# The Diachronic System of the Left Periphery of Subordinate Clauses in Hungarian*

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Adopting a minimalist framework, my paper investigates the diachronic changes affecting complementisers and relative operators in Hungarian subordinate clauses, showing that the elements of the present-day system are derivable via the same mechanisms and that the different positions are chiefly due to different timing. The mechanisms in questions – the relative cycle in particular – derive from general economy principles and as such applicable for all Hungarian complementisers, which started as operators. Moreover, the issue of combinations – multiple complementisers and the co-occurrence of complementisers with operators – will also be shown to be principled. Though the main focus will be on Hungarian phenomena, I will also demonstrate that the processes in question can also be traced in English, albeit with a different outcome, which will also be accounted for. In this way, the diachronic examination of the Hungarian left periphery can prove to be fruitful for a better understanding of diachronic cyclical changes.

Keywords: *complementisers, economy, reanalysis, relative cycle, relative operators*

## 1    Introduction

In Modern Hungarian, there are various elements that can introduce subclauses. First of all, there are simplex complementisers, which are C heads: these are *hogy* 'that', *ha* 'if', *mint* 'than/as' and *mert* 'because'. In addition, there also exist (morphologically) complex complementisers, which are likewise analysed as C heads, e.g. *hogyha* 'that if', *mintha* 'as if' or *minthogyha* 'than that if'. Apart from complementisers, relative pronominal operators may also introduce a subclause: these are DPs and AdvPs such as *aki* 'who-Rel.', *ahol* 'where-Rel.'. Finally, it is possible to have combinations of simplex complementisers and relative pronouns, e.g. *mint amilyen* 'than how'.

The positions of these elements in Modern Hungarian are schematically represented in Figure 1 (following Rizzi's analysis of the left periphery, cf. Rizzi 1997):

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                        CP
                        |
                        C'
              ┌─────────┴─────────┐
              C                   CP
              |            ┌──────┴──────┐
            hogy          aki            C'
            ha            ahol        ┌──┴──┐
            mint          amilyen     C     ...
            mert          …           |
            hogyha                    Ø
            …
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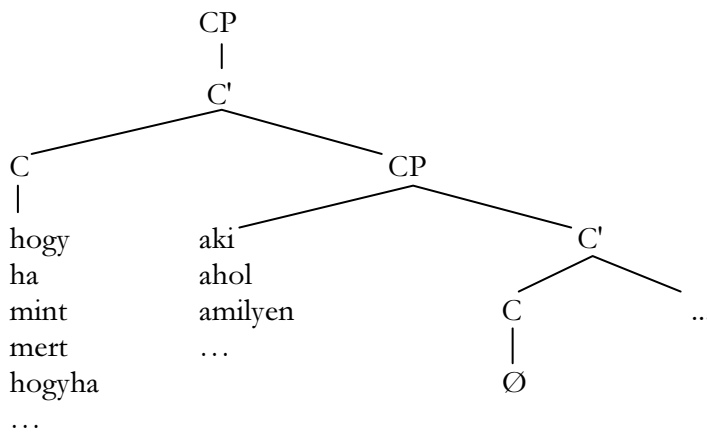
Figure 1

As can be seen, complementisers – either morphologically simplex or complex ones – are located in the higher C head position, while operators invariably occupy the lower [Spec; CP]. Relative operators, as expected, move to this [Spec; CP] position via operator movement (cf. Chomsky 1977; Kennedy & Merchant 2000; Kántor 2008). By contrast, C heads are base-generated in the relevant – higher – C position. It has to be mentioned that in Modern Hungarian only one C head is filled with overt material. In this respect Hungarian is similar to Italian, where it is either the higher or the lower head that is filled but not both of them (cf. Rizzi 1997).[1]

Though the representation given above may suggest a clear-cut boundary between complementisers and (relative) operators,[2] the system is highly dynamic from a diachronic perspective. The question is therefore how the relation of the individual processes leading to the different positions can be described, i.e. whether the differences in the positions are due to there being different processes or rather to different timing (of similar processes). I am going to argue for the latter possibility, showing that complementisers stem from operators and the differences attested between

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[1] That this is by no means necessarily so is indicated by the fact that some languages, such as Welsh, may have two overt C heads in the same left periphery. Consider:

(i)    *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.' (ex. from Roberts 2005: 122)

As can be seen, there are two C heads – *mai* and *a* – in one single left periphery, hence the co-presence of two C heads is possible. This will also be important for the history of Hungarian subclauses, where similar phenomena will be attested.

[2] It is worth mentioning that there are different views concerning the relation of relative operators and complementisers in the literature. For instance, Kayne (2009, 2010a, 2010b) argues that complementisers are merely demonstrative/relative pronouns. Naturally, I will not venture to examine this question in detail in the present article: suffice it to mention that there are considerable counterarguments raised against such a stance, and that counterevidence is to a large extent based on diachronic data, cf. e.g. Franco (2012: 12–13 on Germanic). In my view, the diachronic examination of Hungarian further reinforces the structural difference between complementisers and operators, as will be demonstrated in the forthcoming sections. On the difference between complementisers and operators – in Hungarian but also cross-linguistically – see also Kenesei & Ortiz de Urbina (1994).

complementisers and operators and also between certain complementisers can be derived from general rules applying in a language.


