From relative proadverb to complementizer: The evolution of the Hungarian *hogy* 'that'

Katalin É. Kiss

Hungarian research Centre for Linguistics

1. Introduction

Declarative complementizers of several languages, among them the Italian *che* (Lehmann 1984:393), the French *que* (Kitchin & Brachet 2015), the Russian *čto* (Meyer 2010), the Chalcatongo Mixtec *xa=*, the Thai *thîi*, or the Early Biblical Hebrew *she/asher* (Heine & Kuteva 2015: 254) are claimed to have developed from relative pronouns. Recently it has been argued about Germanic *that*-type complementizers, among them the German *dass* and the English *that*, that they derive from relative pronouns (instead of demonstratives, as traditionally assumed), and their source structure – similarly to that of the Hittite complementizer *kuit* and the Old Indian complementizer *yád* (Lühr 2008) – was the correlative construction (Axel-Tober 2017). The correlative construction, widespread in Proto-Indo-European (Luján 2009; Auderset 2000), consists of a headless relative clause, and a main clause containing a demonstrative or a definite NP that is related to the relative clause and the relative pronoun anaphorically, as shown by the Hungarian example in (1).

(1) Amelyik   kutya ugat,   az   (a kutya)   nem harap.
    which   dog   barks   that (the dog)   not   bites
    'Which dog barks, that (dog) doesn't bite.'

The initial phase of the hypothesized evolutionary process, however, is unclear. The construction to which the Germanic *that*-type complementizers can be traced back, is not a canonical correlative structure any more; it is a so-called explicative construction of the type *Mary knows that, that Peter is lying*. The explicative clause relates to the main clause like a correlative sentence in as much as it is adjoined to the main clause, and it specifies the content of the demonstrative in the main clause. Its relative clause status, however, is doubtful. The pronoun introducing it does not bind a variable; it is a head in complementizer position. Haegeman (2012) and Axel-Tober (2017) assume that the clause contains an empty operator in Spec,CP binding the event variable; however, there is no clear anaphoric relation between the main clause demonstrative and this variable.

The present paper supports the proposed derivation of Indo-European *that*-type complementizers by presenting a similar developmental path whose early phases can be

reconstructed more completely, that of *hogy* 'that', the Hungarian general complementizer cognate with the relative pronoun *hogy* 'how'. It traces *hogy* back to a canonical correlative construction, documenting the subsequent stages of its evolution from a relative operator binding a variable in a correlative adjunct clause to a general complementizer subordinating a clausal argument to a matrix predicate. The analysis of the evolution of *hogy* suggests that the explicative construction identified as the source structure of *that*-type complementizers may actually represent an intermediate stage in their evolution, which started in a canonical correlative construction.

The paper is organized as follows: Section 2 argues that in Proto-Hungarian and Proto-Ugric, languages with non-finite subordination, the first complex sentence type involving finite subordination was the correlative construction. Section 3 argues that *hogy* grammaticalized into a general complementizer in the clausal complements of verbs of communication, and follows their evolution from paratactic complement clauses announced in the quoting sentence by a cataphoric *úgy* 'so' (Section 3.1), via adjunct clauses linked to the quoting sentence by *hogy*, the relative counterpart of *úgy* in quasi-correlative (explicative) constructions (3.2), to complement clauses integrated into the argument structure of the quoting verb (3.3). Section 3.4 discusses the emergence of a demonstrative pronominal associate of the argument clause in the matrix sentence. Section 4 surveys the spreading of *hogy* from the complement clauses of verbs of communication to other types of predicates taking a propositional complement. Section 5 is a summary.

2. The emergence of finite subordination in the Ugric languages: the correlative construction

In order to reconstruct the emergence of the first Hungarian complex sentence type involving two finite clauses linked in an asymmetric relation, we have to go back beyond the documented history of Hungarian beginning in 1192; we also have to study subordination in Khanty and Mansi (also known as Ostyak and Vogul), the conservative sister languages of Hungarian in the Ugric branch of the Uralic family. Hungarian was subject to heavy Indo-European influence after 895, when the Hungarian tribes settled in the Carpathian Basin. They presumably absorbed the Slavic population of the area, which lead to a directionality shift from the Uralic SOV word order to SVO. Khanty and Mansi avoided strong Slavic influence until the 2nd half of the 20th century; they only recently have started showing signs of the loosening of head-finality. The properties of older Khanty and Mansi texts that are also present in Old Hungarian in gradually decreasing proportions are likely to represent Proto-

Ugric heritage which was also shared by Proto-Hungarian when it split off the Ugric branch of Uralic.

Khanty and Mansi, like many strictly SOV languages, have had no finite subordination until recently. Argument and adjunct clauses are mostly expressed by a great variety of non-finite constructions, which may have an independent subject of their own eliciting agreement on the non-finite verb (Gulya 1966; Csepregi 1998/2011; Nikolaeva 1999; Filchenko 2007; Csepregi and Gugán 2020; Kálmán 1976; Riese 2001). The propositional complements of quoting predicates and predicates reporting propositional attitudes, which can have tense and mood independent of those of the reporting predicate, tend to be expressed by independent sentences in paratactic constructions. Example (2) illustrates both possibilities. The reporting S1 and the reported S2 and S3 are independent sentences, whereas S4, the subject clause of S3 is a participial expression.

