you-ACC too when  
 lata ýste[n]segnec [ne]we mia rolad ozun keppe[n]  
 see-PST.3SG deity-DAT name-POSS for you-DEL so  
 scola  
 speak-PST.3SG  
 ‘when he looked up to heaven and saw you embellished, he spoke of you that way for  
 the name of God’ (Königsberg Fragment)

The complementizer *ha* was early grammaticalized into a lower C head and its reanalysis as a higher C head was early too: accordingly, it was base-generated as a higher C head already in Old Hungarian. This is clearly shown by its behaviour in complementizer combinations, as will be shown later on.

As far as its functions are concerned, *ha* has introduced conditional clauses from Old Hungarian onwards, as in the Old Hungarian examples in (93):

- (93) a. mert **ha** ýsten ev num uolna my benne býnut  
 because if God he not be-COND.3SG we he-INE sin-ACC  
 lelhetneýnc  
 find-POSSIB-COND-1PL  
 ‘because if he were not God, then we would be able to find sins in him’  
 (Königsberg Fragment)
- b. **ha** te ioğ kèzed meggonozbeitand tegedèt med èl  
 if you right hand-POSS.2SG PRT-offend.3SG you-ACC cut-IMP-2SG off  
 ɔtet  
 it-ACC  
 ‘if thy right hand offend thee, cut it off’ (Munich C. 11va)

In addition, *ha* was responsible for introducing embedded yes-no questions in Old Hungarian: this function was preserved in Middle Hungarian as well but then the interrogative marker *-e* was also present in the subclause.<sup>19</sup> In Modern Hungarian, this type is introduced by *hogy* or its zero alternate, and the presence of the interrogative marker *-e* is obligatory (see É. Kiss 2002: 239). The change is illustrated below in (94), with a zero complementizer in the Modern Hungarian example:

- (94) a. mōgadīng nèkõnc **ha** te vag x<sup>c</sup>  
 tell-IMP-2SG-PRT DAT-1PL if you are Christ  
 ‘tell us whether thou be the Christ’ (Munich C. 33va)
- b. mondd meg nekünk, **ha** te vagy-e Krisztus  
 tell-IMP-2SG PRT DAT-1PL if you are-Q Christ  
 ‘tell us whether thou be the Christ’ (Káldi, Mark 26:63)
- c. mondd meg nekünk, Ø te vagy-e a Krisztus  
 tell-IMP-2SG PRT DAT-1PL you are-Q the Christ  
 ‘tell us whether thou be the Christ’ (Neovulgata, Mark 26:63)

Consider also the following set of examples, with an overt *hogy* in the Modern Hungarian translation:

- (95) a. kèrde ɔtèt **ha** mit latna  
 ask-PST.3SG he-ACC if what-ACC see-COND.3SG  
 ‘he asked him if he saw ought’ (Munich C. 44ra)
- b. kèrdé őt, **ha** lát-e valamit  
 ask-PST.3SG he-ACC if see.3SG-Q something-ACC  
 ‘he asked him if he saw ought’ (Káldi, Mark 8:23)
- c. megkérdezte tőle, **hogy** lát-e valamit  
 PRT-ask-PST.3SG ABL-3SG that see.3SG-Q something-ACC  
 ‘he asked him if he saw ought’ (Neovulgata, Mark 8:23)

As can be seen, *ha* in this function was initially responsible for marking the [+wh] nature of the subclause in itself; however, later on the phonologically visible marker came to be the interrogative marker *-e*, which is inherently [+wh] and has been appearing in main clause questions from Old Hungarian onwards (often together with *nemde* ‘isn’t it’ in Old Hungarian). In this way it became unnecessary to mark the [+wh] nature of the clause by a separate [+wh] complementizer and as far as marking subordination, the general subordination marker is *hogy* ‘that’ or its zero alternate (see section 6.4.3.1), and *hogy* is underspecified for [±wh], cf. É. Kiss (2002:

239). Hence the change between (94b) and (94c), and between (95b) and (95c) is essentially the general extension of *hogy* for marking subordination.

It has to be mentioned that there seem to be three patterns cross-linguistically with respect to the [ $\pm$ wh] nature of the complementizer in embedded yes-no questions. First, the C head may select exclusively for [+wh] or [–wh] – for instance, German *ob* ‘if’ introducing embedded yes-no questions selects exclusively for [+wh]:

- (96) Ich weiß nicht, **ob** er kommt.  
 I know-1SG not if he come-3SG  
 ‘I don’t know if he will come.’

Since German *ob* has no other function, it is always unambiguously [+wh] and hence there is single encoding in German embedded yes-no questions, in that the C head responsible for clause-typing also encodes the [+wh] nature of the clause.

Second, it is also possible that a given C head selects either for [+wh] or [–wh] depending on its function. This is the case for English *if* and for Old Hungarian *ha*: when introducing embedded yes-no questions, as in (97a), *if* is [+wh] but when introducing conditional clauses it is [–wh], as in (97b):

- (97) a. I don’t know **if** he will come.  
 b. Ring me **if** he comes.

Since there seems to be a clear-cut distinction between the two functions, it is worth distinguishing between two complementizers that have the same phonological form and are also etymologically related. Still, in cases like (97a) there is also single encoding as it is the complementizer *if* that is responsible for marking subordination and the [+wh] nature of the subclause.

Finally, it is also possible that the C head responsible for clause-typing marks only subordination and does not select for [+wh] or [–wh] and this is the case with *hogy* in Modern Hungarian. In this case, there is obviously double encoding: that is, the element responsible for marking subordination (the C head) is distinct from the element overtly marking the [+wh] of the subordinate clause (the interrogative marker *-e*). Note that the same double encoding holds in embedded *wh*-questions from Old Hungarian onwards since the overt marker of [+wh] has always been the *wh*-element itself and the subordinator has been *hogy* (or its zero counterpart, which is in fact earlier, see Chapter 1 of this volume). In this respect, the diachronic change from Old to Modern Hungarian embedded yes-no questions is essentially one from single encoding into double encoding and the Middle Hungarian configuration (the co-occurrence of *ha* and the interrogative marker *-e*) represents an intermediate change. As *ha* was gradually losing its function of marking [+wh] and this role was taken over by *-e*, the role of an overt complementizer was reduced to solely marking subordination and hence *hogy*, which was the general subordination marker, took over this role from *ha*.

#### 6.4.3.3. The evolution of *mint* ‘than/as’

The complementizer *mint* ‘than/as’ is etymologically related to a former operator meaning ‘how’; the functional split between the two took place during Old Hungarian and partially also during Middle Hungarian, hence both functions can be observed for a long time. It is important to mention that *mint* could alternate with the operators *miként* ‘how’ and *miképpen* ‘how’ in comparatives expressing equality (see Haader 2003: 539); however, the latter did not develop into C heads. The operator *mint* can be observed already in the earliest texts:

- (98) Ez oz ýsten **mynt**<sup>evt</sup> esmeríuc!  
 this the God how-he-ACC know-1PL  
 ‘this is God as we know him’ (Königsberg Fragment)

We hypothesize that *mint* in Old Hungarian was either an operator in the specifier of the lower CP or a lower C head: it started moving up to the higher C head position in this period but was not grammaticalized there yet. The importance of this will become clear when considering combinations: as was seen earlier, the comparative complementizer was initially *hogy* and hence *mint* (and its alternates) could appear only in a lower – specifier, then head – position. This also means that the present-day complementizer function of *mint* evolved during the Old and Middle Hungarian periods due to the grammaticalization of *mint* as a higher C head and the disappearance of *hogy* from comparatives. We will return to this issue later on in more detail.

The complementizer *mint* is responsible for introducing comparative subclauses both in comparatives expressing equality and in ones expressing inequality. The difference between the two types can hence primarily be observed in the degree expression in the matrix clause: in structures expressing equality, the adjective or the functional head of the degree expression is in the positive degree (e.g. *olyan magas* ‘as tall’ or *annyi* ‘as much’), while in comparatives expressing inequality it is in the comparative degree (e.g. *magasabb* ‘taller’ or *több* ‘more’).

The following examples show *mint* in comparatives expressing equality. Note that in Old Hungarian *miként* (and *miképpen*) can still appear in this function:

- (99) Mèt istèn nem vgā fenègèt **mēt** èmber sem gerièztètìc  
 because God not as threaten.3SG as human neither induce-PASS-3SG  
 haragra **mikèt** èmbèrnc fia  
 wrath-SUB how human-DAT son-POSS  
 ‘because God does not threaten as humans do, nor does he get enraged as humans’  
 (Vienna C. 27)

In the following example *mint* appears in comparatives expressing inequality:

- (100) Es parāčola hog a kèmencè hètzer inkab  
 and command-PST.3SG that the furnace seven-times rather  
 gerièztètìnc **mēt** zokotvala gerièztètìni  
 heat-CAUS-COND-3SG than use-PERF-be-PST heat-PASS-INF  
 ‘and he commanded that they should heat the furnace one seven times more than it was  
 wont to be heated’ (Vienna C. 127)

In the case of *mint* there are no functional changes: essentially what happened is that an original operator grammaticalized into a C head, which is in line with the expectation that finite subordinators become more diversified as finite subordination becomes more important.

Note that the grammaticalization of operators into C heads is in fact very frequent in comparatives cross-linguistically; what may seem to be peculiar in Hungarian is that this change took place (at least) twice, first with *hogy* and later with *mint*. On the other hand, it seems that the change affected comparatives expressing equality and ones expressing inequality at the same time. A similar grammaticalization process is argued for by Jäger (2012) for German *als* ‘than’ and *wie* ‘as’, such that *wie* grammaticalized later; she also points out that *wie* is permitted to co-occur with *als* in some dialects and in others it has in fact already taken over the role of *als*. The following examples illustrate these various possibilities:



- (101) a. Ralf ist so groß **wie** Michael.  
 Ralph be.3SG as tall as Michael  
 ‘Ralph is as tall as Michael.’  
 b. Ralf ist größer **als** Michael.  
 Ralph be.3SG taller than Michael  
 ‘Ralph is taller than Michael.’  
 c. Ralf ist größer **als wie** Michael.  
 Ralph be.3SG taller than as Michael  
 ‘Ralph is taller than Michael.’  
 d. Ralf ist größer **wie** Michael.  
 Ralph be.3SG taller as Michael  
 ‘Ralph is taller than Michael.’

The structures given in (101a) and (101b) represent the Standard German (Modern High German) setting, where the complementizer responsible for introducing clauses expressing equality is *wie* and the one responsible for introducing clauses expressing inequality is *als*. Depending on the dialect and on the speaker, (101c) is possible (this is common in Western dialects such as Hessian): this involves the co-presence of two complementizers in the same fashion as *hogy* and *mint* could co-occur in Old and Middle Hungarian, as will be shown in section 6.4.4.2.1. However, configurations like (101c) in some dialects led to *wie* taking over *als* in comparatives expressing inequality (this is common in Southern dialects such as Bavarian): in these dialects, *wie* is hence a general comparative complementizer in essentially the same way as *mint* is in Hungarian, as shown in (101d).

#### 6.4.3.4. The evolution of *mert* ‘because’

The operator etymologically related to *mert* ‘because’ had the meaning of ‘why’; the functional split between the two took place during Old and partially also Middle Hungarian. Hence the split between the two forms *mert* ‘because’ and *miért* ‘why’ that is true for Modern Hungarian was not attested for a long time and the two forms were fundamentally free variants (see Haader 2003: 542–543); that is, the form *mert* could have both the functions ‘because’ and ‘why’, and the same is true of the form *miért*. We hypothesize that *mert* in Old Hungarian was either an operator in the specifier of the lower CP or a lower C head: it started moving up to the higher C head only in this period and was not grammaticalized there yet. Again, the importance of this will become clear when considering combinations, which will be addressed later.

The following example shows the complementizer *mert* appearing in the form of *mert*:

- (102) Halgassad vrā & irgalmazy **mert** irgalmas istèn vag  
 listen-IMP-2SG lord-POSS.1SG and pity-IMP-2SG because merciful God be-2SG  
 & irgalmazih mǔnèkõnc **mert** bűnhõtõnc te èlõttèd  
 and pity-IMP-2SG we-DAT-1PL because sin-PST-1PL you before-2SG  
 ‘Listen and have pity, Lord, for we have sinned before you.’ (Vienna C. 102)

In the following example the complementizer *mert* appears in the form of *miért*:

- (103) Bizoñ a tv istèntec istèneknèc istènè & kiraloknac  
indeed the you God-POSS.2PL god-PL-DAT God-POSS and king-PL-DAT  
vra megìèlentuen titkokat **miért** megnithata  
lord-POSS PRT-reveal-PART secret-PL-ACC because PRT-open-POSSIB-PST.3SG  
è titkot  
this secret-ACC  
‘of a truth it is, that your God is a God of gods, and a Lord of kings, and a revealer of  
secrets, seeing thou couldst reveal this secret’ (Vienna C. 124)

In Old Hungarian, *mert* could also introduce *that*-clauses, as was mentioned in the section 6.4.3.1. This function disappeared before the Middle Hungarian period (cf. Haader 2003: 506) but consider the following example from Old Hungarian:

- (104) Kit legottan i° ø scent zèllete miat  
who-ACC immediately Jesus he sacred spirit-POSS.3SG for  
megèsmèruē **mert** ig gondolnanc ø bènnèc mōda ø  
PRT-recognize-PART that so think-COND-3PL they INE-3PL say-PST.3SG they  
nèkic  
DAT-3PL  
‘and immediately when Jesus perceived in his spirit that they so reasoned within  
themselves, he said unto them’ (Munich C. 37rb)

Apart from the disappearance of this function, there are no considerable changes in the use of *mert* in Old and Modern Hungarian and hence it can be concluded that there are no significant functional changes in the case of *mert* either.