## 2    Operators

In Modern Hungarian, there are four complementisers to consider: *hogy* 'that', *ha* 'if', *mint* 'than/as' and *mert* 'because'. As has long been argued for in the literature, these were originally operators (cf. Juhász 1991, 1992; Haader 1991, 1995) such that *hogy* meant 'how', *ha* meant 'when', *mint* meant 'how', and *mert* meant 'why'. Examples of the original pronominal uses are given in (1)[3]:

(1)  a.  *furiſcte    muſia!||  etetý  ýmletí.      ug  **hug**   ana*
         bathes    washes   feeds breastfeeds so   how    mother
         *ſciluttet.*
         child-ACC.-POSS.3SG.
         'she bathes, washes, feeds and breastfeeds him as a mother does her child'
         (KTSz.)
     b.  *mvnyb [ele]     **ha** t  ekunte      [ek]eſſen      tegud      eſſ*
         heaven-ILL.down when looked-3.SG.  embellished   you-ACC.   too
         ***ha**     lata.      ýſte[n] | ſegnec  [ne]we      mia  ro[la]d*
         when    looked-3.SG.  deity-DAT.   name-POSS.3SG.  for   you-DEL.
         *ozun keppe[n]   ſcola*
         that.way         spoke-3.SG.
         'when he looked down to heaven and saw you embellished, he spoke of you that way for the name of God' (KTSz.)
     c.  *Eʒ   oʒ    ýſten  **mynt**ᵛᵗ   eſmeríuc!*
         this   the   God   how.him   know-1.PL.
         'this is God as we know him' (KTSz.)
     d.  *Sydou || mynth theʒ    turuentelen / || fyom          **merth**  hol*
         Jew     how  do-2.SG. unlawful     son-POSS.1.SG.  why       dies
         *byuntelen*
         innocent
         'Jew, what are you doing unlawfully, why does my son die innocently' (ÓMS.)

It has to be mentioned that though all future complementisers went through a functional split from these original operator functions, this 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 summarised in Table 1:

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[3] List of abbreviations: ABL = ablative; ACC = accusative; COM = comitative; COND = conditional; DAT = dative; DEL = delative; IMP = imperative; INE = inessive; INF = infinitive; PASS = passive; PL = plural; POSS = possessive; PREV = preverb; REL = relative; SG = singular; SUBJ = subjunctive; SUBL = sublative; SUP = superessive.

| Complementiser | Original operator | Time of split | Present-day related operator |
|---|---|---|---|
| *ha* 'if' | *ha* 'when' | before Old Hungarian – Early Old Hungarian | – |
| *hogy* 'that' | *hogy* 'how' | before Old Hungarian – Old Hungarian | *hogyan* 'how-INT.', *ahogy* 'how-REL.' |
| *mint* 'than/as' | *mint* 'how' | Old and Middle Hungarian | *miképpen* 'how', *miként* 'how', *amint* 'how-REL.' |
| *mert* 'because' | *mert* 'why' | Old and Middle Hungarian | *miért* 'why' |

Table 1

Apart from future complementisers, ordinary relative pronouns – e.g. *ki* 'who', *mi* 'what' – were also located in the operator position, i.e. the specifier of the lower CP. An early example of *ki* is shown in (2):

(2)　　*Eſ  uimagguc ||   ſzent peter urot.   **Kinec**   odut hotolm*
　　　　and  pray-IMP.1.PL.   saint Peter lord-ACC.  who-DAT.  given power
　　　　*ovdonia.     eſ   ketnie*
　　　　bind-INF.3.SG.   and  unbind-INF.3.SG.
　　　　'and let us pray to the lord Saint Peter, to whom the power was given to bind and to unbind' (HB.)

The starting position of all these elements is shown in Figure 2:
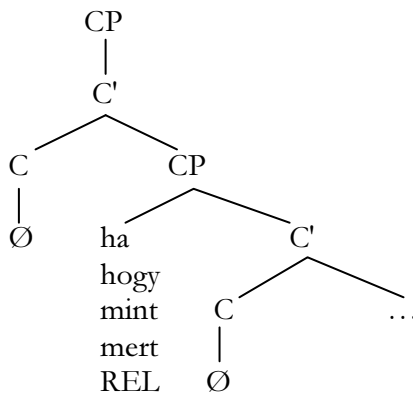


Figure 2

As can be seen, the original position is the same for all the elements in question. Note that these elements could occupy the same position at the same time rather before the Old Hungarian period than later: as changes started to affect some of them earlier, their positions also started to differ, as will be shown in the following sections.

# 3    Grammaticalisation

The changes affecting the elements in question are instances of reanalysis, which fall into two types. 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 complementiser head, cf. Roberts & Roussou (2003), van Gelderen (2009). This is also attested for English *that*, and is hence far from being language-specific.

In addition, there was a further step of reanalysis: this caused elements to be reanalysed from lower C heads to upper C heads, which is again attested in the case of English *that*, cf. van Gelderen (2009).

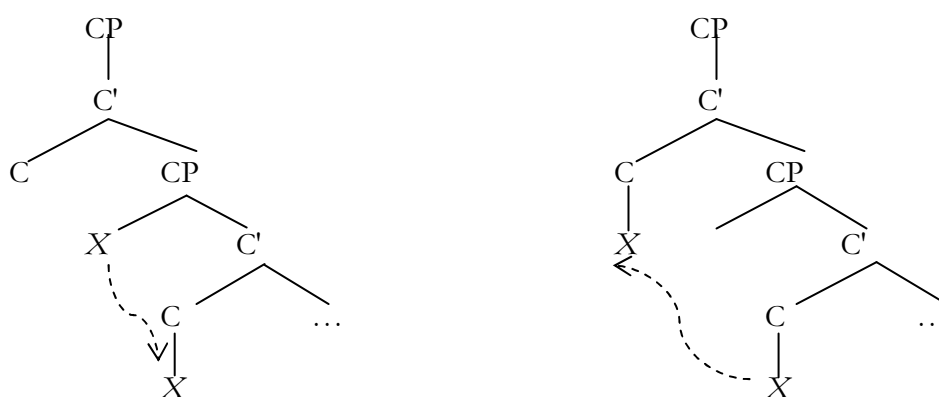The two processes are summarised in Figure 3:



Figure 3

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 complementiser). The second step is shown in the right-hand side diagram: the element X (a complementiser) is reanalysed as a higher C head (hence still a complementiser).

Both steps are motivated by economy and hence are required by general principles governing linguistic processes. The relevant requirements on economy are summarised 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 (cf. 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 complementiser.

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 complementiser functions took place at different times (cf. Table 1 in the

previous section). 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.