(2) [$_{S1}$ puːpi jɐːstə-ɬ]   [$_{S2}$ mən-ɬ-əβ!] [$_{S3}$[$_{S4}$ ort-eβ   βiːɣ-t-ɐɬ]   seːtⁱɬʲ!]]¹   (Khanty)
       bear say-PRS.3SG   go-PRS-1PL   master-1PL call-PTCP-3SG sound-PRS.3SG
    'The bear says: We go! Our master's calling is heard!'   (Paasonen 1901, OUDB 1315)

Relative clauses are prenominal gap-relatives displaying no relative pronouns:

(3)   tətti [nɵŋ-ɐti   tuːβ-əm]   βoqɯ.   (Khanty)
      here you-DAT   bring-PTCP fox
      'The fox which has been brought for you is here.'   (Paasonen 1901, OUDB 1315)

The only type of complex sentence involving two asymmetrically linked finite clauses in older Khanty and Mansi texts is the correlative construction (Dékány. Gugán and Tánczos 2020). The correlative construction consists of a free, headless relative and a main clause (Dayal 1995; Grosu and Landmann 1998; Bhatt 2003; Lipták 2009; 2012). The relative clause occupies a peripheral position; in the canonical case it precedes the main clause. Lipták (2012) argues based on reconstruction and locality effects that it is base-generated adjoined to the main clause. The correlate of the relative clause, i.e., the element in the main clause associated with it, is a demonstrative or a personal pronoun. Either the relative pronoun, or the demonstrative, or both can have their restrictor spelled out, as illustrated by the Hungarian

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¹ The examples preserve the spelling of their sources, including the IPA transcription used in the Ob-Ugric database (OUDB).

sentences in (4a–c). The examples also illustrate the lack of reconstruction effects: the referring expression contained in the correlative clause is freely coindexed with the subject of the main clause.

(4) Tíz diák   jelentkezett a vizsgá-ra.   (Hungarian)
    ten student entered   the exam-for
    'Ten students entered for the exam.'

    a. **Amelyik diákot**   ismerte a professzor$_i$, **azt**   **a diákot**
       which   student-ACC knew   the professor   that-ACC the student-ACC
       át-enged-t-e   *pro$_i$*.
       through-let-PST-OBJ.3SG
       '**Which student** the professor knew, **that student** he let go through.'

    b. **Amelyik diákot** ismerte a professzor$_i$, **azt** átengedte *pro$_i$*.

    c. **Amelyiket** ismerte a professzor$_i$, **azt a diákot** átengedte *pro$_i$*.

Since the relative clause does not modify a nominal, it can contain more than one relative pronoun:

(5) **Ki mint** vet,   [**az**] **úgy** arat.   (Hungarian)
    who how   sows   that so   reaps
    'We reap as we sow.'

The relative pronoun expresses maximality; it corresponds to a free choice expression; thus *amelyik diák* in (4) means 'any student', and *who* in (5) means 'anybody'.

  The correlative constructions of Khanty and Mansi share these properties. They display the canonical 'relative clause, main clause' order. The definite pronoun or proadverb in the main clause can be pro-dropped or implicit. The pronouns in the relative clauses are actually underspecified indeterminate pronouns functioning as interrogatives and indefinites rather than relatives (recall that the traditional, pre-Russification versions of these languages only have prenominal relatives with a gap instead of a relative pronoun). Accordingly, the indeterminate pronoun does not necessarily occupy a clause-initial position (6d).

(6) a. **koji** əntə ropiltə-wəl,   **pro**   əntə li-wəl.   (Khanty)
      who not   work-PRS.3SG   not eat-PRS.3SG

'**Who** does not work [**he**] does not eat.' (Gulya 1966: 86)

b. **möɣöl'i** mä-nä mas-wəl, **t'u** məjiɣilə-ɣäs. (Khanty)
what I-LOC need-PRS.3SG that give-PST.3SG
'**What** is needed for me, **that** he gave.' (Gulya 1966: 86)

c. **kol-əpa** kit-l-im, **toɣ-əpa** mən-äti. (Khanty)
where-ALL send-PRS-OBJ.1SG there-ALL go-IMP.3SG[2]
'**Where** I send him, **there** he shall go.' (Gulya 1966: 142)

d. pu:pi **qot** ojəɣtə-s-təɣ, jəm u:ɬəm wär-s-əɣən pu:pi-nɐt. (Khanty)
bear where find-PST-SG. 3SG good dream do-PST-3DU bear-COM
'**Where** he found the bear, [**there**] they bid each other good night with the bear.'
(Paasonen 1901, OUDB 1315)

e. **kumlʲə** tʲe uj tə:n pæl kart-au, **ækʷ tʲe kajtəl** næu koᵖtæn
how this bear sinew tighten-PASS.3SG same_way you hands-2SG

lɔilæn pær kart-ɔŋkʷ-ət. (Mansi)
feet-2SG shrivel-PASS.IMP-3PL
'**How** this bear's sinew is tightened, **so** shall your hands and feet be shriveled.'
(Munkácsi 1896, OUDB 1419)

f. **χotal'** nomt-e pat-i, **tuw** wos min-i. (Mansi)
where thought-3SG fall-PRS.SG3 there PRT go-PRS.SG3
'**Where** his thought tends, **there** he can go.' (cited by Riese 2001: 72)

In traditional Khanty and Mansi texts, the correlative constructions represent the first step in the emergence of finite subordination. In the case of Hungarian, we cannot document this stage; the first surviving documents already show flexible SVO word order, and an increasing proportion of finite subordinate clauses introduced by the complementizer *hogy*. Nevertheless, the abundance of non-finite subordination and parataxis, and the abundance of correlative constructions in early Old Hungarian documents (decreasing gradually throughout the Old Hungarian period) suggest that the language has barely left behind the stage represented by older Khanty and Mansi texts. The pronouns of the relative clauses of correlative

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[2] The suffix OBJ.1SG cross-references both the (topical) object and the subject. It licenses both object and subject pro-drop.

constructions must still be indeterminate pronouns rather than relatives, as they are still often supplied with the existential *vala-* 'some' prefix (Bende-Farkas 2014):

(7) a. **ký**   nem wewtthe hewsaᵃg-ba eew lelk-e-th ...   **eez** weezen aldomas-th   wr-thol³
      who not threw   vanity-into he soul-3SG-ACC this takes   blessing- ACC lord-from
      '**Who** has not thrown his soul into vanity, **this** takes blessing from the Lord.'