It has to be mentioned that the grammaticalization of *mert* into a C head involves an important change in the [ $\pm$ wh] nature of this element since *mert* as a complementizer is [ $-$ wh] while as an operator – either interrogative or relative – it was [ $+$ wh]. This difference can be observed in other languages as well: in Italian, for instance, *perché* ‘because’ is a complementizer and *perché* ‘why’ is an interrogative (though not relative) operator. The two functions are illustrated by the following examples:

- (105) a. Ti ho chiesto una mano **perché** stavo cadendo.  
you.DAT have-1SG ask-PART a-FEM hand because be-PST-1SG fall-PART  
‘I asked you to give me a hand because I was falling.’  
b. Ho chiesto **perché** questa canzone piace alla gente.  
have-1SG ask-PART why this-FEM song please-3SG to-the-FEM people  
‘I asked why people liked this song.’  
c. Ho chiesto **perché** questa canzone piaccia alla  
have-1SG ask-PART why this-FEM song please-SBJV-3SG to-the-FEM  
gente.  
people  
‘I asked why people liked this song.’

In (105a), the C head *perché* introduces a [ $-$ wh] subclause and the verb is in its indicative form. By contrast, in (105b) and (105c) the subordinate clause is [ $+$ wh] and contains the operator *perché* and the verb is either indicative, as in (105b), or is in the subjunctive, as in (105c), the latter representing a more formal/elevated style. Note, however, that embedding in itself does not require the use of the subjunctive and the reason behind its availability in (105c) is due to the [ $+$ wh] nature of the clause.

What is important for us here is that the clear feature distinction between a  $[-wh]$  complementizer *mert* and a former  $[+wh]$  operator *mert* means that as soon as *mert* is reanalysed as a C head and hence  $[-wh]$ , the  $[\pm wh]$  nature of the clause is set by the overt complementizer itself. Hence in a clause introduced by *mert* it is not possible for other, new operators to appear even after *mert* has been reanalysed as a higher C head and grammaticalization at the left periphery of clauses of reason is thus not recursive in this sense. This is different from what was attested in comparatives, where the reanalysis of former operators into C heads actually feeds the appearance of new overt operators in the long run: the same process taking place in clauses of reason bleeds the appearance of new operators.

#### 6.4.3.5. Interim summary

The general change from non-finite to finite embedding brought about the evolution of a functional left periphery (a CP-domain) in finite subordinate clauses; apart from the strengthening of a CP-domain, this also involved the establishment of CPs as head-initial projections. Grammaticalisation processes in this CP-domain involved two main aspects. First, elements initially moving to the left periphery grammaticalized from operators into C heads and this resulted in a variety of finite complementizers expressing various functions. Second, marking finite subordination became more important and hence *hogy* ‘that’ was extended to a wide range of clauses as a general subordination marker.

#### 6.4.4. The appearance and disappearance of multiple complementizers

As was mentioned in the introduction, complementizers could also appear in various combinations. This involves the combinations of the four complementizers – *hogy* ‘that’, *ha* ‘if’, *mint* ‘than/as’ and *mert* ‘because’ – with each other, and combinations that involve other heads in the left periphery. First the general mechanisms of complementizer combinations will be considered, with special attention paid to the distinction between syntactic and morphological combinations and the importance thereof. Second, we will turn to the examination of Hungarian complementizers combining with each other and with negative-like heads, with special focus on comparatives. Third, we will briefly consider the issue of multiple combinations.

##### 6.4.4.1. Syntactic and morphological combinations

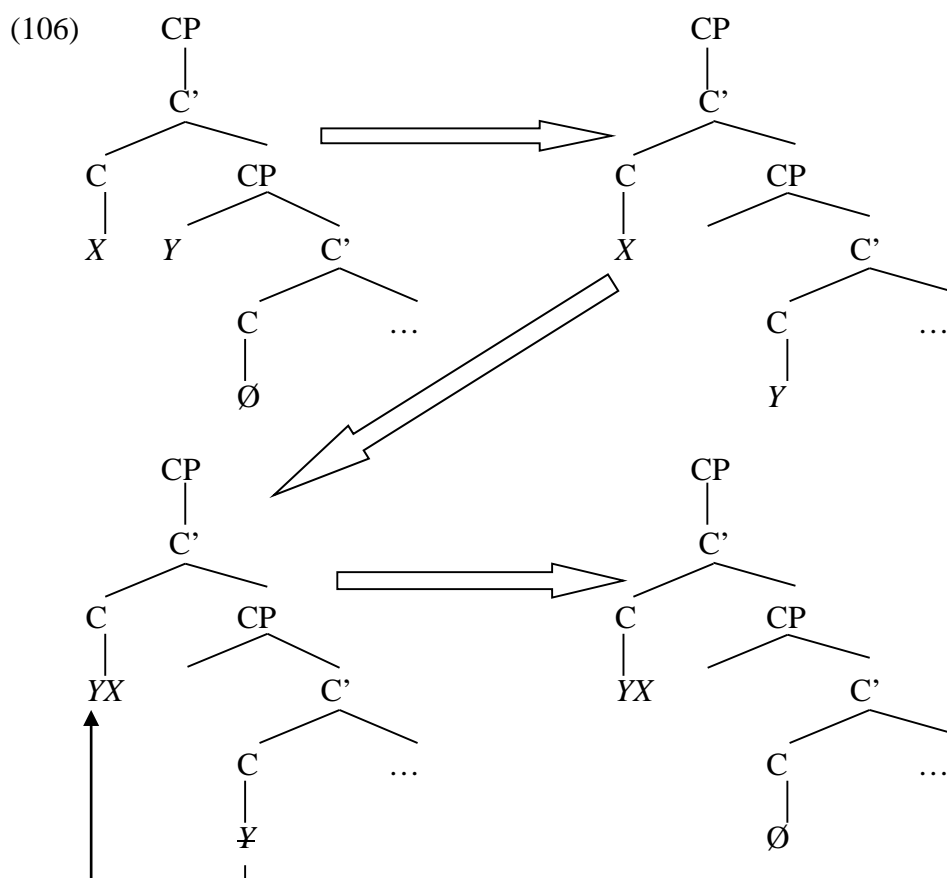
As was outlined in the introduction, there are several combinations attested in various periods of Hungarian: some of these are already extinct (e.g. *hahogy* ‘if that’ or *hogyhamint* ‘that if as’), while others are still used (e.g. *hogyha* ‘that if’ or *minthogyha* ‘as that if’). An important question concerning complementizer combinations is that in case the two (or more) elements that are involved in the combination can function as complementizers on their own as well, what the grammatical status of the combination is, that is, whether the combination is formed during the syntactic derivation or whether the combination enters the derivation already as a complex unit.

The two types to be distinguished here are syntactic and morphological combinations. In syntactic combinations the parts of the combination are base-generated as separate heads in the syntax and combination hence either means the adjacency of these separate elements at PF, or there are complex heads that are formed by adjunction during the derivation. In morphological combinations the entire complex is base-generated as a single head in the syntax, and hence the notion of combination can be applied only as far as morphology is concerned. The two types are nevertheless strongly related to each other historically: as will be shown, morphological combinations came into being by the grammaticalization of syntactic combinations.

As was discussed in section 6.4.3, the individual complementizers underwent grammaticalization at different times and hence their typical positions were also different in Old Hungarian. This also enabled both C head positions to be filled by overt elements, which can also be observed in other languages, cf. Roberts (2005) and van Gelderen (2005). In addition, it was also possible for future complementizers that were still operators to appear together with an overt higher C head. In these cases the combinations are purely syntactic and the linear PF order is the same as the base-generated order.

At the same time, as has already been mentioned, lower C heads were ultimately reanalysed as higher C heads. This obviously meant that complementizers base-generated in the lower C position started to move up to the higher C head, and later came to be base-generated there. When a lower C head moved up to the higher C position when the latter was already filled by another (overt) element, then the original lower C head was left-adjoined to the original higher C head, following the Linear Correspondence Axiom of Kayne (1994) and the Mirror Principle of Baker (1985, 1988). Later on these combinations were grammaticalized, that is, they came to be base-generated as a single – morphologically complex – head in the higher C position.

The four stages described above are represented in (106):

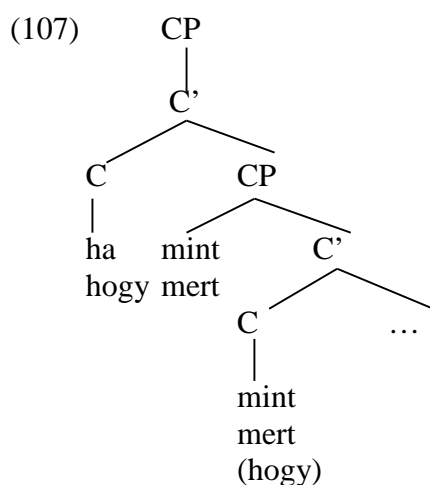


As can be seen, grammaticalization resulting in morphological combinations leads to the inverse order of the original one but since this is an instance of predictable syntactic derivation, the variants XY and YX (at PF) are free alternates, at least as far as their original functions are concerned. This will be shown to be the case for Hungarian complex complementizers as well.

#### 6.4.4.2. Combinations of two C heads

The system of combinations involving two C heads was outlined in Table 4 and it was also pointed out in the introduction that the system is completely symmetrical in that if a given combination existed in the order XY, then the order YX is also attested; this follows from the nature of the mechanisms given in (106). Moreover, for every pair XY and YX it is true that only one member remained in the language – that is, the one that grammaticalized into a morphological combination.

On the other hand, the underlying order is directly influenced by when the individual complementizers grammaticalized. As was pointed out in section 6.4.3, grammaticalization did not take place at the same time for all the four complementizers and hence they occupied different positions in Old Hungarian and partly in Middle Hungarian as well. These typical positions are given below:



As can be seen, *ha* ‘if’ is base-generated as a higher C head, while *hogy* ‘that’ is typically a higher and less frequently a lower C head; *mint* ‘than/as’ and *mert* ‘because’ are either lower C heads or still operators moving to the specifier position of the lower CP. This has three important consequences.

First, the order of two complementizers appearing in one left periphery is predictable. Since *ha* is always a higher C head, it always appears as the first member in the original combinations, hence: *hahogy* ‘if that’ and *hamint* ‘if as’. Similarly, since *mint* and *mert* were lower C heads (or operators), they appear as the second members in the original combinations, hence: *hogymert* ‘that because’, *hogymint* ‘that than’ and *hamint* ‘if as’. Finally, *hogy*, typically being a higher C head, could combine with lower C heads (and operators), hence: *hogymert* ‘that because’ and *hogymint* ‘that than’ but since it could appear as a lower C head as well, it could also be combined with *ha*, hence: *hahogy* ‘if that’.

Second, since lower C heads systematically moved up to the higher C position, it is also explained why all the four combinations reflecting the underlying order (*hahogy*, *hamint*, *hogymert*, *hogymint*) have their counterparts with the reverse order but the same original meaning (*hogyha*, *mintha*, *merthogy*, *minthogy*), as shown in Table 4.

Third, apart from the fact that an original XY combination also had a YX counterpart, it is also predictable that out of the two it is always the one showing the YX order that remained in the language: since all lower C heads ultimately grammaticalized into higher C heads, there remained no complementizer to appear in the lower C position. This is in accordance with the historical data, as highlighted in Table 4.

There is yet one more question to be addressed in connection with the status of *hogy* in the combinations under discussion. As was mentioned, *hogy* was typically a higher C head and it was base-generated as a lower C head only in the case of *hahogy* (more arguments for this will be presented in section 6.4.4.2.3). However, since *hogy* preferably moved up in general, it is expected that movement preferably took place also in combinations with *ha*: that is, the appearance of the combination *hogyha* is expected to be significantly earlier than that of the other grammaticalized complex C heads.