As for ordinary relative pronouns (e.g. *ki* 'who'), they did not develop into C heads and hence stayed in the lower [Spec; CP] position. This is not the least due to relative pronouns being exceptional in some way but it can well be explained by the lack of feature loss in their case. Operators that came to be grammaticalised into C heads had to lose e.g. their person and number features, which is clearly not the case for ordinary relative pronouns. If this is due to feature loss, one may expect a similar process to happen elsewhere too, which is indeed the case: for instance, *where* in certain English dialects may also function as a complementiser, similarly accompanied by a loss of its original syntactic or semantic roles as a relative pronoun, see Comrie (1999: 88) and Brook (2011); similar phenomena are attested in various (southern) German dialects with *wo* 'where', cf. Bayer & Brandner (2008). The loss of features is seen as the "associated result" of the Late Merge Principle by Hancock & Bever 2009: 305), in that 'the word that originally required a theta role, now becomes a pure "syntactic" word without a theta role'.

The possible positions for complementisers and operators in Old Hungarian are shown in Figure 4:
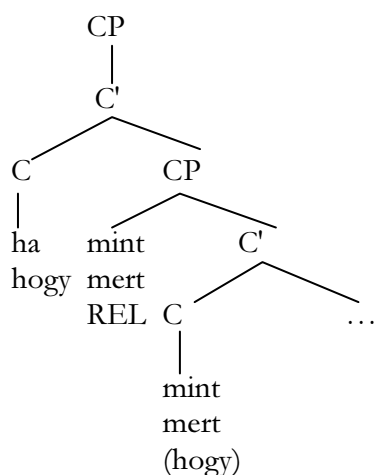


Figure 4

As can be seen, the higher C head was filled by either *ha* or *hogy*, while the lower one hosted either *mint* or *mert*, or – less typically – *hogy*. On the other hand, the lower [Spec; CP] could contain the future complementisers *mint* or *mert*, as well as ordinary relative operators.

## 4    Combinations

By looking at the positions indicated in Figure 4, the question arises whether elements taking different positions could possibly co-occur in the same subclause. This prediction is borne out: in Old and Middle Hungarian, both co-occurrences of an upper C and a lower C and of an upper C and an operator (cf. Galambos 1907) existed.

   If the upper C head was filled by *ha* 'if', it produced the combinations *hamint* 'if as', *hahogy* 'if that', as well as various combinations of *ha* + a relative pronoun. Consider the following example of *hamint*:

(3)  *de* **ha mÿnt** *<ak el aluttak volna*
     but   if   as      only   PREV   slept-3.PL.   be-COND.3.SG.
     *lelkǫketh        istennek     meg     adaak*
     soul-Poss.3.Pl.Acc.   God-Dat.   PREV   gave-3.PL.
     'but as if they had only fallen asleep, they gave their souls to God'
     (SándK. 28)

   Examples for *hahogy* are shown in (4) – the fact that the adverb *késen* 'late' can appear in between *ha* and *hogy* in (4a) shows that these two elements are base-generated as distinct C heads:[4]

(4)  a.  **Ha** *késen* **hogy** *el     nyugot     az     nap, hamar esǫt*
         if   late   that   PREV   set-3.SG.   the   sun   soon   rain-ACC.
         *váry*
         expect-IMP.2.SG.
         'if the sun has set late, expect rain soon' (Cis. G3)
     b.  *Az én     jó     istenem,        ha hogy sok ellenség, reám*
         the   I   good   God-POSS.1.SG.   if   that   many   enemy   I-SUBL.
         *fegyverkezék, tolok       megmente*
         arm            they-ABL.   saved-3.SG.
         'my good God, if many enemies armed against me, saved me from them'
         (Balassa: Ének., 32)

   An example for *ha* combining with the relative operator *ki* 'who' is given in (5):

(5)  *kj     tegǫd     zereth. az     nem epedh:* **ha kÿ** *keserg     akkor*
     who   you-ACC.   loves   that   not   longs   if   who   moans   then
     *wjgad*
     rejoices
     'those who love you, do not long: if they should moan, they rejoice'
     (CzechK. 51–52)

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[4] Though it is not typical for elements such as the adverb *késen* 'late' moving into a position above the lower C head, it is by no means impossible and since in (4a) the C heads *ha* 'if' and *hogy* 'that' clearly belong to one and the same left periphery (otherwise the sentence could not be assigned any valid interpretation), there is no reason to assume that *késen* would be located in a higher clause than the one obviously containing *hogy*.

If the upper C head was filled by *hogy*, it resulted in combinations such as *hogymint* 'that than' and *hogymert* 'that because', as well as ones of *hogy* with relative pronouns. Consider the example of *hogymint* in (6):

(6)  *edesseget*      *erʒe*       *nagÿoban* **hogÿmint** *annak*
     sweetness-ACC.   felt-3.SG.   greater    that.than   that-DAT.
     *eloʒtte*
     before-POSS.1.SG.
     '(s)he felt sweetness even more than before' (LázK. 141)

The combination *hogymert* is illustrated in (7)[5]:

(7)  *De***hogÿ**    **mert**    *ʒent*   *ferenc*   *ÿgen*   *ʒeretiuala*        *ewtett*
     but.that        because     saint    Francis    well     liked.was-3.SG.     him-ACC.
     *tÿʒtasagert*    *es*        *alazatossagaert*                *kyt*          *valuala*
     purity-FIN.      and         humility-POSS.3.SG.FIN.           who-ACC.       have-3.SG.was
     *Monda*          *nekÿ*
     said-3.SG.       him-DAT.
     'but because Saint Francis liked him well for his purity and for his
     humility' (JókK., 46)

An example for *hogy* combining with the relative operator *ki* 'who' is given in (8):

(8)  *olÿaat*    *teʒoʒk*    *rajtad*   **hog**   **kÿtoʒl**   *felʒ*
     such-ACC.   do-1.SG.    you-SUP.   that     what-ABL.    fear-2.SG.
     'I will do such on you that you fear' (SándK. 28)