                                                     (Festetics Codex, before 1494: 13)⁴

  b. **valaki**   akar-and   len-nÿ ez velagnak   barat-t'a, [**az**] isten-nek
      somebody want-FUT.3SG be-INF   this world-DAT friend-POSS that god-DAT
      lezen   ellenseg-e.
      be.FUT.3SG enemy-POSS
      '**Who** wants to be a friend of this world, **that** will be an enemy of God.'

                                                           (Bod C. early 16th c.: 2v(erso))

(8) a. **my-th**   eghzer meg zerz-ett-el ... [**az-t**]   tewbzer nem kel   hoz-yad
      what-ACC once PRT obtain-PST.2SG that-ACC   again   not needs to-2SG
      wen-n-ed
      take-INF-2SG
      '**What** you have once obtained, **that** you do not need to buy for you again.'

                                                           (Legal rule, 1476–1490)

  b. **valami-t**   èn-nèk-èm mond-ād-az [**az-t**]   tèzem te nèk-èd
      something-ACC I-DAT-1SG say-FUT-2SG that-ACC do-1SG you DAT-2SG
      '**What(ever)** you tell me, **that** I will do.'   (Vienna C. 1416/1450: 1/7)

(9) a. **m-ert**   frater Bernald al-ual-a   vel-em   zerzewduen... **az-ert** nem
      what-for frater Bernald stand.3SG-be-PST   with-1SG contracted... that-for not
      me-het-uala te   hozz-ad
      go-POSS-PST   you to-2SG
      '**Because** frater Bernald was contracted with me, **therefore** he could not go to you.'

                                                         (Jókai C. 1370: 10)

  b. **valahol** kèttèn aḡ harman egbe   goͅlèkezèndnᶜ èn nèu-ē-bè   **ot**   èn
      where   two   or three   together convene   I name-1SG-in there I

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³ The examples not marked otherwise are all Hungarian.
⁴ The Old Hungarian examples are cited from the Old Hungarian Database: http://oldhungariancorpus.nytud.hu/, see also Simon and Sass (2012).

ọ-kọzọtt-ọc   vagoc

they-among-3PL am

'**Where(ever)** two or three persons convene in my name, **there** I am present among

them.'   (München C. 1416/146624v)

Whereas Khanty and Mansi correlative constructions always begin with the relative clause, the restructuring of Hungarian grammar from head-final to head-initial gradually led to the preponderance of the reverse 'main clause – relative clause' order. In 'main clause – relative clause' constructions, the pronoun of the relative clause almost never bears the existential *vala-* prefix, which suggests that it is not an indeterminate pronoun any more but a true relative pronoun.

(10) a. **az** vol-na   yo kysded barat **ky** valla-na   ez zent barat-ok-nak

        that be-COND.3SG good little   friar   who have-COND.3SG this saint friar-PL-DAT

        elet-y-t

        life-POSS-ACC

        '**That** would be a good friar minor **who** would share the life of these saint friars.'

                                                    (Jókai C. 1370: 120)

    b. en [**az-t**]   mind el   vezt-ett-em,   **mi-t**   ńer-t-em   vol-t

        I   that-ACC all   off   loose-PST-OBJ.1SG what-ACC win-PFV-1SG be-PST

        'I lost **that** all **what** I had won.'   (Bod C. 17)

    c. **oth** es   aracz,   **hol** semy-t   sem vet-ett-el

        there also reap-2SG where nothing-ACC not   sow-PST-2SG

        'You also reap **there where** you have not sowed anything.'

                                                    (Jordánszky C. 1516: 595)

In (10b), the pro-drop of the demonstrative is licensed by object–verb agreement.

    In Old Hungarian, we attest correlative clauses associated with all types of arguments and adjuncts. *Hogy* 'how', the relative pronoun cognate with the present-day complementizer, appears in corrrelative clauses associated with the manner adverbs *úgy, így* 'so':

(11) [furisct-e   mus-i   etet-ý   ýmlet-i   **ug**] [**hug** ana

        bathe-OBJ.3SG wash-OBJ.3SG feed-OBJ.3SG nurse-OBJ.3SG **so**   **how** mother

        scilutt-e-t]

offspring-POSS-ACC

'She bathes, washes, feeds, nurses him **so as** a mother does.'

The *úgy...hogy...* 'so...that...' pair is also common in complex sentences involving a finite consecutive clause of manner or degree:

(12) [**vgy** uer   mynkett ez   felewl mondot rudual]   [**hogy** mendenewt mynkett bel

       so   beats us   this above said   cane.with **as**   everywhere us   up

      tewlt   czapazok-ual

      fills   blows-with

      'He is beating us with the above mentioned cane **so that** he covers us with blows.'

Owing to the frequency of correlative constructions and of the consecutive construction illustrated in (12), the demonstrative – relative pronoun pairs listed below must have been linked in the mental lexicon of Old Hungarian speakers.

(13) Demonstrative – indeterminate correlates

      ez/az... ki   'this/that...who'

      ez/az .... mi   'this/that...what'

      akkor ...mikor   'then...when'

      addig...meddig   'till then...till when'

      azután...miután   'after that...after what'

      azért...miért/mert   'for that...for what'

      ott...hol   'there...where'

      így/úgy... hogy   'so...how'

As will be argued below, the association of *hogy* with *így/úgy* played a crucial role it the development of *hogy* into a general complementizer.

3. The integration of reported propositions

3.1 From independent sentence to (correlative) adjunct

The evolution of the subordinating function of the relative pronoun *hogy* must have started in the propositional complements of verbs of communication, and it must have been due to the proadverb *így/úgy* accompanying these verbs.