This is indeed the case, as demonstrated by the comparative study carried out on four different translations of all the four gospels (cf. Bacsikai-Atkari 2012a); the translations are the Munich Codex (1416/1466) and the Jordánszky Codex (1516–1519) from Old Hungarian, György Káldi’s translation (1626) from Middle Hungarian and the Neovulgata translation (1997) from Modern Hungarian. We searched for the occurrences of the complex C heads *hogyha*, *mintha*, *minthogy* and *merthogy*; the results are summarized in Table 9:

Table 9: The appearance of complex C heads

	<b>Munich Codex (1416/1466)</b>	<b>Jordánszky Codex (1516–1519)</b>	<b>Káldi’s translation (1626)</b>	<b>Neovulgata translation (1997)</b>
<i>hogyha</i>	9	8	9	–
<i>mintha</i>	–	1	3	7
<i>minthogy</i>	–	–	4	1
<i>merthogy</i>	–	1	–	–

As can be seen, *hogyha* appears considerably earlier than the other three combinations, which is in line with the expectations: the Munich Codex contains examples only for this combination out of all the four, while the other three combinations appear later with some sporadic examples in the Jordánszky Codex and in greater numbers in later texts. It must be mentioned that all the four combinations exist in Modern Hungarian and hence it is accidental that some of them do not appear in the Neovulgata translation at all. On the other hand, not only *hogyha* but also the other three combinations date back to Old Hungarian and hence their absence or low numbers can be interpreted only in terms of the comparative analysis carried out on the given texts.

What is important for the present discussion is that the early and frequent appearance of *hogyha* is not surprising considering that *hogy* preferably moved up even when combining with the complementizer *ha* since it was preferably located in that position anyway – from this it follows that *hogyha* should appear considerably earlier than the other three combinations.

In what follows we will briefly review the individual combination pairs and their functions.

#### 6.4.4.2.1. The combinations of *hogy* ‘that’ and *mint* ‘than/as’

As has already been discussed, comparative subclauses were originally headed by the complementizer *hogy* ‘that’; *mint* ‘than/as’ appeared in Old Hungarian, first as an operator and later as a lower C head, resulting in the combination *hogymint* ‘that than’. It has to be mentioned that originally *nem* ‘not’ or *sem* ‘neither’ also appeared alongside *hogy*; this issue will be redressed later and hence for the time being let us disregard the question of how negative elements appeared in the combinations of *hogy* and *mint*.

The following examples illustrate the function of *hogymint* introducing comparative subclauses expressing inequality, as in (108a), and in ones expressing equality, as in (108b):

- (108) a. edesseget      erze              nagyoban   **hogymint**   annak      előtte  
 sweetness-ACC feel-PST.3SG greater      that-than      that-DAT before-3SG  
 ‘(s)he felt sweetness even more than before’ (Lázár C. 71r)
- b. mind anne      bõsegõs      kõnhullatasoc   mene      a      vízeknec  
 all so.much plenty crying-PL as.much the water-PL-DAT  
 sokassaghí      sem      volnanac      en      előttem      kellemetõsek      Auág  
 multitude-POSS.PL neither be-COND.3PL I before-1SG pleasant-PL or  
 foganatosoc   **hoág mint**   akki   zõnetlen      a      kereztfanac   õ  
 effective-PL that as who incessantly the rood-DAT he  
 keserûseget                      ´      testeben                      víselí  
 bitterness-POSS.3SG-ACC he body-POSS.3SG-INE bear-3SG  
 ‘not even as much crying as the multitude of waters would be as pleasant and  
 touching to me as the one who incessantly bears the bitterness of the rood in his  
 body’ (Nagyszombat C. 40–41)

By way of *mint* moving up to the higher C head the complex *minthogy* ‘than that’ was formed, which was originally also a comparative complementizer (in clauses expressing inequality):

- (109) my      lehet              ezneel      chodaltatosb      allat   **mynt hog**   ember  
 what be-POSSIB.3SG this-ADE more.wonderful state than that human  
 lenne              istèn  
 be-COND.3SG God  
 ‘what can be a more wonderful state than that God be a man’ (Horvát C. 1v)

It should be mentioned that in the case of *minthogy* there arose an explanatory meaning as well (Haader 1995: 619) and it is this function that continues to exist in Modern Hungarian. Since the question of how *minthogy* developed this function would lead to questions concerning the relation between subordination and coordination and the boundary cases in between the two (cf. Kenesei 1992: 537–552), we will not venture to examine this question here in more detail.

Turning back to comparatives, what is important is that the co-occurrence of *hogy* and *mint* – either with or without a negative element – made it possible for the original comparative complementizer (*hogy*) to be gradually replaced by a new one (*mint*), as will be shown later on in more detail.

Combinations of a general(/declarative) and a comparative complementizer are attested in other languages as well; for instance, German has the combinations *als dass* ‘than that’:

- (110) Es war              zu      schrecklich, **als dass**      man              es      mit      Worten  
 it be.PST.3SG too awful      than that PRONOUN it with words  
 beschreiben      kõnnte.  
 describe-INF can.COND-3SG  
 ‘It was too awful, more than one could describe.’

In cases like (110), the combination *als dass* serves to introduce an unreal comparison. The combinations that emerged in Old and Middle Hungarian are different in the sense that they involved two comparative complementizers – this is also attested in German in dialects that have *als wie* ‘than as’, see section 6.4.3.3.

#### 6.4.4.2.2. The combinations of *hogy* ‘that’ and *mert* ‘because’

Clauses of reason were introduced by the complementizer *mert* ‘because’ but *hogy* ‘that’ could also appear in these constructions, resulting in the combination *hogymert* ‘that because’. It is important to mention that, unlike in comparative subclauses (*hogymint* ‘that than’ and *minthogy* ‘than that’), *hogy* in clauses of reason appeared later and did not modify the meaning of the construction; exceptionally, though, *hogy* could appear on its own in clauses expressing reason, as in (110b) above.

This is in line with the fact that *hogy* in Old and Middle Hungarian came to be a general marker of subordination and the appearance of *hogy* together with *mert* was also motivated because *mert* was still not a grammaticalized higher C head, which is ultimately the position responsible for marking subordination. Since the functional split between *mert* and *miért* ‘why’ was not completed in Old Hungarian, *mert* in these combinations can naturally occur both in the form *mert* and *miért*.

The following examples illustrate the function of *hogymert* as a head of clauses of reason: in (111a) *mert* appears in the form *mert*, while in (111b) it is in the form *miért*.

- (111) a. **Dehogy mert** zent ferenc ygen zeretiuala ewtett tyztasagert  
 but-that because saint Francis well like-3SG-be-PST him-ACC purity-FINAL  
 es alazatossagaert kyt valuala Monda  
 and humility-POSS.3SG-FINAL who-ACC have.3SG-be-PST say-PST.3SG  
 neky  
 him-DAT  
 ‘but because Saint Francis liked him well for his purity and for his humility that he had, he said to him’ (Jókai C. 46)
- b. De **hogy meyerth** dichewlth testbe wagyok en Nen syrhatok  
 but that because redeem-PART body-ILL be-1SG I not cry-POSSIB-1SG  
 ‘but because I am in a redeemed body, I cannot cry’ (Apor C. 158)

The movement of *mert* to the higher C head position resulted in the complex head *merthogy* ‘because that’, which likewise introduces clauses of reason:

- (112) De azonkezbe az baratok bel yewuenek az aztalra: De **mer**  
 but meanwhile the brother-PL in come-PST-3PL the table-SUB but because  
**hogy** bodog ferencz zerzetteuala hogy ne varnak  
 that blessed Francis command-PERF-3SG-be-PST that not wait-SBJV-3PL  
 ‘but meanwhile the brothers had sat down to the table because blessed Francis had ordered that they should not wait for him’ (Jókai C. 84)

As can be expected, *merthogy* survives into Modern Hungarian as a grammaticalized C head, while *hogymert* disappeared.

Interestingly, a similar complementizer combination is also attested in Middle English in the form of *for that* (van Gelderen 2005):

- (113) Thy wyf and thou moote hange fer atwynne, / **For that** bitwixe yow shal be no synne.  
 ‘Your wife and you must hang apart, that in the night shall come no chance for you to sin.’ (Chaucer, The Canterbury Tales: Miller’s Tale)

Such combinations were possible when *that* was still located in the lower C head but not later, i.e. when *that* is already a higher C head (van Gelderen 2005). On the other hand, in English



the inverse order of the original C + C combination is not attested: lower C heads moving up to the higher C position did not engage in head adjunction, unlike Hungarian.

#### 6.4.4.2.3. The combinations of *hogy* ‘that’ and *ha* ‘if’

As was seen before, conditional clauses were introduced by *ha* ‘if’; however, *hogy* ‘that’ could appear even in these constructions – when it did, it appeared in the lower C head position, the higher one already being filled by *ha*, hence resulting in the combination *hahogy* ‘if that’. Just as with clauses of reason, the function of *hogy* was to mark finite subordination and hence it preferably moved up to the higher C position, as was mentioned previously. In addition, since *hogy* in Old Hungarian could still function as a comparative complementizer, its combination with *ha* could also serve to introduce conditional comparative clauses.

That the underlying (C + C) order is represented by *hahogy* is also demonstrated by the fact that constituents could potentially move to a position between *ha* and *hogy* at the left periphery:

- (114) **Ha** késen **hogy** el nyugot az nap, hamar esőt váry  
 if late that off set-PST.3SG the sun soon rain-ACC expect-IMP-2SG  
 ‘if the sun has set late, expect rain soon’ (Cisio)

As can be seen, the complementizers *ha* and *hogy* are located within a single left periphery but the adverbial *késen* ‘late’ can appear between the two. Note that if *ha* and *hogy* in (114) were located in two different left peripheries, then the first clause (*ha késen* ‘if late’) should obligatorily contain an overt copula marked for past tense; since this is not the case the string *ha késen* cannot be considered a separate clause and hence *ha* and *hogy* are located in one and the same left periphery. This kind of construction is rare because topics and foci in Hungarian normally move below the C-domain and hence not between the two C heads (see section 6.4.1). What is important for us here is that (114) is possible only if *ha* and *hogy* are distinct C heads, which in turn means that *hahogy* represents an underlying order.

Apart from the example in (114), the following sentence also represents *hahogy* introducing conditional clauses:

- (115) Az én jó istenem, **ha hogy** sok ellenség, reám  
 the I good God-POSS.1SG if that many enemy SUB-1SG  
 fegyverkezék, tőlök megmenté  
 arm-PST-3SG ABL-3PL PRT-save-PST.3SG  
 ‘my good God, if many enemies armed against me, saved me from them’  
 (Balassi: Ének 32)

As was argued for earlier, *hogy* in these constructions preferably moved up, which resulted in the complex *hogyha* that is still used in Modern Hungarian too:

- (116) a. Es az lattatic ennekom **hog ha** az paradícomnac génerúseges  
 and that see-PASS-3SG I-DAT-1SG that if the Paradise-DAT beautiful  
 edes lakodalmaban lakoznam  
 sweet dwelling-POSS-INE dwell-COND-1SG  
 ‘and it was shown to be as if I had been living in the beautiful and sweet Paradise’  
 (Nagyszombat C. 118)

- b. gondolya vala ewnenbēne ezt **hogi**ha ew hozya  
 think-3SG be-PST himself-INE this-ACC that-if he ALL-3SG  
 menne zerzetes rwhaba hogi el futhna ew  
 go-COND.3SG monk garment-ILL that off run-COND.3SG he  
 elewle  
 before-3SG  
 ‘he thought that if he went up to him dressed as a monk, then he would run away’  
 (Példák könyve 15–16)

In example (116a) *hogyha* is used in a conditional comparative, while (116b) shows *hogyha* introducing an ordinary conditional clause. It has to be mentioned that in Modern Hungarian *hogyha* is used only in conditional clauses, but not in conditional comparatives, which is in parallel with *hogy* having lost its comparative function.

Again, it is worth mentioning that a similar combination existed in Middle English as well in the form of *that if* (van Gelderen 2005) and just as in the case of Hungarian, the role of *that* is purely marking subordination but it does not change the meaning defined by *if*:

(117) Blameth nat me **if that** ye chese amys.

‘And blame not me if you do choose amiss.’ (Chaucer, The Canterbury Tales: Miller’s Prologue)

Just as in the case of *for that*, the reverse order is not attested and hence with the grammaticalization of *that* in the higher C head the combination *if that* disappeared from the English language.

#### 6.4.4.2.4. The combinations of *ha* ‘if’ and *mint* ‘as’

Conditional comparatives represent a mixed type between two basic clause types and hence they are typically represented by both complementizers that otherwise introduce these two types. In Hungarian, conditional Force has always been represented by *ha* ‘if’ and comparative Force was first associated with *hogy* ‘that’ and later with *mint* ‘as’. The combination *hamint* ‘if as’ is the result of *mint* starting to co-occur with the higher C head *ha*.

The combination is illustrated by the following example:

- (118) de **ha mynt** čak el aluttak volna lelqoketh istennek  
 but if as only off sleep-PERF-3PL be-COND soul-POSS.3PL-ACC God-DAT  
 meg adaak  
 PRT give-PST-3PL  
 ‘but as if they had only fallen asleep, they gave their souls to God’ (Sándor C. 14v)

The combination *mintha* ‘as if’ is the result of *mint* moving up to the higher C head:

- (119) lelek zent xpīnat **mint ha** az ferqđqbql iōne ky  
 find-PST-3PL saint Christine-ACC as if the bath-ELA come-COND.3SG out  
 ‘and they found Saint Christine as if she had come out from the bath’  
 (Christina Legend 19v)

As far as the function of *mintha* is concerned, there are no changes to be considered as it introduces conditional comparatives even in Modern Hungarian.