As a matter of fact, the combinations of *hogy*/*ha* + operator seem to have been rather productive. This is also reinforced by the short survey I carried out on four different translations of the gospels. I took two Old Hungarian ones, the Munich Codex and the Jordánszky Codex, a Middle Hungarian one (the translation of György Káldi) and a Modern Hungarian one (the so-called Neovulgata translation). The number of each combination in each text is given below in Table 2:

|              | **Munich Codex (1466)** | **Jordánszky Codex (1516–1519)** | **Káldi translation (1626)** | **Neovulgata (1997)** |
|--------------|:-----------------------:|:--------------------------------:|:----------------------------:|:---------------------:|
| *hogy* + OP  | 1                       | 2                                | –                            | –                     |
| *ha* + OP    | 14                      | 20                               | 8                            | –                     |

Table 2

There are only a few examples for the combination with *hogy* but these appear already in Old Hungarian. More importantly, there is a substantial number of *ha* +

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[5] Note that since here I am retaining the original spelling, *hogy* 'that' in (7) appears as written together with *de* 'but' and not with *mert* 'because'. However, it should be obvious that syntactically the combination is *hogymert* and there is no complementiser such as \**dehogy*: *de* is a coordinating conjunct that does not appear in the left periphery of the clause containing the complementisers *hogy* and *mert*.

operator combinations in the Old Hungarian texts, which decreases in the Middle Hungarian translation and completely disappears in Modern Hungarian, which is predictably so because such combinations do not exist in Modern Hungarian.

The relatively large number of *ha* + operator combinations in the Old Hungarian texts, especially when contrasted with the 8 instances in the Káldi translation, is unexpected inasmuch as it partially contradicts the view traditionally adopted by the literature, namely that relative clauses introduced by *hogy* or *ha* and an operator were possible in Old Hungarian but were especially frequent and typical in Middle Hungarian (for such views, see e.g. Galambos 1907: 14–18; Haader 1995; Dömötör 1995).

Naturally, I do not in the least intend to suggest that the frequency of given combinations in the selected texts would precisely reflect their frequency in Old or Middle Hungarian in general; in other words, the fact that there are less *ha* + operator combinations in the one Middle Hungarian text used here than in the two Old Hungarian ones does not imply that the combination would be less typical of Middle Hungarian than of Old Hungarian. However, it should be obvious that the presence of these combinations in Old Hungarian cannot be seen as insignificant.

It is of course likewise important to bear in mind that these texts are translated, which in turn raises the question of how much the original – Latin – text may have influenced the appearance of the relevant Hungarian combinations. It is true that as far as the Munich Codex is concerned, all *ha* + operator combinations there correspond to a Latin *si* 'if' + operator combination. In the Jordánszky Codex one finds 6 additional *ha* + operator instances: these, however, correspond to a simple operator in the Latin text. This shows that the construction was in fact largely productive and hence cannot be considered merely as a direct reflex of the Latin text even in Old Hungarian.

The possible structures for the combinations dealt with in this section are shown in Figure 5:
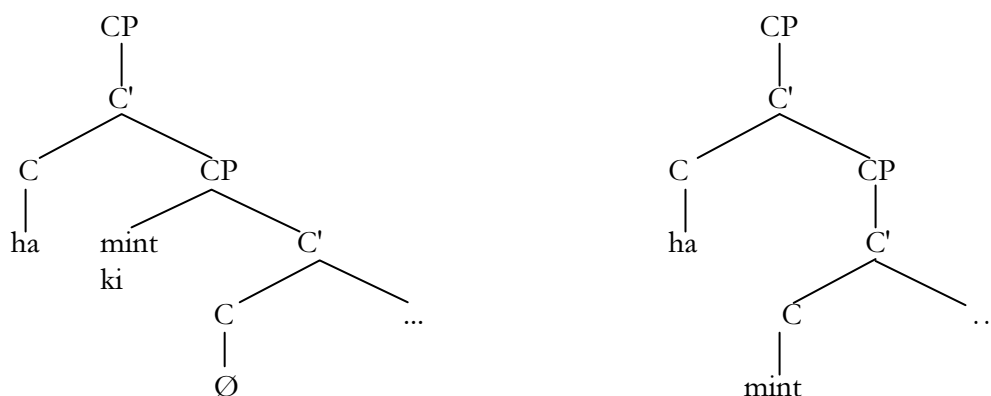


Figure 5

The left-hand side diagram shows the type of combination where a higher C head (e.g. *ha*) is followed by an operator in the lower [Spec; CP] – this operator could be a future complementiser (e.g. *mint*) or an ordinary relative operator (e.g. *ki*). By contrast, the right-hand side diagram shows a structure where two C heads occur in one left periphery: this configuration was not available for ordinary relative operators as they did not develop into C heads at all.

Apart from combinations of the types given in Figure 5, a negative-like MoodP[6] could also appear between the two CPs (cf. Bácskai-Atkári 2011), leading to combination such as *hogynemmint* 'that not than' and *hogysemmint* 'that neither than'. Consider:

(9)  *az*  *mentól*  *alsobÿkban*  *is*  *tob*  *angÿal uagon*  **honnem**  **mÿnth**
     the   more      down-INE.     also  more  angel is        that.not    than
     *az*  *napnak*  *feneben*
     the   sun-DAT.  light-INE.POSS.3.SG.
     'there are more angels even in the basest one of them than in the sun's light' (SándK. 2)
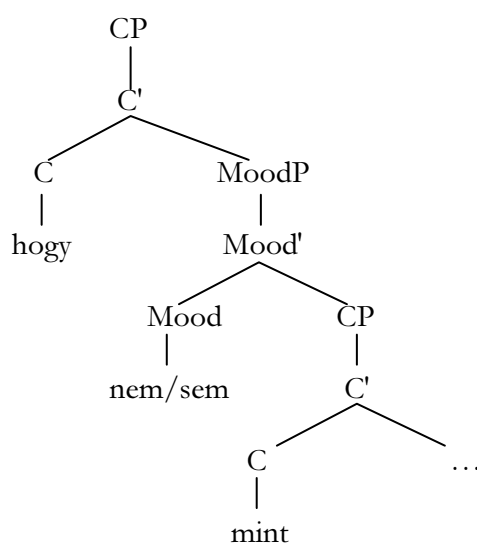
The corresponding structure is shown in Figure 6:



Figure 6

As can be seen, the MoodP appears between the two CP projections headed by two distinct complementisers. It has to be mentioned that *nem* 'not' and *sem* 'neither' differ in that the former but not the latter became a clitic. This is also demonstrated by the fact that while in the Munich Codex (1466) it is invariably in the form *hogy nem*, in the Jordánszky Codex (1516–1519) it is *honnem (mint)*, i.e. there is phonological assimilation. The same is not true for *sem*; this consideration will be important especially in terms of the changes to be discussed in the next section.

It must be mentioned that the appearance of the MoodP in comparatives is in fact prior to that of *mint* (cf. Bácskai-Atkári 2011): originally, comparative subclauses were introduced by the complementiser *hogy* and contained the Mood head. Consider:

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[6] Please note that MoodP in this paper is taken to be responsible for polarity and I do not wish to address other issues related to modality (e.g. the subjunctive mood) here, as that would be far beyond the scope of the present paper.

(10)　　　*Mert　　iob　　hog　megfog'doſuā　　algukmėg'*
because　better　that　caught-PAST.PART.　bless-1.PL.SUBJ.PREV
*vͬat　　**hog né**　mėghal'l'ŏc*
Lord-ACC.　that　not　die-1.PL.SUBJ.
'because it is better that we should bless the Lord caught than die'
(BécsiK. 25)

It is a later development that *mint* appeared in the structure – first as an operator in the lower [Spec; CP] and later as a lower C head. Subsequently the Mood head could also be left out, giving *hogymint*, and finally comparative subclauses were introduced by *mint* – now an upper C head – solely.

This diachronic development is also attested by the comparison of the four gospel translations mentioned above: I examined altogether 36 loci and the distribution of the various types of comparatives are shown in Table 3 (note that there are additional ways of expressing comparison, hence the apparent discrepancy that can be observed when comparing the individual columns):

|  | **Munich Codex (1466)** | **Jordánszky Codex (1516–1519)** | **Káldi translation (1626)** | **Neovulgata (1997)** |
|---|---|---|---|---|
| *hogynem* | 34 | 20 | – | – |
| *hogynemmint* | – | 11 | – | – |
| *mint* | – | 4 | 23 | 20 |

Table 3

The data show that while in the Munich Codex comparative subclauses were introduced by *hogynem* 'that not', the picture was much more diversified already in the Jordánszky Codex, where the number of *hogynem* significantly decreased in favour of *hogynemmint* and the use of single *mint* was also an option. By contrast, in the Káldi and the Neovulgata translation it is only *mint* that is used: as a matter of fact, *hogynemmint* – and also *hogysemmint* – was still possible in Middle Hungarian but they became obsolete before the Modern Hungarian period. At any rate, the appearance of the combination *hogynemmint* is definitely significant.

On the other hand, neither *hogynem* nor *hogynemmint* is a Latin reflex: in all the instances under scrutiny, the Latin text simply contains *quam* 'than'.

The question arises whether complementiser combinations are unique to Hungarian or they are attested in other languages as well. As a matter of fact, English had similar combinations in the Middle English period – with combinations such as *if that* and *for that* (van Gelderen 2005). Examples are given in (11):

(11)　a.　*Blameth nat me **if that** ye chese amys.* (Chaucer, The Canterbury Tales: Prologue)
　　　b.　*Thy wyf and thou moote hange fer atwynne, / **For that** bitwixe yow shal be no synne.* (Chaucer, The Canterbury Tales: Miller's Tale)

The combination *if that* in (11) is obviously located in one left periphery and is used with the same meaning as simple *if* would be in Modern English. The question of

meaning in combinations will be addressed later; at this point, suffice it to say that combinations of complementisers are definitely not restricted to (earlier periods of) Hungarian.


## 5 Movement

As was said in connection with simplex complementisers, lower C heads started to move up to the higher C position and were later reanalysed as elements base-generated in that position. Interestingly, a lower C could move up even if the upper C was already filled by another element: in this case the two heads were adjoined. In line with Kayne's Linear Correspondence Axiom, adjunction resulted in the reverse order in the linear structure of the two heads (Kayne 1994); cf. also the Mirror Principle of Baker (1985, 1988).

Accordingly, in Old and Middle Hungarian the reverse order is found in the case of all C + C combinations mentioned in the previous section, hence: *mintha* 'as if', *hogyha* 'that if', *minthogy* 'than that' and *merthogy* 'because that'. Examples for these combinations are given below:

(12) a. *kí       menének    ʒocaſoc                ʒerent      **mint ha**   aʒ*
out    went-3.PL.  custom-POSS.3.PL.  according   as      if      the
*imadſagra    mēnenec*
prayer-SUBL.   go-COND.3.PL.
'they went out as was their custom, as if going for prayer'
(GuaryK. 113–114)

b. *vig      orchaual    elmegien      vala,      **hogiha**    ingen*
happy    face-COM.   away.went-3.SG.  was-3.SG.   that.if     absolutely
*nem    hallanaӱa*
not    hear-COND.3.SG.
'(s)he went away with a happy face, as if (s)he had absolutely not heard it'
(VirgK. 81)