Recall that verbs of communication, taking propositional complements with tense and mood independent of those of the main predicate (Lohninger and Wurmbrand 2020), occur in paratactic constructions in Khanty and Mansi, apart from occasional cases of non-finite subordination. Direct quotations are still typical in Old Hungarian, as well. The quoting predicate is often accompanied by the cataphoric proadverb *úgy* 'so' or its proximal equivalent *így*. As argued by Munro (1983) and discussed by Gugán and É. Kiss (2020), 'say' verbs are only weakly transitive; they display various intransitive characteristics crosslinguistically. The quoted material is often treated as oblique; e.g., in some languages, it can be questioned by a wh-adverb, as illustrated by the Italian and Khanty examples in (14).[5]

(14) a. **Come** avete   detto?   (Italian)
       how   have-PST.2SG said
       'What have you said?'   (Munro 1983: 315)

    b. jəɣ-əm   **qŏlnə** nüŋ-ati   jast-əɬ?   (Khanty)
       father-1SG   how   you-DAT   say-PRS.3SG
       'What does my father tell you?'   (Paasonen 1901, OUDB 1315)

The grammaticalization of *úgy mond* 'so says' into the discourse particle *úgymond* 'so to speak' in Hungarian (Dömötör 2008) is also indicative of a former (marginally still existing) selectional relation between *mond* and *úgy*. As the Old Hungarian examples below indicate, *úgy* was selected not only by *mond* but by all kinds of verbs of communication. Notice that the personal pronouns of the reported propositions display no indexical shift, which is evidence of the independence of the reporting and reported sentences.

(15) a. istèn **ug mond-ot**   Tiʒtel-l-èd   te   at'-ad-at   &   te   ań-a-d-at
       god   so say.PST.INDEF.3SG   respect.IMP.2SG   you father-2SG-ACC   you mother-2SG-ACC
       'God **said so**: Respect your father and your mother!'   (Müncheni 1416: 21v)

    b. Es   te   **vgy felel-y** :   Adkoztatt-ak kewzybe melto   vagy   zamlal-tatt-n-od
       and you   so   answer-IMP.2SG cursed-PL   among   worthy   be.2SG count-PASS-INF-2SG
       'And **answer so**: You are worthy of being counted among the cursed.'

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[5] On propositional complements of verbs of communication introduced by *how* in English, with examples from French, Spanish, Greek, Hebrew, Mandarin Chinese, and Warlpiri, as well, see Legate (2010).

c. **vgy paranczolt** my-nekẅnk wr-vnk: Vetee-lek teghed   nepek-nek   vylagoss-a-ra
   so   ordered   we-DAT.1PL lord.1PL threw-1SG you.ACC peoples-DAT light-POSS-ALL
   'Our lord **ordered** us **so**: I have thrown you to the light of peoples.'

d. **ug scola-noc** wylag-noc   kezdet-u-i-tul   fugua roht-onc   ez   nem
   so spoke-3PL world-DAT   beginning-POSS-PL-ABL since upon-1PL this not
   lev-t   wal-a   hug scuz   lean fio-t   sciul-hes-s-en
   occur-PFV.3SG be-PST   that virgin girl   boy-ACC   bear-POSSIB-SUBJ-3SG
   'They **spoke so**: It has not occurred to us since the beginning of the world that a
   virgin girl can bear a son.'   (Königsberg Fragment middle of 14th c.)

e. A meǵ‗èmleitet ₚppheta **ig bèzellet** Istèn   haragos & gǫzǫdèlmès
   the mentioned   prophet so talked God   angry   & victorious
   'The mentioned prophet **talked so**: God is angry and victorious.'

In Hungarian, the emergence and spreading of finite complement clauses proceeded parallel with the restructuring of Hungarian grammar from head-final to head-initial (É. Kiss 2013; Bacskai-Atkari and Dékány 2014). Whether the emergence of finite subordination was a consequence of the VO order (as predicted e.g. by Hawkins (2014)), or it was a direct consequence of Indo-European influence, finite subordination was spreading continually throughout the Old Hungarian period – as is shown e.g. by the growing proportion of finite subordinate clauses in subsequent translations of the four Gospels (É. Kiss 2013; 2014: 30-31). When the pressure to integrate propositional complements as finite subordinate clauses reached communicative verbs, the only means that Hungarian had to link two finite clauses in a hypotactic structure was the correlative construction, with a relative pronoun introducing the complement clause. *Úgy*, the demonstrative proadverb accompanying quoting predicates, called forth the relative pronoun *hogy* 'how' as its correlative pair, as illustrated in (16):

(16)a. **vǵ** mond zenth Gergel doctor, **hoǵ** az ǫrdǫg ez   fǫld-et   kerengi
   so says Saint Gregory doctor   as   the devil this earth-ACC circles
   '**So** says doctor St Gregory **as**/**that** the devil is circling this earth.'

b. Ky-k-nek   en akkoron **vgy** feleleek, **hogy** nem sokasok   az *romayak-nak*

who-PL-DAT I then so answered as not habit-POSS the Romans-DAT

vala_meely ember-t halar-ra ad-ny.'
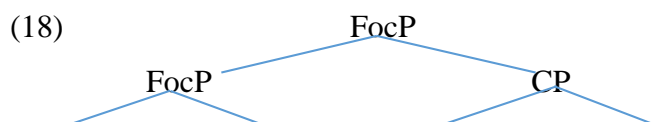
some man-ACC death-to give-INF
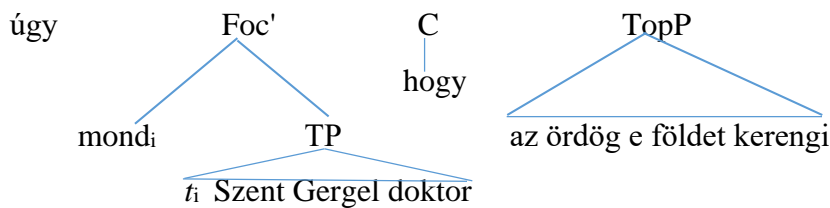
'Whom I **so** answered then **as/that** the Romans are not in the habit of handing people over to death.'   (Jordánszky C. 1516: 789)

   c. **így** szóllyatok nék-i: **hogy** az Úr kívánnya en-nek szolgálatt-y-át

      so call-IMP.2PL DAT-3SG as the Lord wishes this-DAT service-POSS-ACC

   'Appeal to him **so as/that** the Lord wishes its service.'   (Káldi 1626: 976)

The documents containing these sentences are from later times on an average than the sources of the paratactic constructions in (15). Nevertheless, it is important to emphasize that every stage in the process leading to the grammaticalization of *hogy* into a general complementizer already emerged in the Proto-Hungarian period; *hogy* as a general complementizer had been "ready" by the time of the first surviving Hungarian documents. The newly evolving stages in the grammaticalization path, however, did not overwrite the previous stages. Every stage has survived, with the constructions representing more recent stages spreading slowly, and those representing the earlier stages gradually losing ground.