The mixed nature of conditional comparatives involves the formation of similar combinations in other languages too, as shown by the following examples from English and German:

- (120) a. She acts **as if** she were a princess.  
 b. Er gibt Geld aus, **als ob** er Millionär wäre.  
 he give-3SG money out than if he millionaire be.COND-3SG  
 ‘He spends money as if he were a millionaire.’

In such combinations the complementizer expressing comparison is normally one that is otherwise used in comparatives expressing equality, hence it is *as* and not *than* in English. Interestingly, in German it is *als* ‘than’ and not *wie* ‘as’: the reason behind this is that the combination was born in a period when the complementizer used in equatives was still *als* (see previous discussion in this chapter and cf. Jäger 2012). This means that standard combinations are not necessarily affected in the same way as single complementizers are.

#### 6.4.4.3. Negative-like elements in comparatives

Let us now turn to the role and structural properties of negative-like elements in comparatives expressing inequality. As will be shown, these syntactic heads could participate in left peripheral combinations in fundamentally the same way as C heads did and hence the resulting multiple combinations can be described similarly. First the status of *nem* ‘not’ and *sem* ‘neither’ will be considered, also discussing the differences between them and then we will proceed to show how they appeared in comparatives in combinations such as *hogynem* ‘that not’ and *hogysem* ‘that neither’. Then an examination of combinations containing *mint* ‘than’ will follow, hence the combinations *hogynemmint* ‘that not than’ and *hogysemmint* ‘that neither than’ and finally we will briefly discuss the conditions licensing the combination *mintsemhogy* ‘than neither that’ and the predictability thereof.

##### 6.4.4.3.1. The elements *nem* ‘not’ and *sem* ‘neither’

Originally, comparative subclauses were introduced by the complementizer *hogy* ‘that’, and this was accompanied by a negative element – typically *nem* ‘not’ and less frequently *sem* ‘neither’ – in comparatives expressing inequality. Consider the following example:

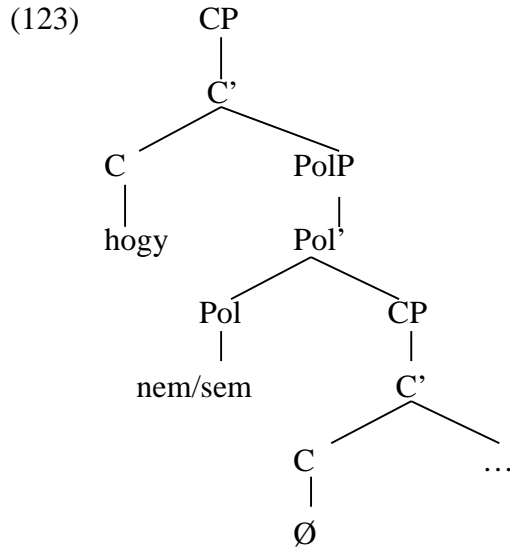
- (121) Mert iob hog megfog’dosuā algukmég’ vrat èlèuènèn **hog**  
 because better that PRT-catch-PART bless-SBJV-1PL-PRT Lord-ACC alive that  
 nè mèghal’l’ōc  
 not PRT-die-SBJV-1PL  
 ‘because it is better to bless the Lord if we are captured alive than to die’ (Vienna C. 25)

As can be seen, the complementizer *hogy* is followed by the negative element *nem* but the structure does not actually express negation and hence *nem* cannot be the syntactic head of a true NegP. Negative-like elements of this type are in fact related to polarity: comparative subclauses have negative polarity and hence some languages may require an overt negative polarity head (such as Old Hungarian), while in other languages this is optional (e.g. in Italian, see Salvi and Vanelli 2004: 283–285). In addition, there are languages where negative polarity is shown by the fact that negative polarity items are licensed in the comparative subclause (e.g. English, cf. Seuren 1973: 532–537; on cross-linguistic differences see also Bacsikai-Atkari 2011):

- (122) He prefers to rant about a problem rather than **lift a finger** to fix it.

Negative polarity items, such as *lift a finger* in (122), can appear only in clauses that have negative polarity and they are perfectly acceptable in comparative subclauses.

This is important for us here because *nem* and *sem* are hence not Neg heads in syntax but they head a PolP responsible for the polarity of the subclause (cf. Homer 2011). This projection appears between the two CPs, as given in the diagram below:



Though the syntactic position of *nem* and *sem* is the same, it has to be mentioned that there is an important difference between the two: while *nem* (as a Pol head) is a clitic, *sem* is not.<sup>20</sup> This will be important when it comes to the discussion of combinations.

#### 6.4.4.3.2. The combinations *hogynem* ‘than not’ and *hogysem* ‘than neither’

Since *nem* ‘not’ and *sem* ‘neither’ in comparatives expressing inequality appeared together with *hogy* ‘that’, the combinations *hogynem* ‘that not’ and *hogysem* ‘that neither’ naturally follow. The combination *hogynem* is illustrated in (121) above and in (124) below:

- (124) iob    hog    èlèuènen    zolgallonc    Nabuhodonozor    nag    kiralnac    &  
 better that alive    serve-SBJV-1PL Nebuchadnezzar    great    king-DAT    and  
 alazkoggonc    te    nèkèd    **hog nē**    meghaluāc    mṽ  
 cringe-SBJV-1PL you    DAT-2SG that not    PRT-die-PART-1PL we  
 vèzèdelmōcbèn    mṽnmagonc    mṽ    zolgalatōknac    karat  
 peril-POSS.1PL-INE ourselves    we    service-POSS.1PL-DAT damage-POSS-ACC  
 zènuèggüc  
 suffer-SBJV.1PL  
 ‘it is better for us to serve the great king Nebuchadnezzar alive and to cringe before you  
 than to suffer the damages of our service dying’ (Vienna C. 14)

Hence in these cases a higher C head (*hogy*) co-occurs with a Pol head (*nem* or *sem*).

As has been mentioned, *nem* in these constructions is a clitic, unlike *sem*. This has two consequences. First, *nem* cliticizes onto the preceding element *hogy*, which results in the form *honnem* showing phonological assimilation. This change can be observed between the Munich Codex and the Jordánszky Codex: the loci containing *hogynem* in the former text show *honnem*

in the latter (possibly combined with *mint* ‘than’). This is illustrated by the following pair of examples:

- (125) a. iob tenèked hog eg èluèzien te tagid  
 better you-DAT-2SG that one off-perish-SBJV-3SG you member-POSS.PL-2SG  
 kőzzöl **hog nē** mend te tēsted èrèztēssec pokolba  
 among that not all you body-POSS.2SG cast-SBJV-3SG hell-ILL  
 ‘it is profitable for thee that one of thy members should perish, and not that thy  
 whole body should be cast into hell.’ (Munich C. 11rb–11va)
- b. yncab yllyk teneked hoġ el vezyen egik tagod,  
 rather fit-3SG you-DAT-2SG that off perish-SBJV-3SG one member-POSS.2SG  
**honnem** te tellyes tested vettesseg pokorra  
 that.not you entire body-POSS.2SG cast-SBJV-3SG hell-SUB  
 ‘it is profitable for thee that one of thy members should perish, and not that thy  
 whole body should be cast into hell.’ (Jordánszky C. 367)

There is no such assimilation to be observed in the case of *sem*, as it is not a clitic. The second crucial difference is that *sem* could undergo head movement to the higher C head filled by *hogy*, hence resulting in the inverse order pair of *hogysem*: *semhogy* ‘neither than’ continues to exist in Modern Hungarian too. Since *nem* as a clitic was attached to the preceding element, it did not move up to the higher C head and hence *hogysem* has no inverse order counterpart.<sup>21</sup>

#### 6.4.4.3.3. The combinations *hogynemmint* ‘that not than’ and *hogysemmint* ‘that neither than’

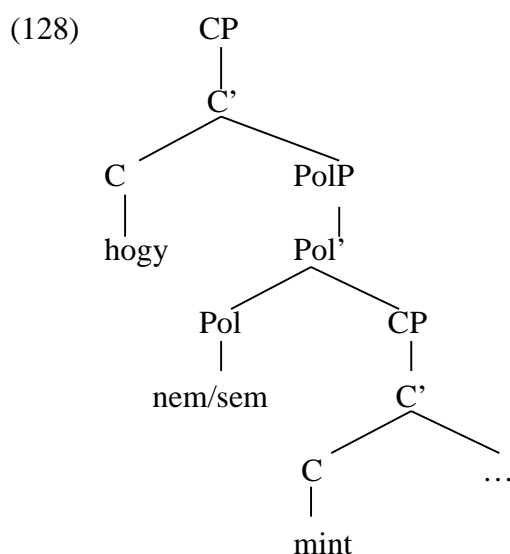
As was seen before, *mint* ‘than’ started to appear in comparative subclauses, first as an operator and later as a lower C head. Since *hogy* ‘that’ – and in comparatives expressing inequality, the combinations *hogynem* ‘that not’ and *hogysem* ‘that neither’ – were still present in the structure, the combinations *hogynemmint* ‘that not than’ and *hogysemmint* ‘that neither than’ arose. Consider the following examples for *hogynemmint*:

- (126) a. ha nauałas lelek keuelb lezen kazdaksagot meg vtałuã:  
 if wretched soul prouder be.MOD-3SG richness-ACC PRT hate-PART  
**hoġ nem mīt** volt øtet bíruan  
 that not than be.PST.3SG it-ACC possess-PART  
 ‘if the wretched soul becomes prouder when despising richness than it was when  
 possessing it’ (Birk C. 1a)
- b. mert mastan kőzelben vagy on a” my Idweseeġwńk **honnem**  
 because now nearer-SUP be.3SG the we salvation-POSS.1PL that.not  
**mynt** eleeb hyttók  
 than before think-PST-1PL  
 ‘because now our salvation is nearer than we thought before’ (Érdy C. 3b)

As can be seen, *hogynemmint* appears without phonological assimilation in (126a), while (126b) represents the form *honnemmint*. Finally, (127) shows *hogysemmint*:

- (127) thewbzer    wacharalth    az    warban    az    kyalne azz[ony]  
 more.times    supper-PST.3SG    the    castle-INE    the    queen    lady  
 leanywal,                    Borbara    azzannal,    **hogh**    **sem**    **mynth**    warasban    az  
 daughter-POSS-COM    Barbara    lady-COM    that    neither    than    town-INE    the  
 wrak    kezewth  
 lord-PL    among  
 ‘he had supper in the castle with lady Barbara, the queen’s daughter more often than in  
 town with the gentlemen’ (Hegedűs and Papp #139)

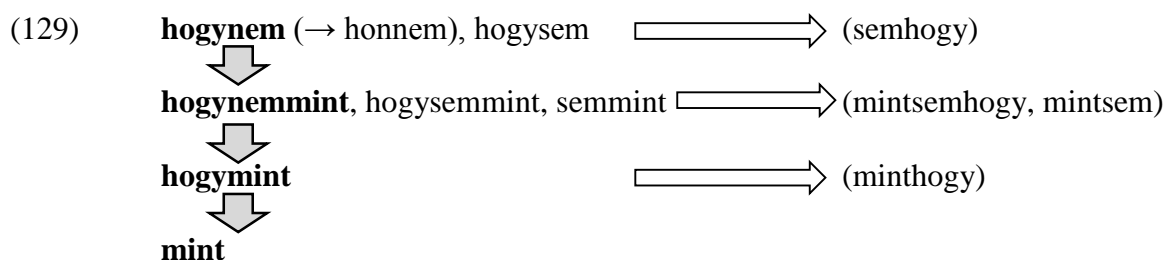
Both *hogynemmint* and *hogysemmint* can be attributed the following structure (considering the case when *mint* is already a lower C head but it could initially be an operator as well):



In this case there are hence three overt heads in the left periphery: two C heads and a Pol head in between.

It is worth mentioning that the gradual disappearance of *hogy* from comparative constructions could lead to the rise of *semmint* ‘neither than’: this is rare but it nevertheless fits into the system of complementizer combinations. Obviously, *nem* in this case again does not parallel with *sem*, since as a clitic it could not have appeared in a structure without a preceding element that it could cliticize onto.

Returning now to the appearance of *mint*, it was mentioned in connection with *hogymint* ‘that than’ (and *minthogy* ‘than that’) that combinations containing both the previous and the later complementizer contributed to the loss of *hogy* and the takeover by *mint* in comparatives: this would not have been possible if *mint* had not been able to appear in such subclauses at all. The changes affecting the complementizers and complementizer combinations in comparatives expressing inequality can be summarized as follows:



The two main lines of change are hence related to the appearance of *mint* and the disappearance of the negative element. Naturally, the individual stages cannot be sharply distinguished and hence the various forms are expected to co-occur in texts for considerable time both in Old Hungarian and in (early) Middle Hungarian.