c. *Melӱ    boʒʒosagokot    frater    Bernald.| bӱʒon    ʒent.   nem   czak*
which   irritations-ACC.  brother   Bernald  indeed   saint  not   only
*engedelmest.|   de     es    vӱgasagost    ʒenuediuala:|            **Mert***
obeying-ACC.   but    too   joyful-ACC.   suffered-3.SG.was    because
**hogӱ**   *bizonual       uoltuolna          cristusnak    tekelletes*
that       indeed-COM.   was-3.SG.be-COND.   Christ-DAT.    perfect
*tanoӱtuanӱa    nepnek      vtalatӱa          es      emberek*
student-POSS.3.SG.   folk-DAT.   detest-POSS.3.SG.   and   people
*ʒemerme*
shame-POSS.3.SG.
'which irritations brother Bernald, indeed a saint, suffered not only obeyingly but also joyfully: for he was indeed a perfect student of Christ, and the detest and the shame of people' (JókK. 20–21)

d.    *semi*     *nagob*     *nem*     *mondathatik:*            **mint hogh**
         nothing   greater   not   say-PASS.COND.3.SG.   than  that
         *legon*              *istenek*       *ania*
         be-SUBJ.3.SG.   God-DAT.   mother-POSS.3.SG.
         'nothing can be said to be greater than that she be the mother of God'
         (TihK. 143)

The fact that complex complementisers of the type discussed here actually derive from the ones presented in the previous section suggests that the former type was less frequent in earlier texts than in later ones. This is indeed the case, as reinforced by the short survey I carried out on the four different translations of the gospels (cf. the previous section). The number of each complex complementiser in each text is given below in Table 4:

|  | **Munich Codex (1466)** | **Jordánszky Codex (1516–1519)** | **Káldi translation (1626)** | **Neovulgata (1997)** |
|---|---|---|---|---|
| *hogyha* | 9 | 8 | 9 | – |
| *mintha* | – | 1 | 3 | 7 |
| *minthogy* | – | – | 4 | 1 |
| *merthogy* | – | 1 | – | – |

Table 4

As can be seen, it is only *hogyha* that has examples in the Munich Codex: all the other ones appear considerably later, with only sporadic examples in the Jordánszky Codex and a possibly more significant number of occurrences in later translations. It has to be mentioned that all of these combinations exist in Modern Hungarian and hence if they happen to be absent from the Neovulgata translation, it is merely accidental. The most important claim here to make is that the early and frequent appearance of *hogyha* is actually not surprising, taking into account that *hogy*, as has been said, preferably moved up even in its combinations with *ha* – as it was preferably a higher C head anyway – and hence it logically follows that *hogyha* appeared considerably earlier than all the other complex complementisers under scrutiny.

Having established this, we can conclude that all C + C combinations regularly developed their complex C counterparts by movement. On the other hand, it follows that the *hogy/ha* 'that/if' + relative pronoun combinations had no inverse order counterparts as there was no movement either: ordinary relative operators did not develop into C heads.

Though movement of the lower C head to the upper one was responsible for the appearance of complex complementisers, it has to be mentioned that these complex complementisers actually grammaticalised as such, i.e. they started to be base-generated as single C heads. This is again due to economy: base-generation is more economical than movement, cf. van Gelderen (2004).

Hence the structures underlying complex complementisers such as *mintha* could be the following:
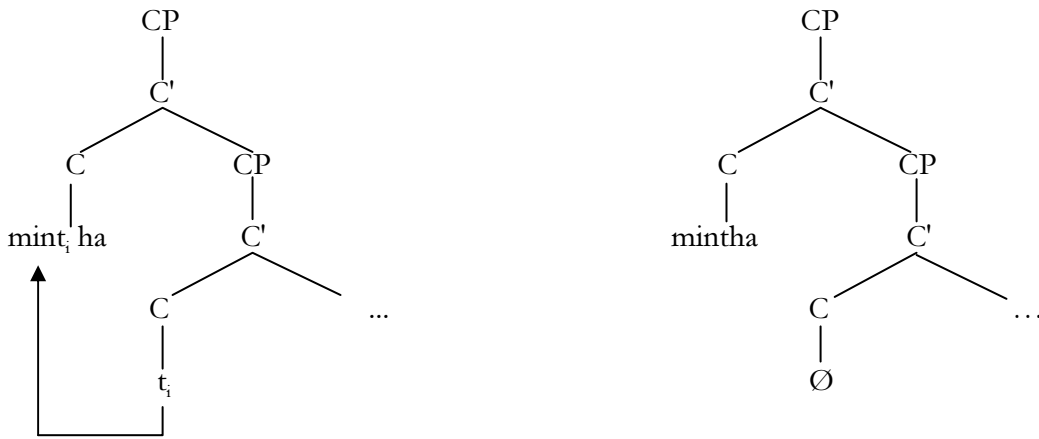
Figure 7

The left-hand side diagram shows the earlier configuration where the complex complementiser is derived by way of the lower C head moving to the upper one to adjoin there. In the right-hand side diagram, the complex complementiser is already grammaticalised and is hence base-generated as a complex unit in the higher C head: in this case the lower C head is zero.

One test of the movement and adjunction analysis for complex complementisers is to see whether the same mechanism can be traced if the structure contained a negative-like MoodP. This is indeed the case, as shown in Figure 8:
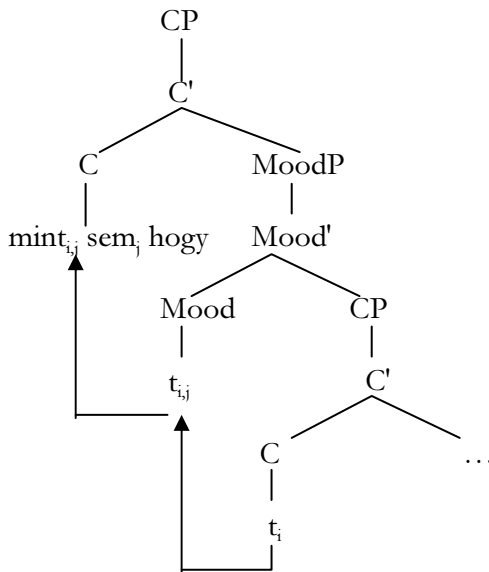


Figure 8

What happens in this case is exactly the same that was seen in connection with C + C underlying combinations (see Figure 7). First the lower C head *mint* moves up to the head of the MoodP, *sem* 'neither' and adjunction takes the original lower head to the left of the original higher head, hence resulting in the combination *mintsem* 'than neither'. Conversely, the combination *mintsem* moved up to the higher C head in the same way, to left-adjoin to *hogy*, ultimately resulting in the combination *mintsemhogy* 'than neither that'.