The sentences in (16) are only formally correlative constructions. They are explicative structures in the sense that the subordinate clause explicates the adverb *úgy* 'so' of the main clause; it explicates what the agent of the main clause communicated; how the communication sounded. *Úgy* plays the same role in these constructions as the main clause demonstrative in constructions of the type *Mary knows that, that Peter is lying* in the Germanic languages, where the complement of weakly transitive communicative verbs is construed as an object. The pronoun *hogy* is not a wh manner phrase moved to Spec,CP; it is not an operator ginding a variable; it merely functions as a linking element, a subordinating head.. It adjoins the clause containing the reported proposition to the main clause, whereby it establishes the same structural relation between the two clauses that is attested in a correlative construction – see (18), the tree diagram of example (17a). Crucially, the matrix verb bears no object agreement morpheme, which indicates that embedding is shallow; the subordinate clause has not yet evolved into an object clause.

(18)

FocP

    FocP   CP

úgy   Foc'   C   TopP

                hogy

mond$_i$ TP   az ördög e földet kerengi

t_i Szent Gergel doktor

In these constructions *hogy* is not a relative pronoun moved to Spec,CP any more; it is already a complementizer base-generated in C. The grammaticalization from a phrase in Spec,CP to a head in C has been claimed to be a typical step in the evolution of complementizers cross-linguistically (van Gelderen 2011), and has also been pointed out in the case of other Hungarian complementizers (Bacskai-Atkari and Dékány 2014). The evolution of the German complementizer *dass* may also have followed a similar path; its position in C in Old and Middle High German explicative constructions is claimed to be the result of its grammaticalization from a relative wh-phrase with phi-features, landing in Spec,CP, to a head without phi-features base-generated in C (Axel-Tober 2017: e42).

  Úgy had a crucial role in evoking *hogy* as a clause linker, but once *hogy* started functioning as a complementizer in C, its presence in constructions of type (18) was not essential any more. (19a,b) are complex sentences containing an adjunct clause introduced by *hogy,* where the main clause contains no cataphoric *úgy*. In (19b) *hogy* introduces a wh-question, which is further evidence against its relative pronoun status and for its complementizer role. The wh-phrase occupies Spec,FocP, as is the rule in Hungarian sentence structure.

(19) a. my   vymadsag-on-bam ker-y-enk   my   vronk tol   íesus cristus-tol

      we   prayer-1SG-in   ask-SUBJ-1PL our   lord   from   Jesus Christus-from

      hogy meltol-y-on   nek-enk   mutatt-ny-a ... nek-y   kelew   ut-at

      that   condescend-SUBJ-3SG DAT-1PL   show-INF-3SG   DAT-3SG   needed   way-ACC

      'In my prayer, we shall ask our Lord Jesus Christ **that** he shall condescend to show us the way needed by him.'   (Jókai C. 1370: 6)

  b. az vt-ban   vetọkọd-t-ec   val-a **hog ki**   ọ   kọzọttọc nagob   vol-a

     the way-in   compete-PFV-3PL be-PST that who they among   greater   be-PST.3SG

     'They had competed on the way [**that**] **who** was greater among them.'

                                    (München C. 1416/1466: 45r)

3.2 From adjunct to argument clause

The emergence of agreement between verbs of communication and their complement clauses represents a further step in the evolution of finite subordination. Though the very first Hungarian document from 1192 already contains an embedded question eliciting object–verb agreement on the matrix verb (20), and there are sporadic examples from the 14th and 15th centuries, as well, agreement between verbs of communication and their propositional complements only became general in the 16th century (21a–c).

(20) Ge **mund-oa** nek-í [meret nū en-e-ẏc]
     but say-PST.OBJ.3SG DAT-3SG why not eat-COND-3SG
     'But he told him why he shall not eat.' (Funeral sermon 1192)

In complex sentences containing an object clause eliciting verbal agreement, the demonstrative *úgy* is mostly absent – as is the case in (21a–c).

(21) a. S ha **mond-ott-a** uol-na **hogy** meg haborol-tat-ot
       and if say-PFV-OBJ.3SG be-COND that PRT disturb-PASS-PST.3SG
       'And if he had said that he was disturbed' (Jókai C. 1370/1448: 15)

     b. **meg ielent-e** az ersek az baratok-nak **hog** az ierusalem bely
       PRT report-PST.OBJ.3SG the archbishop the friars-DAT that the Jerusalem from
       zerzetessek-nek vol-na zokas-ok ez keppen tyztel-ny ... zvz maria-t[6]
       monks-DAT be-COND.3SG habit-3PL this way honor-INF Virgin Mary-ACC
       'And the archbishop reported to the friars that the monks in Jerusalem were in the habit of honoring the Virgin Mary this way' (Horvát C. 1522: 119r)

     c. **Parantsoll-y-ad** **hoǵ** az én kẹt fiai-m ůll-ye-nec a te ország-od-bā
       command-IMP-OBJ.2SG that the I two sons-1SG sit-SUBJ-3PL the you country-2SG-in
   'Command that my two sons sit in your country' (Károli 1590: 20r)

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[6] In (21b), the final *-e* of the matrix verb, which can, in principle, stand for either the suffix *-e* or the suffix *-é*, can only represent *-é*, the agreement suffix cross-referencing both a 3rd person object and a 3SG subject because the particle *meg* obligatorily transitivizes the verb *jelent*.