However, the change can be clearly observed in the comparative study carried out on four translations of the gospels (Bacsikai-Atkari 2012b): here the number of comparative structures is approximately the same in all the texts. It has to be mentioned that differences do occur especially because the standard value of comparison (that is, to which something is compared) can be expressed not only by a subordinate clause. As far as subclauses are concerned, the following numbers were found:

Table 10: Elements introducing comparative subclauses

	Munich Codex (1416/1466)	Jordánszky Codex (1516–1519)	Káldi's translation (1626)	Neovulgata translation (1997)
<i>hogynem</i>	34	20	–	–
<i>hogynemmint</i>	–	11	–	–
<i>mint</i>	–	4	23	20

The data clearly show that while comparative subclauses expressing inequality were introduced by *hogynem* in the Munich Codex, the picture is more diversified already in the Jordánszky Codex: the number of the occurrences of *hogynem* is significantly lower, resulting in a high frequency of *hogynemmint* and the possibility of *mint*. By contrast, both Káldi's translation and the Neovulgata translation contain only *mint*. It has to be mentioned that *hogynemmint* (and *hogysemmint*) was nevertheless still possible in Middle Hungarian.

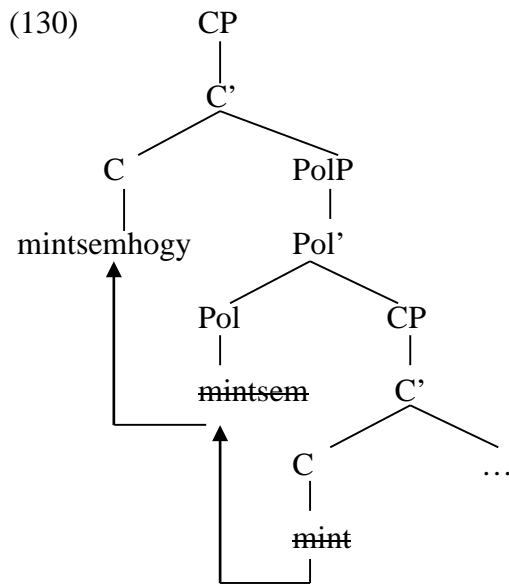
Furthermore, neither *hogynem* nor *hogynemmint* can be considered as a Latin reflex: in all the instances above the Latin text contains *quam* 'than'; hence when considering changes in Hungarian comparative subclauses, then one is essentially examining language-internal processes.

An important conclusion to be drawn here is that apart from C + C combinations, there arose C + Pol + C combinations in an analogous way.

#### 6.4.4.3.4. The combination *mintsemhogy* 'than not that'

As can be expected based on the analysis presented in section 6.4.4.3.3, the inverse order pair of *hogynemmint* 'that not than' did not arise, *nem* 'not' being a clitic – however, the same does not hold for *hogysemmint* 'that neither than'. This is indeed so and the derivation of *mintsemhogy* 'than neither that' can be described with the same mechanisms that we saw in connection with grammaticalized, morphologically complex complementizers. Note that *mintsemhogy* also continues to exist in Modern Hungarian.

The head movements resulting in *mintsemhogy* are given below:



Hence the grammaticalization of C + Pol + C heads does not differ from that of C + C combinations: the complementizer *mint* ‘than’ moves up to the Pol head and is left-adjoined to the head *sem* ‘neither’, resulting in *mintsem* ‘than neither’; as a second step, this complex head moves up to the higher C head and is left adjoined to *hogy* ‘that’ there, resulting in *mintsemhogy*. Naturally, *mintsemhogy* also grammaticalized as a higher C head.

Note that if the initial structure contained only *sem* and *mint* overtly, then this resulted in the complementizer *mintsem* ‘than neither’.

From all this it follows that the properties of the syntactic and morphological combinations of two C heads are also valid in the case of two C heads (one of which may be covert) combining with a Pol head: the way how heads can move up and combinations may grammaticalize is predictable, as is the fact that only combinations representing a grammaticalized higher C survive.

#### 6.4.4.4. Multiple combinations

As has been shown, apart from combinations involving two C heads it was also possible for a negative element to appear in complementizer combinations. In what follows we will briefly examine the question of how combinations that morphologically consist of three complementizers can be analysed since there are only two C positions in the left periphery hence there are not enough positions for generating three distinct C heads. First we will consider the conditions on the appearance of such combinations and then we will discuss the case of *hogyhamint* ‘that if as’ and *minthogyha* ‘as that if’, also showing that these also fit into the system described above.

Since (morphologically) complex complementizers ultimately grammaticalized into higher C heads, leaving the lower C position unfilled, the question arises whether such higher C heads could co-occur with a new, overt lower C head. This is naturally possible only if the complex C head grammaticalized relatively early, otherwise there would have been no complementizer potentially appearing in the lower C head, as all complementizers were reanalysed as higher C heads.

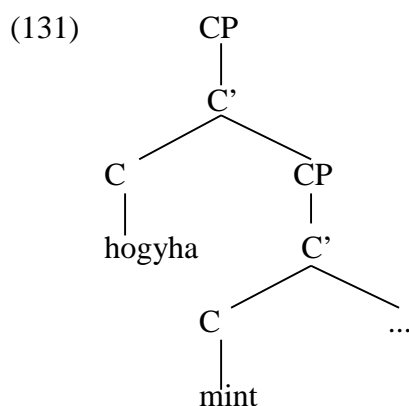
As was argued for before, it was *hogyha* ‘that if’ to grammaticalize first as a complex C head, due to the preferred upward movement of *hogy* ‘that’. From this it follows that if there



are combinations of the type complex C head + simplex C head attested historically then these should primarily be linked to the complex complementizer *hogyha*.

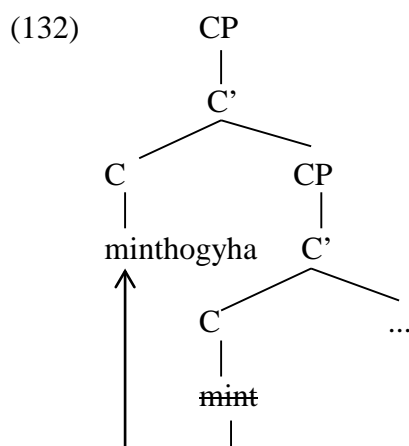
This is in fact borne out: as pointed out by D. Máтай (2003: 424), the combination *hogyhamint* ‘that if as’ existed in Old and Middle Hungarian; the inverse order pair *minthogyha* ‘as that if’ is still possible in Modern Hungarian. Both are, as can be expected, complementizers introducing conditional comparatives.

The structure of *hogyhamint* is given below:



Just as in the case of ordinary C + C combinations, there are two distinct heads in the structure: the higher one is *hogyha* and the lower one is *mint* ‘as’. The fact that the higher one is complex in itself is a matter of morphology but not the result of syntactic derivation. In this sense *hogyhamint* does not differ from C + C combinations described above.

The derivation of *minthogyha* is in turn the result of head movement:



The complementizer *minthogyha* is the result of *mint* moving up from the lower C head to the higher one and adjoining to *hogyha* there – hence in exactly the same way as was seen in connection with combinations containing two simplex C heads. Naturally, *minthogyha* ultimately also grammaticalized as a higher C head.

#### 6.4.4.5. Interim summary

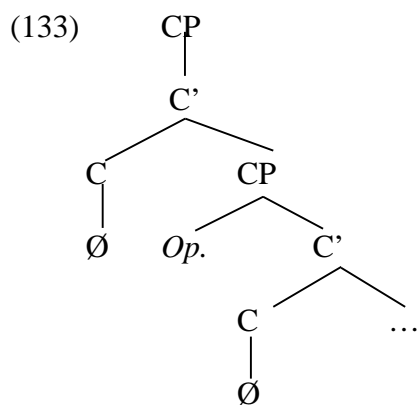
The development of the left periphery of Hungarian finite subordinate clauses involved the appearance of various complementizer combinations, in addition to the grammaticalization of

diverse complementizers, as described in section 6.4.3. This was possible because the grammaticalization of the individual C heads did not take place exactly at the same time and hence elements that grammaticalized earlier could appear higher in the structure and in a position distinct from where other elements appeared; in this way, it was possible for distinct heads to co-occur in one left periphery. These combinations either expressed new functions or they included the general finite subordination marker *hogy* ‘that’ – in both cases, the combinations are in line with the development of finite subordination and the increased demand for the explicit marking thereof. The mechanisms of complementizer combinations can also be extended to combinations with negative-like polarity heads, the presence of which again contributed to the evolution of a robust functional left periphery. As was seen, the grammaticalization of complementizers ultimately contributed to the loss of syntactic combinations and Modern Hungarian has combinations only that are morphological in nature – that is, combinations that are base-generated as morphologically complex units in a single syntactic head.

#### 6.4.5. Complementizers in relative clauses

The last part of this chapter is devoted to the discussion of relative clauses, which constitute a major subtype of finite subordinate structures. Relative clauses tend to be introduced by a relative pronoun, which occupies an operator position in the subordinate clause but there are languages that allow relative clauses to be introduced by a finite complementizer and a phonologically zero relative pronoun, such as *that* in English. As far as Hungarian is concerned, it seems that relative clauses have always required the overt presence a relative pronoun but it does not exclude the possibility of an overt complementizer at the same time, which is attested in Old and Middle Hungarian. The importance of this is that the presence of overt finite subordinators was motivated by the need of marking finite subordination, in parallel with the increased importance of finite subordination at the expense of non-finite structures.

As was mentioned before, relative pronouns move to the specifier position of the lower CP (Kántor 2008 but see also É. Kiss 2002: 243–244 on relative pronouns moving to a [Spec,CP] position); this position is the same as the one where present-day complementizers moved to as operators in the left periphery (see section 6.4.3):



Relative pronouns can be found in the earliest texts already:

- (134) Es uimagguc szent peter urot **kinec** odut hotolm  
 and pray-SBJV-1PL saint Peter lord-ACC who-DAT give-PASS.3SG power  
 ovdonia es ketnie  
 loose-INF-3SG and bind-INF-3SG  
 ‘and let us pray to the lord Saint Peter, to whom the power was given to loose and to  
 bind’ (Funeral Sermon and Prayer)

Since relative pronouns are arguments or adjuncts in the subordinate clause, there is considerable diversity to be observed among them. It has to be stressed that in Old Hungarian relative pronouns were not phonologically different from their interrogative counterparts, hence a form *ki* ‘who’ could stand for both an interrogative and a relative operator. The distinctive form of relative operators started to appear during Middle Hungarian and hence in Modern Hungarian there is a clear distinction between *ki* ‘who-Int.’ and *aki* ‘who-Rel.’.

Furthermore, the distinction between *ki* ‘who’ and *mi* ‘what’ was not as clear-cut as it is in Modern Hungarian: in Modern Hungarian, *ki* is invariably associated with a [+animate] antecedent, while *mi* is [–animate]; by contrast, *ki* in Old Hungarian could also be associated with a [–animate] antecedent. In the example below the first instance of *ki* (*kiknek* ‘who-Dat.’) is associated with a [+animate] antecedent, while the second *ki* with a [–animate] one:

- (135) Vrā istèn ne tekozlád èl te testamētomodat se  
 lord-POSS.1SG God not waste-IMP-2SG off you testament-POSS.2SG-ACC neither  
 vegèd èl te irgalmassagodat mǔ tǒllonc Abrachamert te  
 take-IMP-2SG off you piety-POSS.2SG-ACC we ABL-1PL Abraham-FINAL you  
 zèrètǒdert & Isaakert te zolgadert &  
 lover-POSS.2SG-FINAL and Isaac-FINAL you servant-POSS.2SG-FINAL and  
 Isřlert te scèntedert **kiknç** bèzellettèl fogaduan  
 Israel-FINAL you saint-POSS.2SG-FINAL who-PL-DAT speak-PST-2SG swear-PART  
 hog megsokaseitanad ø magzatǐokat  
 that PRT-multiply-COND-2SG they offspring-POSS.2PL-ACC  
 ‘my Lord, do not waste your testament or take away your piety, for the sake of  
 Abraham and Isaac, your faithful servants, whom you promised to multiply their  
 descendants’ (Vienna C. 129)

As shown by the representation in (133), relative pronouns moved to the lower [Spec,CP] position just as present-day complementizers originally did but whilst the latter grammaticalized as C heads, this is not true for present-day relative pronouns. This can easily be explained by taking into consideration that present-day relative pronouns have features that C heads are not allowed to have in Hungarian. That is, operators grammaticalizing into C heads have to lose e.g. person and number features (if they have any), which is not the case with present-day relative pronouns. In other words, an operator can grammaticalize into a C head if it loses its original syntactic and semantic roles or does not have features that would exclude its interpretation as a C head. This can be observed in other languages as well (for English, cf. Comrie 1999: 88 and Brook 2011; for German, cf. Bayer and Brandner 2008).

The loss of features is described by Hancock and Bever (2009: 305) as the result of the Late Merge Principle, that is, a word that originally had a theta-role in the clause becomes a purely “syntactic” word (hence a functional head). This is precisely what has not happened in the case of relative pronouns and therefore they have not grammaticalized into C heads. Since this follows from general syntactic principles, the behaviour of Hungarian relative pronouns is far from being exceptional, just as the grammaticalization of present-day complementizers.