Note that this process can be traced only if the MoodP was headed by *sem* but not in the case of *nem* 'not', which was a clitic (cf. the discussion in the previous section) and hence did not take part in movement.[7]

Turning now to English, where C + C combinations were attested, there are no complex complementisers to be found of the Hungarian type, i.e. the inverse of the original C + C combinations. As was mentioned in section 3, English *that* also grammaticalised into a higher C head from a lower one – however, it seems that it did not engage in head adjunction. This is probably due to different morphological restrictions in cross-linguistics terms – apart from how well-spread certain combinations were before the original lower complementiser was grammaticalised as a higher C head.

Since the aim here is not to provide an explanation for the English phenomena, I will leave this question open here for further research. What is important for us to note is that while the appearance of multiple complementisers in Hungarian is not unique, the development of grammaticalised complex complementisers is by no means a necessity, even if it can well be explained by universal syntactic mechanisms.

## 6     Further combinations

The question arises whether the mechanisms discussed so far are limited to the combinations of two C heads and of *hogy* 'that' / *ha* 'if' + a relative operator. If this is not the case, then the analysis is further strengthened as it can then be considered as a fairly general mechanism that was naturally at work in a wider range of subclauses. There are two main extension lines that I would like to discuss here.

First, it is expected that a new grammaticalised simplex upper C head – that is, *mint* 'than/as' or *mert* 'because' – may co-occur with new operators in the lower [Spec; CP]: this is the case for *mint*, which appears in combinations such as *mint amilyen* 'than/as + how-Rel.', *mint ahány* 'than/as + how many-Rel.' (cf. Bácskai-Atkári 2011). Consider:

(13)  a.  *Mari      nyugodtabb,*  **mint    amilyen**  *Liza.*
      Mary    calmer    than    how-Rel.  Liz
      'Mary is calmer than Liz.'

    b.  *Több    macska   vana  kertben,*    **mint ahány**    *a*
      more    cat    is    the    garden-Ine.    than how.many-Rel.    the
      *szobában.*
      room-Ine.
      'There are more cats in the garden than in the room.'

The structure for such combinations is given in Figure 9:

---

[7] It must be highlighted that since the lower C head ultimately moves up to the higher C head position, its landing in the Mood head is only an intermediate step in the derivation but never a final state. In other words, though there is ample evidence that this movement step actually took place, there are no combinations that would include this step without the further movement of the combination to the higher C head, hence there are no combinations such as *\*hogy mintsem* 'that than neither' attested: if the higher C head was filled by *hogy*, then the result of *mint* moving up was invariably *mintsemhogy*, as indicated in Figure 8 – if, however, the upper C head was empty, the combination was realized as *mintsem*.
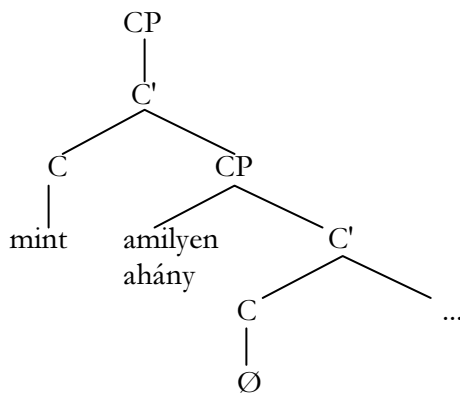
Figure 9

As can be seen, the complementiser *mint* takes the upper C head position and the specifier of the lower CP hosts an operator, e.g. *amilyen* or *ahány*.[8] This configuration is actually the same as the one established for *hogy/ha* + operator combinations (see the left-hand side diagram in Figure 5). On the other hand, the combination of the comparative complementiser with an operator (that is, the comparative operator) is in fact a standard one, inasmuch as comparative subclauses invariably contain an operator, which in turn may be overt or covert, depending on the settings of the given language (cf. Bácskai-Atkári 2010).

Second, a grammaticalised complex upper C head could also co-occur with another in the lower C: for this option, however, the complex complementiser had to grammaticalise relatively early on, otherwise there would be no element left to be base-generated in the lower C head. As has been discussed, the earliest grammaticalised complex C head was *hogyha* 'that if', due to the fact that *hogy* was preferably moved up. Hence the prediction is that if combinations of the type complex complementiser + simplex complementiser existed, then they should be with *hogyha* in the first place. This prediction is borne out: as Haader (2003) notes, the combination *hogyhamint* 'that if than' was present in Old and Middle Hungarian – conversely, *minthogyha* 'than that if' is a possible configuration in Modern Hungarian.

The structure of *hogyhamint* is shown below:

---

[8] It must be mentioned that these operators can also be accompanied by a lexical AP or DP (e.g. *amilyen nyugodt* 'how-Rel. calm' or *ahány macska* 'how many-Rel. cat'), hence the specifier of the lower CP can host a visibly fully-fledged phrase. It depends on the setting of the given language whether it allows the presence of these lexical phrases. Since the present paper focuses on complementisers and operators, I will not venture to examine this question here in any more detail. For a relatively recent discussion in connection with Hungarian, cf. Bácskai-Atkári (2011).

```
                CP
                |
                C'
              /    \
            C       CP
            |        |
         hogyha     C'
                  /    \
                 C      ...
                 |
               mint
```
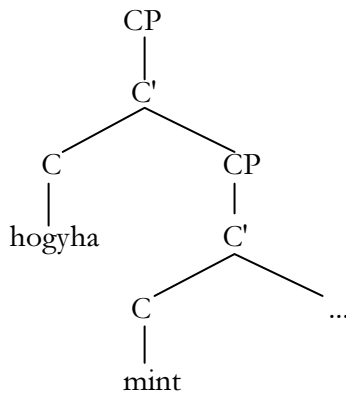
Figure 10

Just as in the case of ordinary C + C combinations, there are two distinct C heads in the structure, the upper C being *hogyha* and the lower C being *mint*: the fact that the upper one is already complex is merely a matter of morphology, i.e. it does no longer stem from the syntactic derivation. Hence the configuration itself is like the right-hand side diagram given in Figure 5.