When *úgy* or its interrogative counterpart *miképpen* 'how' occurs alongside a verb of communication bearing an object agreement morpheme cross-referencing the complement clause, it functions as a manner adverb:

(22)a. Mert **vgy rendel-t-e** val-a, **hogy** ő fȯ̈ld-en oda akarna men-ni.
because so order-PFV-OBJ.3SG be-PST that he land-on there want-COND.3SG go-INF
'Because so did he order that he wanted to go there on land. ' (Heltai 1561: o1v)

b. **Miképpen mond-gyác** az irástudóc **hogy** a' Christus Dauid-nac fi-a?
how say-OBJ.3PL the scripturists that the Chirst David-DAT son-POSS
'How do the scripturists say that Christ is David's son?' (Heltai 1561: M6v)

Complement clauses eliciting object agreement on the matrix verb bind a trace in the matrix VP, as represented below in the tree diagram of example (22b):

(23)
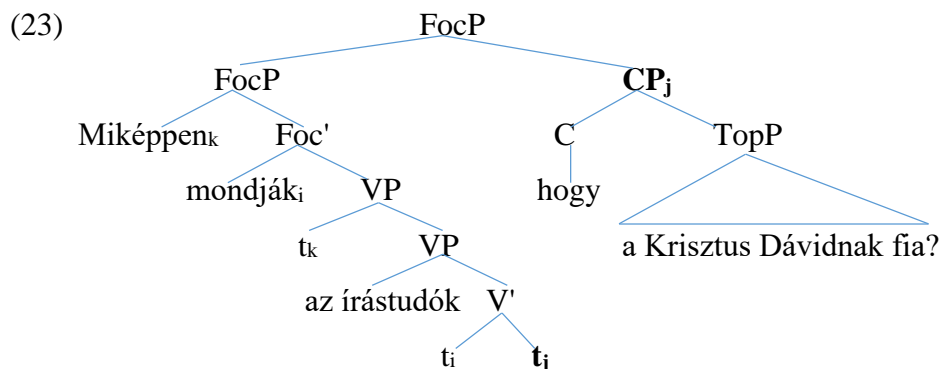
Whereas *mond* has become obligatorily transitive, some verbs, e.g. *telefonál* 'telephone', *ír* 'write', still can take their propositional complement either with agreement, as an object clause, or without agreement, as an adjunct clause. As expected, extraction (long focusing or wh-movement) is only allowed from object clauses eliciting agreement on the matrix verb – see (24b) and (25b).

(24)a. Ír-t /Ír-t-a János, hogy össze-vesz-ett a feleség-é-vel.
write-PST.3SG/write-PST-OBJ.3SG John that out-fell-PST.3SG the wife-3SG-with
'John wrote that he fell out with his wife.'

b. Ki-vel$_i$ *ír-t /ír-t-a János, hogy összevesz-ett t_i?

who-with write-PST.3SG/write-PST-OBJ.3SG John   that   fell_out-PST.3SG

'Who did John write that he fell out with?'

3.3 From argument clause to clausal associate of a demonstrative pronoun

The next step in the evolution of finite subordination is the emergence of a main clause demonstrative coindexed with the complement clause. Initially, both the proximal and the distal versions of the demonstrative occurred, but proximals later disappeared.

(25)a. **az-t**   mon-t-a   isten   [**hog** gÿarapoggÿatok es   sokassulÿatok]

     that-ACC say-PST-OBJ.2SG god   that increase.IMP.2PL and multiply.IMP.2PL

     'God said **that that** you shall increase and multiply.' (Sándor C. 1500-1525: 17r)

   b.   De akarom   hoǵ tugǵ-ā-tok   **ez-t**   [**hoǵ** minden firfiu-nak

     but want-OBJ.1SG that know-SUBJ-OBJ.2PL this-ACC   that every   man-DAT

     fei-e   az Chriſtus]

     head-POSS   the Christ

     'But I want that you should know **this that** every man's head is Christ.'

                                      (Sylvester 1541: II.33v)

In propositions integrated as object clauses eliciting verbal agreement, deictic elements always undergo indexical shift – as is illustrated by (26). Notice, however, that Hungarian has no "sequence of tenses"; the tense of the embedded proposition is not relativized to the matrix tense.

(26) Mert   az-t   **mond-ā**   hoǵ fi-a   ů̊ az iſten-nek.

     because that-ACC   say-PST.OBJ.3SG   that son-POSS he   the god-DAT

     'Because he said that he is God's son.'   (Sylvester 1541: I. 46r)

The emergence of pronominal copies of clausal complements must have been motivated by the fact that the complement clause often needed to be represented in the left-peripheral topic or focus position of the main clause – see (27). Whereas the topicalization of a complete clause is merely cumbersome, the focus slot is completely inaccessible to heavy constituents.

(27)   **ćzak** [FocP **AZ**ᵢ legÿen [VP *t*ᵢ vÿgasag-tok: [CP **hoǵh** az   tẃ   neu-etek ffel

     only   that be.IMP.3SG   joy-2PL   that   the   you   name-2PL up
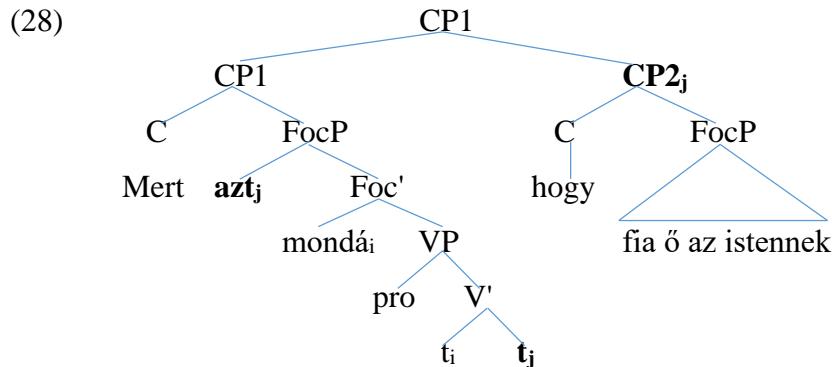
ÿrattat-ok   meń   orzag-ban]ᵢ

written-PL   heavenly   country-in

'Your joy be **only that: that** your names are inscribed in heaven.'