Relative clauses were introduced by single overt relative pronouns already in Old Hungarian; unlike Modern Hungarian, however, it was possible for relative clauses to be introduced by the sequence *hogy* ‘that’ + relative pronoun or *ha* ‘if’ + relative pronoun in Old and Middle Hungarian (Galambos 1907: 14–18; see also Haader 1995; Dömötör 1995). Consider the following examples:

- (136) a. *olyaat tezøk raytad hog kytøl felz*  
 such-ACC do-1SG you-SUP that who-ABL fear-2SG  
 ‘I will do such a thing on you that you fear’ (Sándor C. 14v)
- b. *ky tegød zereth az nem epedh: ha ky keserg akkor*  
 who you-ACC love.3SG that not long.3SG if who moan.3SG then  
*wygad*  
 rejoice.3SG  
 ‘those who love you, do not long: those who moan, then rejoice’ (Czech C. 51–52)

As shown by (136a), constructions with *hogy* could also have a consecutive meaning, though typically neither *hogy* nor *ha* contribute to the meaning of the construction and hence the clauses are purely relative:

- (137) a. *ha mit keèndetec èn at’amtol èn nèuembè*  
 if what-ACC ask-MOD-2PL I father-POSS.1SG-ABL I name-POSS.1SG-ILL  
*agga tünèctec*  
 give-3SG you-DAT-2PL  
 ‘whatsoever ye shall ask the Father in my name, he will give it you’  
 (Munich C. 103ra)
- b. *ha myn kerendyteker en atyamat en newembe,*  
 if what-SUP ask-MOD-2PL I father-POSS.1SG-ACC I name-POSS.1SG-ILL  
*aggya tynektek*  
 give-3SG you-DAT-2PL  
 ‘whatsoever ye shall ask the Father in my name, he will give it you’  
 (Jordánszky C. 685)

The examples in (137) show that the combinations *ha* + relative operator could appear in relative clauses without any additional meaning; such combinations were possible even in Middle Hungarian but are no longer available in Modern Hungarian. Similar structures can be found in Latin as well, e.g. *si quid* ‘if what’ and hence in what follows we will briefly examine the distribution of the Hungarian structure and its potential relatedness to the Latin counterparts.

In Hungarian the combinations in question were quite productive, which is reinforced by the results of the research carried out on the four different Bible translations (cf. Bacsikai-Atkari 2012b). The following chart shows the number of occurrences for *hogy/ha* + relative operator combinations in the four gospels:

Table 11: The occurrences of *hogy/ha* + relative operator combinations

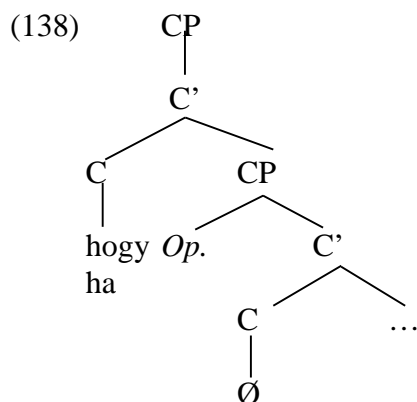
	Munich Codex (1416/1466)	Jordánszky Codex (1516–1519)	Káldi’s translation (1626)	Neovulgata translation (1997)
<i>hogy</i> + relative operator	1	2	–	–
<i>ha</i> + relative operator	14	20	8	–

There are only a few examples for combinations with *hogy* but these appear already in Old Hungarian. More importantly, *ha* + operator combinations can be found in large numbers in Old Hungarian texts, decreasing in the Middle Hungarian translation and – as can be expected – there are no examples for such combinations in Modern Hungarian.

The relatively high number of *ha* + relative operator combinations in the Old Hungarian texts – especially compared to the 8 occurrences in Káldi's translation – shows that combinations involving *hogy* and *ha* with a relative operator were quite frequent already in Old Hungarian. Of course, this is not to say that the frequency of such combinations in the selected texts strictly mirrors their frequency in Old or Middle Hungarian. In other words, the fact that *ha* + relative operator combinations are less frequent in the Middle Hungarian text than in the two Old Hungarian ones does not imply that it was also less frequent in Middle Hungarian than in Old Hungarian. Still, it should be obvious that the frequency of such combinations in Old Hungarian is far from insignificant.

It is also worth considering that the texts discussed here are translations, which raises the question of how far the (Latin) original could induce the appearance of the Hungarian combinations. As far as the Munich Codex is concerned, all the combinations of the form *ha* + relative operator correspond to a Latin *si* + relative operator. In the Jordánszky Codex there are 6 additional occurrences of *ha* + relative operator (the other 14 having the same loci as the ones in the Munich Codex) but these correspond to a single relative operator in the Latin text and not to the complex of a C head and a relative operator. This clearly shows that the structure under scrutiny was in fact very productive and it cannot be considered as a Latin reflex in Old Hungarian either.

The structure of the combinations is given below:



As can be seen, the structure is different from relative clauses introduced by a single relative pronoun (that is, not by a C head + relative pronoun combination) only in the presence of an overt complementizer in the higher C position. On the other hand, this kind of structure is the same configuration as the one where a higher C head (*ha* and *hogy*) combined with future complementizers still having an operator status (that is, *mint* ‘than/as’ and *mert* ‘because’). Hence the appearance of the combinations *ha/hogy* + relative pronoun is in line with the diachronic system outlined so far.

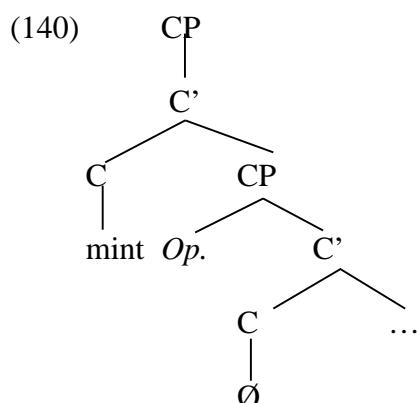
Note that the co-occurrence of a C head and a relative pronoun in relative clauses is not unique to (earlier periods of) Hungarian: combinations like *who that* were also available for instance in Middle English: as described by van Gelderen (2004: 82, 105–106), the grammaticalization of *that* into a C head meant that new operators could appear in the subclause as a way of reinforcement. This is shown by the following example (van Gelderen 2004: 106, ex. 19):

(139) or **who that** dothe it I wyll paye (Paston Letters #346, anno 1471)

As shown by (139), in English the relative pronoun preceded the complementizer and they were in fact located in the same CP projection; this is no longer possible since in Modern English such configurations are ruled out by the Doubly Filled COMP Filter.

Finally, it is worth mentioning that the same type of combination can be observed in Modern Hungarian with *mint*: this became possible with the grammaticalization of *mint* as a higher C head. Just as with *hogy* and *ha* in (138), *mint* in these cases can be followed by an overt operator in the lower [Spec,CP] position. These are also relative operators that are comparative at the same time (in the same way as *mint* was before); there are various operators of this kind and hence there are several possible combinations, such as *mint amilyen* ‘than how’, *mint ahány* ‘than how much’ or *mint ahogy* ‘than how’.

The structure of these combinations can be represented as follows:



As can be seen, *mint* is base-generated in the higher C head and the operator moves to the lower [Spec,CP] position. This configuration is the same as the one for *hogy/ha* + operator combinations and structures containing a higher C head (*hogy* or *ha*) and an operator that came to be a complementizer later (*mint* and *mert*). Note that comparative subclauses always contain an operator (the comparative operator) but this can also be phonologically null (cf. Chomsky 1977; Kennedy and Merchant 2000).

## 6.5. Conclusion

The aim of this chapter was to investigate the major changes in the history of Hungarian subordinate clauses and to show that finite subordination ultimately took over non-finite structures, which was strongly intertwined with the evolution of a functional left periphery (the CP-domain) in finite embedded clauses. As was shown, this is also in line with the general change from SOV to SVO that took place between Proto-Hungarian and Old Hungarian: while an SOV setting typologically prefers non-finite embedding, SVO languages tend to have finite subordination instead. Hence the frequency of finite subordinate structures increased at the expense of non-finites, accompanied by the loss of specific non-finite structures and the enrichment of finite ones.

The ousting of non-finite structures is evidenced by the complete loss of an adverbial participle as well as the narrowing external distribution and reduced productivity (i.e. narrower class of base verbs) of several types of non-finites. In addition, the remaining types of non-finites became more prototypically non-finite, some of them losing the ability to license a referentially independent subject or agree with the subject.

In finite clauses the development of a functional left-periphery can be observed, which came to be head-initial and started to exhibit multiple layers overtly. This involved the grammaticalization of various elements as C heads and the interaction thereof; the changes in question were also shown to be in line with general economy principles that can be observed in other, unrelated languages as well.

## Notes

\* Our names are in alphabetical order. The section on non-finites is based on Éva Dékány's work, while the section on finite subordination is based on Júlia Bácskai-Atkári's work.

<sup>1</sup> In adjectival and adverbial participles, we mark the position of the gap with ec for 'empty category'.

<sup>2</sup> In Modern Hungarian the external argument must bear the postposition *által* 'by' rather than the Ablative case:

- (i) az Isten által meg-tilt-ott dolgokról  
 the God by PRT-forbid-PART thing-PL-DEL  
 'about the things forbidden by God'

<sup>3</sup> Possessors in Old Hungarian and Modern Hungarian are either morphologically unmarked or dative marked, the choice is optional. See Egedi Barbara's chapter in this book.

<sup>4</sup> It must be noted, though, that some researchers take the *-n* ending to be a third person agreement, cf. Károly 1956; Nádasdi 2013.

<sup>5</sup> Furthermore, even for those who accept them, these participles cannot have a state adverbial reading.

<sup>6</sup> The participle-internal nominative DP (cf. *eze* in (40a) and *kālkèy* in (40b)) bears the thematic role Patient or Theme in both Old Hungarian and Modern Hungarian.

<sup>7</sup> Note, however, that adjectival participles in Khanty head finite clauses (A. Jászó 1970; 1975; 1976), and the same was possible for gerunds in Old and Early Modern Romanian (Alboiu and Hill 2013).

<sup>8</sup> The *-n* suffixed forms appear in the early texts, too (e.g. Funeral Sermon cca. 1195, Königsberg Fragments cca. 1350, Marosvásárhely lines cca. 1410), but some forms without *-n* are ambiguous between having a second person singular and third person singular subject, so in Early Old Hungarian the use of *-n* in the third person may not have been obligatory (E. Abaffy 1991: 147).

<sup>9</sup> Only if there was no potential controller in the matrix.

<sup>10</sup> The *-t* gerund also obligatorily bore agreement, but this is possessive agreement rather than ordinary subject-predicate agreement (recall that these non-finites are obligatorily possessed).

<sup>11</sup> These parts are generally assumed to be written by the same person (Szily 1911), so agreeing *-va/ve* may have been dialectal.

<sup>12</sup> (65c) is a unique piece of data in the sense that there are no other examples in all the codices in which a *-va/ve* participle bears the 3SG agreement *-ja/je*. According to one theory, the 3SG agreement suffix of *-va/ve* participles was actually *-n* (see Károly 1956). In this approach *-ván/vén* participles do not constitute a separate type of non-finite clause, they are in fact agreeing *-va/ve* participles (*-vá+n/vé+n*, the lengthening of *a* and *e* to *á* and *é* is a regular phonological process). This analysis has both advantages and disadvantages, but discussing them here would take us too far afield.

<sup>13</sup> É. Kiss (2002; 2009), on the other hand, argues that control infinitives don't agree at all; inflected infinitives are possible only when the infinitive's subject is not controlled but has independent reference.

<sup>14</sup> (76c) is an elliptical structure, where the noun 'man/person' modified by the participle has been elided, and the dative case marker of this noun leans on the participle for phonological support. The full structure of this example is as in (81), with the elided noun marked by  $\emptyset$ .

- (ii) bewn-e zant- $\emptyset_{(person)}$ -nak

<sup>15</sup> In the database of Hoppa, however, there are unmarked objects in postverbal position in matrix clauses as well.

<sup>16</sup> Note, however, that at the same time Old Hungarian also appears to present a counterexample to the Final Over Final Constraint. Old Hungarian was not an OV language any more, yet auxiliaries strictly followed the main verb, which means that VP was not head final, but TP/AspP still was.

<sup>17</sup> In Rizzi (1997, 2004) the two CP projections are distinguished as ForceP (the higher CP) and FinP (the lower CP); that is, the higher CP is responsible for clause-typing and the lower one for defining finiteness. Though it seems to be true that Force-marking subordinators eventually become higher C heads, the clear-cut distinction is problematic for several reasons and since Force-marking complementisers are unambiguously associated with finiteness (that is, they are all finite, at least as Hungarian is concerned), the distinction is not important here for our purposes. Hence the two CP projections will rather be referred to as higher and lower CP, which is not incompatible with the system outlined by Rizzi (1997, 2004) but does not exclude the possibility of a more refined theoretical analysis either.

<sup>18</sup> Note that this is not incompatible with the system outlined by Rizzi (1997, 2004) since the main argument there is that such projections (TopP, FocP) may appear between the two CPs but it does not exclude the possibility of

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topics and foci appearing elsewhere in the structure. In Hungarian, for instance, these elements appear lower than the CP-domain and their positions are as follows (Brody 1990a, 1990b, 1995; É. Kiss 2002, 2006c; Kántor 2008; Bacsikai-Atkari and Kántor 2012):

(i) [CP [CP [TopP\* [FocP]]]]

This shows that normally there are no elements intervening in between the two CPs; however, in certain cases topics may optionally occur there, as will be shown later (Bacsikai-Atkari and Kántor 2012), hence:

(ii) [CP [TopP\* [CP]]]

Furthermore, as will be shown in section 6.4.4.3, historically certain polarity markers (heading a PolP) could also appear as intervening elements.