Furthermore – just like in the case of ordinary C + C combinations – the inverse order of *hogyhamint* is also attested in the form of *minthogyha*:

```
                CP
                |
                C'
              /    \
            C       CP
            |        |
    mint_i hogyha    C'
            ↑      /    \
                  C      ...
                  |
                  t_i
```
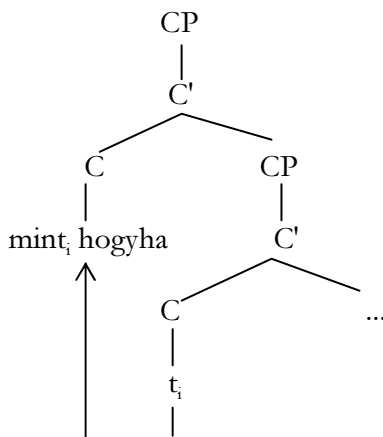
Figure 11

The complex complementiser *minthogyha* is derived regularly via the lower C head – i.e. *mint* – moving up to the upper one and left-adjoining to the latter, in the same way as was shown in the case of two simplex C heads (see the left-hand side representation in Figure 7). Naturally, this configuration could also fully grammaticalise into a single complex C head base-generated in the higher C position.


## 7 Changes

Last but not least, let us have a look at the main lines of changes involved. First of all, there is an important structural concern, namely that complementisers grammaticalised as higher C heads. This had the immediate consequence of the lower C head remaining

unfilled, from which it should follow that Modern Hungarian no longer has C + C combinations, as there is nothing to occupy the lower C head.

This prediction is in fact borne out: the combinations *hamint* 'if as, *hahogy* 'if that', *hogymint* 'that than' and *hogymert* 'that because' have disappeared, as opposed to fully grammaticalised complex C heads, which are still present. In this way, the analysis given here is suitable for explaining not only how complex complementisers arose but also why certain configurations necessarily disappeared.

Note that the same holds for further combinations, that is, also for ones having a negative-like MoodP and for ones that morphologically involve three original C heads. While *hogysemmint* 'that neither than' no longer exists in Hungarian, its inverse counterpart, *mintsemhogy* 'than neither that' does. Similarly, while *hogyhamint* 'that if as' is extinct, *minthogyha* 'as that if' survives into Modern Hungarian.

The combination pairs are accordingly summarised in Table 5:

| Original (extinct) order | Grammaticalised (surviving) combination |
|---|---|
| *hahogy* 'if that' | *hogyha* 'that if' |
| *hogymint* 'that than' | *minthogy* 'than that' |
| *hogymert* 'that because' | *merthogy* 'because that' |
| *hamint* 'if as' | *mintha* 'as if' |
| *hogynemmint* 'that not than' | – |
| *hogysemmint* 'that neither than' | *mintsemhogy* 'than neither that' |
| *hogyhamint* 'that if as' | *minthogyha* 'as that if' |

Table 5

Second, there are also functional changes to be observed, especially in connection with *hogy* 'that'. It seems that in earlier periods it was a general marker of subordination, in this way similar to how *that* worked in English. This is indicated by the fact that it appeared in a wide range of structures, such as relative clauses or clauses of reason. On the other hand, the complex complementiser combinations *hogy* + X or X + *hogy* usually meant simply 'X', hence the presence of *hogy* was not required by the need for expressing a special meaning but it merely marked (finite) subordination. However, as other complementisers also started to inherently mark subordination, this function of *hogy* was eventually lost and it is hence no longer used as extensively as it used to be.

Note that these changes affecting *hogy* were also accompanied by the disappearance of certain original functions, most notably its function of introducing comparative subclauses; cf. the example given in (10). Less typically, *hogy* could also occasionally introduce conditional subclauses on its own in Old Hungarian, which likewise became extinct, though – as has been demonstrated – it is preserved in the grammaticalised combination with *ha* (i.e. *hogyha*). On the other hand, most of the previous functions of *hogy* are actually preserved, i.e. introducing simple embedded declaratives, embedded imperatives, embedded *wh*-interrogatives, clauses of purpose, and resultatives.

# 8    Conclusion

The aim of this paper was to provide an overview of the major changes concerning Hungarian complementisers and operators and to provide a framework that may accommodate the seemingly different phenomena. It was shown that the changes affecting the left periphery of subclauses are all instances of grammaticalisation, the most important one being the relative cycle. As was seen, the diachronic processes affecting different elements were fundamentally the same and hence the differences that can be perceived when it comes to the diachronic syntactic behaviour of these elements are primarily due to different timing and differences in feature loss.

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CzechK. = Czech-kódex [Czech Codex]. 1513.
GuaryK. = Guary-kódex [Guary Codex]. Before 1508.
HB. = Halotti beszéd és könyörgés [Funeral Sermon and Prayer]. Around 1195.
JókK. = Jókai-kódex [Jókai Codex]. 14th–15th century.
KTSz. = Königsbergi töredék és szalagjai [Königsberg Fragment and its Ribbons].
     Middle or second half of the 14th century.
LázK. = Lázár-kódex [Lázár Codex]. After 1525.
ÓMS. = Ómagyar Mária-siralom [Old Hungarian Lamentations of Mary]. End of the
     13th century.
SándK. = Sándor-kódex [Sándor Codex]. First quarter of the 16th century.
TihK. = Tihanyi-kódex [Tihanyi Codex]. 1532.
VirgK. = Virginia-kódex [Virginia Codex]. Before 1529.

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