<div align="right">(Könyvecse 1521: 2r)</div>

The exact nature of the relation between the subordinate clause and the demonstrative coindexed with in examples like (26–27), represented in (28), is a debated issue.

(28)

A clue to the derivation of structure (28) is provided by the fact that the demonstrative turns the complement clause into an extraction island. Compare:

(29)a. (**Az-t**)   rég-óta   mond-ják, [**hogy** Mari férjhez megy János-hoz]

      that-ACC   long-since say-OBJ.3PL that   Mary married gets   John-to

      'It has been said for long that Mary would get married to John.'

   b. ***Az-t**   **ki-hez**ᵢ mond-ják,   [**hogy** Mari   férjhez megy *t*ᵢ]?

      that-ACC   who-to   say- OBJ.3PL   that   Mary married gets

   Intended: 'Who is Mary said to get married to?'

cf. c. **Kihez**ᵢ mondják, [**hogy** Mari férjhez megy *t*ᵢ]?

      'Who is Mary said to get married to?'

The ungrammaticality of (29b) follows whether the embedded clause is the extraposed complement of the pronoun, or an adjunct coindexed with it. In the former case, the ungrammaticality of (29b) follows from the Complex NP; in the latter case, it follows from the adjunct island constraint (more precisely, the Condition on Extraction Domain).

If *úgy* accompanying an object clause triggering verbal agreement is a mere discourse particle that does not affect the argument status of the embedded clause, then it is not expected to block wh- or focus extraction. In fact, it does (30a) – but only because *úgy* itself needs to be focused whereby it occupies the potential landing site of the extracted element. If the long movement targets the focus slot of a higher clause, *úgy* does not prevent it (30b).

(30)a. (*Úgy) János-hoz$_i$ hallották   (*úgy), hogy Mari férjhez megy t_i.
       (so)   John-to   hear.PST.OBJ.3PL (so)   that Mary married gets
       'It is to John that they heard that Mary would get married.'

   b. **János-hoz$_i$** mond-ják, hogy   **úgy** hall-ott-ák,   **hogy** Mari férjhez megy t_i.
      John-to   say-OBJ.3PL that-ACC so   hear-PST-OBJ.3PL that Mary married gets
      'It is to John that they say that they heard that Mary would get married.'

4. The spreading of finite subordination with *hogy*

It has been argued above that *hogy* assumed the function of a general complementizer in the context of verbs of communications. Before Hungarian developed the grammatical means of finite subordination, these verbs took their propositional complements in paratactic constructions where the verb of communication was often accompanied by a cataphoric *úgy* 'so'. When the reported sentence came to be integrated into the reporting clause, *úgy* evoked its correlative pair, *hogy*, as a linking element. Actually verbs of propositional attitudes such as *tud* 'know', *hisz* 'believe', and verbs of sensation such as *lát* 'see' and *hall* 'hear' provided similar contexts. The reason why their contribution to the evolution of *hogy* may have been less significant is that they were used much less frequently than reporting verbs. For example, the number of the occurrences of the inflected forms of *mond* 'say' in the paleographically normalized part of the Old Hungarian Corpus is 767; this number is only 69 in the case of *tud* 'know', 85 in the case of *lát* 'see', and 12 in the case of *hall* 'hear'.

Whereas verbs of communication must have had a distinguished role in the evolution of *hogy*, once *hogy* was established as a complementizer its use spread quickly to other contexts, as well, among them the complements of attitude predicates (32a,b) and predicates of sensation (32):

(31)a. **Han-i-ad**   **ves-s-ed**   meg [**hog** mi   vagy]
       chew_on-IMP-OBJ.2SG consider-IMP-OBJ.2SG PRT that   what   be.2SG

'Contemplate [**that**] **what** you are!'   (Lobkovitz C. 1514: 118)

  b. Mester **tug-ǵuk**   [**hoǵ** igaz beszidǔ   uaǵ]
      master know-OBJ.1PL   that   true speaking be.2sg
      'Master, we **know that** you are true'   (Sylvester 1541: 69r)

(32) **lattuan** [**hogÿ** az baratok fekez-nek uala   az fewld-ewn]
       seeing   that   the friars   lay-3PL   be-PST   the ground-on
       '**seeing that** the friars are lying on the ground'   (Jókai 1370/1448: 86)

Hogy also appeared with active and passive verbs taking a propositional subject:

(33) a. mert   nem **illik**   [**hogy** te   süs-s-ed]
      because not is_appropriate that   you bake-SUBJ-OBJ.2SG
      'because it **is**n't **appropriate that** you shall bake it'   (Margit Legend 1510: 51)

  b. Forgas-s-á-toc   az Irásokat.   Mert   tǔ-nęk-tec   vgy **lát-tat-ic**,
      read-IMP-OBJ-2PL the Scriptures-ACC Because you-DAT-2PL so   see-PASS-PRS.3SG
      [**hogy** azok-an vagyō ǒrǒc   élet-etec]
       that   those-on is   eternal life-2PL
      'Read the Scriptures! Because so **is** it **seen** by you **that** your eternal life is in them.'
                                           (Heltai 1565: 2v)

   The emergence of a demonstrative coindexed with the subordinate clause also enabled *hogy* clauses to function as complements of verbs selecting arguments with a lexical case, and as complements of postpositions. In (34a,b), the demonstratives coindexed with the complement clauses serve as the lexical bases of the ablative and allative case suffixes selected by the matrix verbs:

(34)a. De   tartván   **attól**,   [**hogy** valaki   a' tiszta szín bǒtǔ´bǒ´l
      but being_afraid that-ABL   that   somebody the clear   letter-**ABL**
      az Ujítók   tanitás-á-t   meg-vet-het-i]
      the innovators teaching-POSS-ACC   PRT-despise-POSSIB-OBJ.3SG
      'But being afraid **of it that** somebody can despise the innovators' teaching'
                                           (Káldi 1526: 31)

b. tanič   meg mynket **ar-ra**   [**hoġ** mi   le-ġ-ọn   az tọkelletọs

teach.IMP.2SG PRT us   that-ALL   that what be-SUBJ-3SG the perfect

engedelmesseg]

obedience

'Instruct us **in** [**that**] what perfect obedience shall be.'   (Simor C. early 16th c.: 7)

In (35a,b), the demonstratives function as the PP-internal complements of postpositions. Postpositions are unable to combine with a CP directly; they subcategorize for a nominal projection – presumably because Hungarian PPs are partly grammaticalized possessive constructions. In Old Hungarian, their grammaticalization was less complete than it is today; the demonstrative in (35a,b) bears the dative case of possessors, and the possessum (the postposition) bears possessive agreement. (In Modern Hungarian, the dative-marking of the complement of P and possessor agreement on P only appears in the case of external possessors; in the default case, both are unmarked.) In (35a) the clausal associate of the demonstrative is adjoined to the topicalized PP. In (35b), where the PP is in the focus slot inaccessible to clausal constituents, the embedded clause is adjoined to the right edge of the matrix sentence.

(35)a.   [PP [PP **an-nak**ᵢ vtan-na] [**hog** meg   hol-th   wal-a]ᵢ] az holth   testet ...

              that-DAT after-3SG that PRT   die-PFV.3SG be-PST the dead   body-ACC

antyochya-ba ...   viuek]

antyochia-ILL   took-3PL

'**After that that** he had died the corpse was taken to Antyochya.'

                                              (Peer C. early 16th c.: 72)

b.   zerelmes hugom [FocP [FocP [PP **an-nak**ᵢ okaerth] mond-a-m   ezek-eth] [**hog** eez

beloved sister-1SG   that-DAT for-3SG say-PST-OBJ.1SG these-ACC that this

vylag-nak   semminemw zerelm-e ... cristus zerelm-e-twl   el   ne valazz-y-on]ᵢ]

world-DAT no-kind   love-POSS Chirst love-POSS-ABL PRT not part-SUBJ-3SG

'My dear sister, I say these **for that that** this world's love shall not part you from Christ's love.'   (Winkler C. 1506:361)

5. Summary

The Hungarian complementizer *hogy* is likely to have grammaticalized in the context of predicates of communication. The analysis of Old Hungarian data (from 1192 onwards),

supplemented by relevant data of the conservative sister languages of Hungarian, has revealed five stages in the evolution of *hogy*. Although manifestations of the first four stages have been present in the language from the first written documents up to now, the decreasing proportions of the earlier versions, and the documented late appearance of stage 5, as well as language-external parallels (such as the primacy of the correlative construction in the evolution of finite subordination in the Uralic languages, or cross-linguistically attested developments of phrases in Spec,CP into heads in C) support the following chronological order:

(36) Subsequent stages of the evolution of the Hungarian complementizer *hogy*

1 [$_{IP1}$ [$_{IP2}$ ... *hogy/mint* ...] [$_{IP1}$ ... *úgy* ...]] correlative clause with an indeterminate pronoun (5)

2 [$_{IP1}$ [$_{IP1}$ ... *úgy* ...] [$_{CP2}$ *hogy*$_i$ [$_{C'2}$ [$_{IP2}$ ...t_i...]]]] correlative clause with a relative pronoun (12)

3 [$_{IP1}$ [$_{IP1}$ ...(*úgy*)...] [$_{CP2}$ [$_{C'2}$ *hogy* [$_{IP2}$ ...]]]]   adjunct clause introduced by a C (17; 19)

4 [$_{IP1}$ [$_{IP1}$ ...t_i...] [$_{CP2}$ [$_{C'2}$ *hogy* [$_{IP2}$ ...]]]$_i$]   object clause, object–verb agreement (21)

5 [$_{IP1}$ [$_{IP1}$ ... *azt*$_i$ ...] [$_{CP2}$ [$_{C'2}$ *hogy* [$_{IP2}$ ...]]]$_i$]   object clause with a proleptic pronoun (26)

At stage 1 of the grammaticalization path, *hogy* is a phrasal expression in a paratactic clause, an existential operator ([+Op]) with lexical (manner) content. At stage 2, it also has a subordinator feature, i.e., it is a [+C, +Op] expression moved into Spec,CP, turning its sentence into a free relative, an adjunct clause in a correlative construction. At stage 3, it loses its lexical content and its phrasal category; it does not bind a variable anymore; it is simplified into [+C] head base-generated in C.

   The evolutionary path outlined in (36) is presumably not specific to Hungarian; at any rate, the starting point of the grammaticalization of the general complementizer has been claimed to be the same correlative construction in various Indo-European languages. The difference between the evolution of the Hungarian *hogy* and, for example, the Germanic *that*-type complementizers may stem from a minor difference in the selectional properties of Hungarian and Germanic verbs of saying: whereas in Hungarian they were intransitive, with an optional oblique complement, in the Germanic languages they were transitive. Consequently, if the evolution of the Germanic complementizer followed a path similar to that of *hogy*, it started out as the relative pronominal correlate of a demonstrative object, whereas *hogy* was originally the correlate of a demonstrative manner adverb. This difference disappeared when the relative pronoun/proadverb ceased to bind a variable with semantic features and came to be reanalyzed as a complementizer head base-generated in C. In Hungarian, complement clauses developed a pronominal associate so as to satisfy their need to be represented in the

focus or topic slot of the main clause, and to satisfy the morphological case requirement of the matrix predicate. In English, by contrast, the disappearance of morphological cases and the rigidity of word order led to the redundancy and the eventual disappearance of the pronominal associate.

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