<sup>19</sup> As described in Chapter 1 of this volume, *-e* was originally a C head and since it was left-branching (CPs being head-final in the SOV setting of Proto-Hungarian), it appeared at the right edge of interrogative clauses in the phonological structure. With the change from SOV to SVO and hence from head-final to head-initial, *-e* in Middle Hungarian is a left-branching functional head in the left periphery (identified as the head of an IntP by Bacsikai-Atkari 2013, in line with the IntP proposed by Rizzi 2001).

<sup>20</sup> Note that in this respect, *nem* and *sem* as Pol head behave exactly in the opposite way as *nem* and *sem* as Neg heads, since in the latter case *sem* is the element that behaves like a clitic (for more details, see Chapter 1, section 6.3 of this volume).

<sup>21</sup> Note that there is in fact a word *nemhogy* ‘instead of; not the least; not just’ in Modern Hungarian but this has never had a comparative function and is hence completely unrelated to *hogynem*.



## References

- A. Jászó, Anna (1970). ‘Melléknévi Igenevek Verbum Finitumként az Osztják Nyelv Szigvai Nyelvjárásában’ [Adjectival Participles as Finite Verbs in Szigva Khanty], *Nyelvtudományi Közlemények* 71: 123–127.
- A. Jászó, Anna (1975.) ‘A Szófaji Átcsapás egy Esete az Osztjákban’ [A Case of Change of Word Class in Khanty], *Nyelvtudományi Közlemények* 77: 155–161.
- A. Jászó, Anna (1976). ‘Megjegyzések a Participiumból Alakult Verbum Finitumok Mondattanához az Északi Osztjákban’ [Notes on the Syntax of Finite Verbs Derived from Participles in Northern Khanty], *Nyelvtudományi Közlemények* 78: 353–358.
- A. Jászó, Anna (1992). ‘Az igenevek’ [Non-finite verbs], in Loránd Benkő, Erzsébet E. Abaffy, and Endre Rácz (eds), *A Magyar Nyelv Történeti Nyelvtana II/1. A Kései Ómagyar Kor Morfematikája* [A historical grammar of Hungarian II/1. The Morphology of Late Old Hungarian]. Budapest: Akadémiai Kiadó, 411–454.
- Adger, David (2007). ‘Three domains of finiteness: a Minimalist perspective’, in Irina A. Nikolaeva (ed.), *Finiteness: Theoretical and Empirical Foundations*. Oxford: Oxford University Press, 23–58.
- Bacskai-Atkari, Julia (2013). *Hungarian Embedded Interrogatives from a Diachronic Perspective*. Talk delivered to: 3. Sprachwissenschaftliche Tagung für Promotionsstudierende (3. STaPs), Heidelberg, 5–6 April 2013.
- Bacskai-Atkari, Julia (2012a). *The Relative Cycle in Hungarian Declaratives*. Talk delivered to: 14th Diachronic Generative Syntax Conference (DiGS14), Lisbon, 4–6 July 2012.
- Bacskai-Atkari, Julia (2012b). ‘The Diachronic System of the Left Periphery of Subordinate Clauses in Hungarian’, in Balázs Surányi (ed.), *Proceedings of the Second Central European Conference in Linguistics for Postgraduate Students*. Budapest: Pázmány Péter Catholic University, 3–23.
- Bacskai-Atkari, Julia (2011). ‘A komparatív operátor esete a mondatbevezetővel: Szintaktikai változások a magyar hasonlító mellékmondatokban’ [The Comparative Operator’s Affair with the Complementizer: Syntactic Changes in Hungarian Comparative Subclauses], in Katalin É. Kiss and Attila Hegedüs (eds.), *Nyelvelmélet és diakronia* [Theory of Language and Diachrony]. Budapest & Piliscsaba: Szent István Társulat, 103–119.
- Bacskai-Atkari, Julia and Gergely Kántor (2012). ‘Deletion in Hungarian, Finnish and Estonian Comparatives’, *Finno-Ugric Languages and Linguistics* 1/1–2: 44–66.
- Baker, Mark (1985). ‘Mirror Theory and Morphosyntactic Explanation’, *Linguistic Inquiry* 15: 373–415.
- Baker, Mark (1988). *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.
- Baker, Mark (2008). *The Syntax of Agreement and Concord*. Cambridge: Cambridge University Press.
- Bartos, Huba (2009). ‘The syntax of Hungarian -vA adverbial participles: a single affix with variable merge-in locations’, in Katalin É. Kiss (ed.), *Adverbs and Adverbial Adjuncts at the Interfaces*. Berlin and New York: Mouton de Gruyter, 75–101.
- Bayer, Josef and Ellen Brandner (2008). ‘On Wh-Head-Movement and the Doubly-Filled-Comp Filter’, in Charles B. Chang and Hannah J. Haynie (eds.), *Proceedings of the 26th West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadia Proceedings Project, 87–95.
- Bianchi, Valentina (2003). ‘On finiteness and logophoric anchoring’, in Jacqueline Guéron and Liliane Tasmowski (eds), *Temps et Point de Vue / Tense and Point of View*. Nanterre:

- Université Paris X, 213–246.
- Biberauer, Theresa, Anders Holmberg, and Ian Roberts (2007). ‘Disharmonic word-order systems and the Final-over-Final-Constraint FOFC’, in Antonietta Bisetto and Francesco E. Barbieri (eds), *Proceedings of the XXXIII Incontro di Grammatica Generativa*. Bologna: Università di Bologna, 86–105.
- Biberauer, Theresa, Anders Holmberg, and Ian Roberts (2008a). ‘Linearising disharmonic word orders: the Final-over-Final Constraint’, in Jong Yurl Yoon and Kyoung Ae Kim (eds), *The Perspectives of Linguistics in the 21st Century*. Seoul: ICLK, 301–318.
- Biberauer, Theresa, Anders Holmberg, and Ian Roberts (2008b). ‘Structure and linearization in disharmonic word orders’, in Charles B. Chang and Hannah J. Haynie (eds), *Proceedings of the 26th West Coast Conference on Formal Linguistics*. Somerville, MA: Cascadilla, 96–104.
- Biberauer, Theresa, Anders Holmberg, and Ian Roberts (2009). ‘Linearization and the architecture of grammar: A view from the Final-over-Final Constraint’, in Vincenzo Moscati and Emilio Servidio (eds), *Proceedings of XXXV Incontro di Grammatica Generativa, University of Siena CISCL Working Papers 3*: 77–89.
- Bisang, Walter (2007). ‘Categories that make finiteness: discreteness from a functional perspective and some of its repercussions’, in Irina A. Nikolaeva (ed.), *Finiteness: Theoretical and Empirical Foundations*. Oxford: Oxford University Press, 115–137.
- Brody, Michael (1990a). ‘Remarks on the Order of Elements in the Hungarian Focus Field’, in István Kenesei (ed.), *Approaches to Hungarian 3*. Szeged: JATE, 95–122.
- Brody, Michael (1990b). ‘Some Remarks on the Focus Field in Hungarian’, *UCL Working Papers in Linguistics 2*: 201–225.
- Brody, Michael (1995). ‘Focus and Checking Theory’, in István Kenesei (ed.), *Approaches to Hungarian 5*. Szeged: JATE, 29–44.
- Brook, Marisa (2011). ‘One of those Situations Where a Relative Pronoun Becomes a Complementizer: A case of Grammaticalization in Progress... Again’, in *Proceedings of the 2011 Canadian Linguistics Association Annual Conference*. [http://homes.chass.utoronto.ca/~cla-acl/actes2011/Brook\\_2011.pdf](http://homes.chass.utoronto.ca/~cla-acl/actes2011/Brook_2011.pdf) (accessed 11 October 2012).
- Chomsky, Noam (1977). ‘On WH-movement’, in Peter W. Culicover et al. (eds.), *Formal Syntax*. New York: Academic Press, 71–132.
- Chomsky, Noam (1995). *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam (1998). ‘Minimalist Inquiries: The Framework’, *MIT Working Papers in Linguistics 15*: 1–61.
- Chomsky, Noam (2001). ‘Derivation by Phase’, in Michael Kenstowicz (ed.), *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press, 1–52.
- Comrie, Bernard (1998). ‘Rethinking the Typology of Relative Clauses’, *Language Design 1*: 59–86.
- Comrie, Bernard (1999). ‘Relative Clauses: Structure and Typology on the Periphery of Standard English’, in Peter Collins and David A. Lee (eds.), *The Clause in English: In Honor of Rodney Huddleston*. John Benjamins, Philadelphia & Amsterdam, 81–91.
- Cowper, Elizabeth (2002). *Finiteness*. Ms., University of Toronto. Available at: <http://www.chass.utoronto.ca/~cowper/Cowper.finiteness.pdf> (Last accessed: 6 May 2013).
- Croft, William (2000). *Explaining Language Change: an Evolutionary Approach*. London and New York: Longman.
- Csepregi, Márta (2012). ‘Participiális Jelzős Szerkezetek Két Hanti Nyelvjárársban’ [Adjectival Participles in Two Dialects of Khanty], *Nyelvtudományi Közlemények 108*: 61–94.
- Dékány, Éva (2012). ‘Nem Jöttem Hínia az Igazakat. Az Ómagyar Anti-egyeztetett Főnévi

- Igenevekről', [On anti-agreeing infinitives in Old Hungarian] *Nyelvtudományi Közlemények* 108: 219–252.
- D. Mátai, Mária (2003). 'Az ómagyar kor: Szófajttörténet' [The Old Hungarian Period: History of Word Classes], in Jenő Kiss and Ferenc Puszta (eds.), *Magyar nyelvtörténet* [Hungarian Language History]. Budapest: Osiris Kiadó, 393–429.
- Dömötör, Adrienne (1995). 'Az alárendelő mondatok: A jelzői mellékmondatok' [Subordinate Clauses: Attributive Subclauses], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana II/2.: A kései ómagyar kor: Mondattan. Szöveggrammatika* [A Historical Grammar of Hungarian II/2. Syntax and Text in Late Old Hungarian]. Budapest: Akadémiai Kiadó, 666–693.
- E. Abaffy, Erzsébet (1991). 'Az igemód- és igeidő-rendszer' [Verbal mood and tense], in Loránd Benkő (ed.), *A Magyar Nyelv Történeti Nyelvtana I. A Korai Ómagyar Kor és Előzményei* [A Historical Grammar of Hungarian I. Early Old Hungarian and the Preceding Period]. Budapest: Akadémiai Kiadó, 104–121.
- E. Abaffy, Erzsébet (1992). 'Az igemód- és igeidő-rendszer' [Verbal mood and tense], in Loránd Benkő (ed.), *A Magyar Nyelv Történeti Nyelvtana II/1. A Kései Ómagyar Kor Morfematikája*, [A Historical Grammar of Hungarian II/1. Morphology in Late Old Hungarian]. Budapest: Akadémiai Kiadó, 120–183.
- É. Kiss, Katalin (2002). *The Syntax of Hungarian*. Cambridge: Cambridge University Press.
- É. Kiss, Katalin (2005). 'Az Ómagyar Igeidőrendszer Morfoszintaxisáról' [On the Morphosyntax of the Old Hungarian Tense System], *Magyar Nyelv* 101: 420–435.
- É. Kiss, Katalin (2006). 'Jól megoldottuk? Rosszul oldottuk meg? Az összefoglaló és a kirekesztő kifejezést tartalmazó mondatok szórendjének magyarázata' [Have we Solved it Well? Is it bad how we Solved it? An Explanation for the Word Order in Clauses Containing Summarizing and Exhaustive Expressions], *Magyar Nyelv* 102.4: 442–459.
- É. Kiss, Katalin (2009). 'Nekem el kell menni/el kell mennem/el kell, hogy menjek/el kell menjek/el kell menni' [On different ways of expressing 'I must go'], in Katalin É. Kiss and Attila Hegedűs (eds), *Nyelvelmélet és Dialektológia* [Theory of Language and Dialectology]. Piliscsaba: Pázmány Péter Katolikus Egyetem, 213–230.
- É. Kiss, Katalin (2013). 'From Proto-Hungarian SOV to Old Hungarian Top Foc V X\*', *Diachronica* 30: 202–231.
- Galambos, Dezső (1907). *Tanulmányok a magyar relatívum mondattanáról* [Studies on the Syntax of Hungarian Relatives]. Budapest: Athenaeum.
- George, Leland and Jaklin Kornfilt (1981). 'Finiteness and Boundedness in Turkish', in Frank Heny (ed.), *Binding and Filtering*. London: Croom Helm, 105–127.
- Giorgi, Alessandra (2010). *Towards a Syntax of Indexicality*. Oxford: Oxford University Press.
- Givón, T. (1990). *Syntax: a Functional-typological Introduction*. Amsterdam: John Benjamins.
- Haader, Lea (1991). 'Az alárendelő mondatok: Az alanyi, állítmányi, tárgyi és határozói mellékmondatok' [Subordinate Clauses: Subjective, Predicative, Objective and Adverbial Subclauses], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana I.: A korai ómagyar kor és előzményei* [A Historical Grammar of Hungarian I. Early Old Hungarian and the Preceding Period]. Budapest: Akadémiai Kiadó, 728–741.
- Haader, Lea (1995). 'Az alárendelő mondatok: Az alanyi, állítmányi, tárgyi és határozói mellékmondatok' [Subordinate Clauses: Subjective, Predicative, Objective and Adverbial Subclauses], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana II/2.: A kései ómagyar kor: Mondattan. Szöveggrammatika* [A Historical Grammar of Hungarian II/2. Syntax and Text in Late Old Hungarian]. Budapest: Akadémiai Kiadó, 506–665.

- Haader, Lea (2001). 'Mikrodiakrónia és változásvizsgálat (az összetett mondatokban)' [Microdiachrony and the Analysis of Changes (in Complex Sentences)], *Magyar Nyelvőr* 125: 354–371.
- Hancock, Roeland and Thomas G. Bever (2009). 'The Study of Syntactic Cycles as an Experimental Science', in Elly van Gelderen (ed.), *Cyclical Change*. Amsterdam: John Benjamins, 303–322.
- Homer, Vincent (2011). *Polarity and Modality*. PhD dissertation. Los Angeles: University of California.
- Hoppa, Enikő (2012). "Mük Csángóul Beszélünk". *A Moldvai Magyar Nyelvjárás* ['We are speaking in Csángó.' The Moldva Dialect of Hungarian]. Pécs: Pro Pannonia Kiadói Alapítvány.
- Hornstein, Norbert (1990). *As Time Goes By*. Cambridge, MA: MIT Press.
- Hornstein, Norbert (1995). *Logical Form: From GB to Minimalism*. Oxford: Blackwell.
- Horváth, László (1991). *Három Vázlatos Szinkrón Metszet Határozói Igeneveink Történetéből* [On three stages in the history of adverbial participles]. Budapest: Akadémiai Kiadó.
- Horváth, László (2003). 'Szó szerkezet-történet' [The history of the internal structure of words], in Jenő Kiss and Ferenc Pusztai (eds), *Magyar Nyelvtörténet* [Hungarian Language History]. Budapest: Osiris, 430–482.
- Ivácsony, Zsuzsa (2002–2003). *Déli Csángó* [Southern Csángó]. Transcriptions of interviews with speakers of the southern csángó dialect.
- Jäger, Agnes (2012). 'How' to Become a Comparison Particle. Talk delivered to: 14th Diachronic Generative Syntax Conference (DiGS 14), Lisbon, 4–6 July 2012.
- Juhász, Dezső (1991). 'A kötőszók' [Conjunctions], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana I.: A korai ómagyar kor és előzményei* [A Historical Grammar of Hungarian I. Early Old Hungarian and the Preceding Period]. Budapest: Akadémiai Kiadó, 476–500.
- Juhász, Dezső (1992). 'A kötőszók' [Conjunctions], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana II/1.: A kései ómagyar kor: Morfematika* [A Historical Grammar of Hungarian II/1. Morphology in Late Old Hungarian]. Budapest: Akadémiai Kiadó, 772–814.
- Kántor, Gergely (2008). 'On Hungarian Relative Operators', *The Even Yearbook* 8: 1–12.
- Károly, Sándor (1954). 'Ragtalan Tárgy Határozói Igenév Mellett' [Unmarked Objects of Adverbial Participles], *Magyar Nyelv* 50: 43–50.
- Károly, Sándor (1956). *Igenévrendszerünk a Kódexirodalom Első Szakaszában* [The System of Non-finite Forms in the Early Codices]. Budapest: Akadémiai Kiadó.
- Kayne, Richard (1994). *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
- Kenesei, István (1992). 'Az alárendelt mondatok szerkezete' [The Structure of Subordinate Clauses], in Ferenc Kiefer (ed.), *Strukturális mondattan I.: Mondattan* [Hungarian Structural Grammar 1. Syntax]. Budapest: Akadémiai Kiadó, 529–713.
- Kenesei, István (2005). 'Non-finite clauses in derived nominals', in Christopher Piñon and Szilárd Szentgyörgyi (eds), *Approaches to Hungarian 9. Papers from the Düsseldorf Conference*. Budapest: Akadémiai Kiadó, 159–186.
- Kennedy, Christopher and Jason Merchant (2000). 'Attributive Comparative Deletion', *Natural Language & Linguistic Theory* 18: 89–146.
- Komlósy, Andás (1992). 'Régensek és Vonzatok' [Predicates and Arguments], in Ferenc Kiefer (ed.), *Strukturális Magyar Nyelvtan 1. Mondattan* [Hungarian Structural Grammar 1. Syntax]. Budapest: Akadémiai Kiadó, 299–529.
- Kroch, Anthony S. (1989). 'Reflexes of Grammar in Patterns of Language Change', *Language Variation and Change* 1: 199–244.
- Ledgeway, Adam (2007). 'Diachrony of Finiteness: Subordination in the Dialects of Southern

- Italy', in Irina A. Nikolaeva (ed.), *Finiteness: Theoretical and Empirical Foundations*. Oxford: Oxford University Press, 335–365.
- Lightfoot, David (1991). *How to Set Parameters: Arguments from Language Change*. Cambridge, MA: MIT Press.
- Márkus, Andrea (2009). 'Egy Sokak Vitatta Szerkezetről' [On a Structure Debated By Many], in Balázs Sinkovics (ed.), *Lindgok 8*. Szeged: Szegedi Tudományegyetem, 27–46.
- Miller, Gary D. (2002). *Nonfinite Structures in Theory and Change*. Oxford: Oxford University Press.
- Nádasdi, Péter (2010). 'Egy a Nominális Elemen Személyjelölt Jelzői Tagmondat Régen és Ma – Esettanulmány' [A Case Study of an Adjectival Clause with Agreement on the Nominal Element, Nowadays and Earlier], *Magyar Nyelvőr* 134: 471–483.
- Nádasdi, Péter (2013). 'Az Univerzális Grammatika Szempontjából Lehet-e a -ván, -vén-nek Alanya?' [Can -ván, -vén Participles Have a Nominative Subject from the Viewpoint of Universal Grammar?], in Zsuzsanna Gécseg (ed.), *Lingdok 12*. Szeged: Szegedi Tudományegyetem Nyelvtudományi Doktori Iskola, 157–176.
- Nikolaeva, Irina (1999). *Ostyak*. Muenchen: Lincom Europa.
- Pesetsky, David and Esther Torrego (2001). 'T-to-C Movement: Causes and Consequences', in Michael Kenstowicz (ed.), *Ken Hale: A Life in Language*. Cambridge, MA: MIT Press, 355–426.
- Rácz, Endre (1995). 'Nem mondatrészkifejtő mellékmondatok' [Non-argument Subordinate Clauses], in Loránd Benkő (ed.), *A magyar nyelv történeti nyelvtana II/2.: A kései ómagyar kor: Mondattan. Szöveggrammatika* [A Historical Grammar of Hungarian II/2. Syntax and Text in Late Old Hungarian]. Budapest: Akadémiai Kiadó, 694–718.
- Riese, Timothy (2001). *Vogul*. Muenchen: Lincom Europa.
- Rizzi, Luigi (1997). 'The Fine Structure of the Left Periphery', in Liliane Haegeman (ed.), *Elements of Grammar*. Dordrecht: Kluwer, 281–337.
- Rizzi, Luigi (2001). 'On the position Int(errogative) in the Left Periphery of the Clause', in Guglielmo Cinque and Giampaolo Salvi (eds.), *Current Studies in Italian Syntax: Essays Offered to Lorenzo Renzi*. Amsterdam: Elsevier North-Holland, 287–296.
- Rizzi, Luigi (2004). 'Locality in the Left Periphery', in Adriana Belletti (ed.), *Structures and Beyond: The Cartography of Syntactic Structures, Volume 3*. Oxford: Oxford University Press, 223–251.
- Roberts, Ian (2005). *Principles and Parameters in a VSO Language*. Oxford: Oxford University Press.
- Roberts, Ian and Anna Roussou (2003). *Syntactic Change: A Minimalist Approach to Grammaticalization*. Cambridge: Cambridge University Press.
- Salvi, Giampaolo and Laura Vanelli (2004). *Nuova grammatica italiana*. Bologna: il Mulino.
- Sampanis, Konstantinos (2011). 'Parallel and "Antagonistic" Complementation Structures in the History of the Greek Language', *Wiener Linguistische Gazette* 75: 112–125.
- Sárik, Pál (1998). 'A Határozói Igenevek Néhány Problémája' [Some Problems Surrounding Adverbial Participles], *Magyar Nyelv* 94:423–435.
- Sárosi, Zsófia (2003). 'Morfémátörténet. Az Ósmagyar Kor' [The History of Morphology. The Proto-Hungarian Period], in Jenő Kiss and Ferenc Puskai (eds), *Magyar Nyelvtörténet* [Hungarian Language History]. Budapest: Osiris, 129–172.
- Seuren, Pieter (1973). 'The Comparative', in Ferenc Kiefer and Nicolas Ruwet (eds.), *Generative Grammar in Europe*. Dordrecht: D. Reidel, 528–564.
- Sigurdsson, H. Ármann (2004). 'The Syntax of Person, Tense, and Speech Features', *Italian Journal of Linguistics* 16: 219–251.
- Sundaesan, Sandhya (2010). *A Reductionist Treatment of Control and Anaphora*. Ms., University of Tromsø.

- Sundaresan, Sandhya, and Thomas McFadden (2009). 'Subject Distribution in Tamil and Other Languages: Selection vs. Case', *Journal of South Asian Linguistics* 2: 5–34.
- Sundaresan, Sandhya, and Thomas McFadden (to appear). 'Nominative Case is Independent of Finiteness and Agreement', in *Papers from BCGL 5: Case at the Interfaces*.
- Szabolcsi, Anna (2009). 'Overt nominative subjects in infinitival complements in Hungarian', in Robert M. Vago and Marcel den Dikken (eds), *Approaches to Hungarian 11*. Amsterdam: John Benjamins, 251–276.
- Szily, Kálmán (1911). 'Tamás és Bálint: a Biblia Első Magyar Fordítói' [Tamás and Bálint: the First Hungarian Translators of the Bible], *Magyar Nyelv* 7: 441–445.
- Tánczos, Orsolya (to appear). 'Hogy ... hogy? kettős kötőszók az udmurtban' [That ... that? Double complementizers in Udmurt], in Katalin É. Kiss and Attila Hegedűs (eds), *Nyelvemlélet és Kontaktológia 2* [Theory of Language and Contactology 2]. PPKE BTK: Piliscsaba.
- Terzi, Arhonto (1992). *Control in finite clauses: a study in the inflectional heads of the Balkan languages*. Doctoral Dissertation, City University of New York.
- Terzi, Arhonto (1997). 'PRO and Null Case in Finite Clauses', *The Linguistic Review* 14: 335–360.
- Tóth, Ildikó (2000a). '-Va and -ván Participles in Hungarian', in Gábor Alberti and István Kenesei (eds), *Approaches to Hungarian 7: Papers from the Pécs Conference*. 239–256. Szeged: JATE.
- Tóth, Ildikó (2000b). *Inflected Infinitives in Hungarian*. Doctoral Dissertation, University of Tilburg.
- Tóth, Ildikó (2011). 'A Ragozott Főnévi Igenevek a Kései Ómagyar Korban' [Inflected Infinitives in Late Old Hungarian], in Marianne Barkó-Nagy and Forgács Tamás (eds), *A Nyelvtörténeti Kutatások Legújabb Eredményei VI* [The Newest Results of Diachronic Investigations of Language]. Szeged: SZTE, 249–265.
- van de Vate, Marleen Susanne (2011). *Tense, Aspect, and Modality in a Radical Creole: the Case of Saamáka*. Doctoral Dissertation, University of Tromsø.
- van Gelderen, Elly (2004). *Grammaticalization as Economy*. Amsterdam: John Benjamins.
- van Gelderen, Elly (2005). 'The CP and Split CP Cross-linguistically', *WORD* 55.3: 369–403.
- van Gelderen, Elly (2009). 'Renewal in the Left Periphery: Economy and the Complementizer Layer', *Transactions of the Philological Society* 107.2: 131–195.
- Velcsov, Mártonné (1981). 'A Határozói Igeneveknek Egy Sajátos Szerepe Nyelvemlékeinkben' [A Special Use of Adverbial Participles in our Linguistic Records], *Magyar Nyelv* 77: 308–315.
- Vincent, Nigel (1998). 'On the Grammar of Inflected Non-finite Forms (with Special Reference to Old Neapolitan)', in Iorn Korzen and Michael Herslun (eds), *Clause Combining and Text Structure*. Copenhagen: Samfundslitteratur, 135–158.
- Wu, Tong (2011). 'The Syntax of Prenominal Relative Clauses: a Typological Study', *Linguistic Typology* 15: 569–623.