The Syntax and Semantics of the Resumptive Dependency in Hungarian Focus-raising Constructions*

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Abstract

Previous work (Gervain, forthcoming) has established that focus-raising may be derived by two strategies in Hungarian. One of them is the traditional movement derivation, the other a resumptive dependency created between the focus constituent base-generated in its matrix focus position and a phonologically null resumptive pronoun in the corresponding argument position in the embedded clause. However, the previous account (Gervain, forthcoming) does not give a detailed description of the nature of this resumptive dependency. The present work aims to address this question. More specifically, by providing a series of empirical tests, it attempts to determine whether the dependency is purely syntactic in nature, i.e. obligatory variable binding, or whether a semantic option is also available, i.e. coreference between the focus constituent and the resumptive pronoun. Thus, it provides new insights into the ongoing debate about the nature of resumptive pronouns.

1 Introduction: Two Strategies for Focus-raising

Resumptive pronouns have received relatively little attention in the syntactic and semantic literature on Hungarian. The present work aims tot fill this gap by analysing focus-raising via resumption.

Theories of focus-raising have a long history (Zolnay 1926). Nevertheless, the particular variety investigated here, namely the one derived via resumption, has only been described recently (Gervain, forthcoming). There are, however, still a number of questions left open concerning some semantically related aspects of focus-raising via resumption and of resumptive pronouns in general. The main question that will be addressed in this paper concerns the referential and binding properties of resumptive pronouns in Hungarian.

In order to provide an answer, first, the syntactic properties of focus-raising will be summarized. Secondly, new data will be introduced to shed light on certain characteristics of the resumptive pronoun in focus-raising. Thirdly, a

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theoretical analysis will be offered, bearing on broader issues about resumption.

1.1 Defining Focus-raising: The Data

In focus-raising (FR), the focus constituent of an embedded clause surfaces in the matrix focus position (e.g. Kenesei 1994; É. Kiss 1987; Lipták 1998), as in (1).[1]

(1) a. Azt mondtad, (hogy) GÁBOR síel jól.
expl.acc say.pst.2s that Gábor ski.3s well
'You said that it was Gábor who skied well.'

b. (*Azt) GÁBORT mondtad, hogy e_i jól síel.
expl.acc Gábor.acc say.pst.2s that well ski.3s
'It is Gábor who you said skied well.'

Raising always takes place through bridge verbs, like *mond* 'say' and *akar* 'want'. The complementizer *hogy* 'that', which is optional in non-raising sentences like (1a), need to be present in the raising counterparts like (1b). The expletive is grammatical with the non-raising sentence, but not with the raising one. These well-known generalizations (Horvath 1995, 1998; É. Kiss 1987; Kenesei 1994; Lipták 1998 Marácz 1987) hold across all syntactic varieties of Hungarian, whereas two further properties of FR are subject to considerable, but systematic, speaker variation. The first of these properties is the case of the raised focussed DP. While É. Kiss (1987) describes it as optional between nominative and accusative, Lipták (1998) claims that it is obligatorily accusative. Furthermore, for certain speakers, when the DP is quantified or preceded by a numeral, number agreement on the embedded verb is optionally singular or plural. This is surprising because in Hungarian, nouns preceded by quantifiers or numerals are morphologically singular, and agree in the singular with their verbs, as shown in (2).

(2) a. Két fiú jön.
two boy.sg.nom come.3s
'Two boys are coming.'

b. *Két fiú**k** jön**nek**.
*two boy.**pl**.nom come.3**pl***

Gervain (forthcoming) conducted an experimental survey to explore the two properties that exhibit variation and their potential interdependence. The results show that out of the four logically possible patterns, only two are attested; thus the two properties, i.e. the case of the raised DP and the

[1] Small capitals in the examples indicate the focus constituent, bearing focal stress.

agreement on the embedded verb, are indeed interdependent. The following two patterns were obtained:[2]

(3) a.???AZÖSSZES LÁNY mondtad, hogy jön.
the all girl.sg.nom say.pst.2s that come.3s
'It is all of the girls who you said were coming.'

b. *AZ ÖSSZES LÁNY mondtad, hogy jönnek.
the all girl.sg.nom say.pst.2s that come.3p

c. ?AZ ÖSSZES LÁNYT mondtad, hogy jön.
the all girl.sg.acc say.pst.2s that come.3s

d. AZ ÖSSZES LÁNYT mondtad, hogy jönnek.
the all girl.sg.acc say.pst.2s that come.3p

(4) a. ?Az ÖSSZES LÁNY mondtad, hogy jön.
the all girl.sg.nom say.pst.2s that come.3s

b.???Az összes lány mondtad, hogy jönnek.
the all girl.sg.nom say.pst.2s that come.3p

c. ?AZ ÖSSZES LÁNYT mondtad, hogy jön.
the all girl.sg.acc say.pst.2s that come.3s

d.???Azösszes lányt mondtad, hogy jönnek.
the all girl.sg.acc say.pst.2s that come.3p

In (3), plural agreement is accepted, but nominative case is not, whereas in (4), both nominative and accusative are judged grammatical, but plural agreement is not tolerated.

1.2 The Two Strategies of FR

Previous accounts (e.g. Kenesei 1994; É. Kiss 1987; Lipták 1998) all interpret FR as some kind of movement. This derivation readily explains the pattern shown in (4), in which no plural agreement is allowed. However, as Gervain (forthcoming) argues, the other pattern, i.e. the plural agreement on the embedded verb (3b, d), cannot be accounted for, since as (2) suggests, if the DP starts out as the embedded subject, it inevitably agrees in the singular with its verb. Therefore, a different explanation is required.

Gervain (forthcoming) argues that the pattern in (3) is obtained via a resumptive dependency. The DP is base-generated in the position occupied by the expletive in non-raising structures like (1a). As for the embedded subject position, it is filled by a resumptive pronoun, which is coindexed with the focussed DP as its antecedent. Through this dependency, the resumptive

[2] Grammaticality values are given on a five-graded scale: OK, ?, ??, ??? and * (see also section 3 and Gervain 2003).

pronoun may inherit either singular (from the morphologically singular DP) or plural (the plurality of the Numeral/Quantifier) features and trigger singular or plural agreement on the verb accordingly. In this scenario, the thematic role of the main verb is assigned to the embedded clause, just as in any other analysis (e.g. Kenesei 1992, 1994), while its accusative case is picked up by the focussed DP. Nevertheless, the DP is not left without a thematic role; it receives whatever theta role is assigned to the resumptive pronoun. The resumptive chain has two cases, but this is not unusual, since double case and case conflict are not uncommon in resumptive dependencies (Español-Ecchevarría and Ralli 2000).

Thus, the variation across speakers is explained by the fact that there are two possible strategies to derive FR constructions in Hungarian.[3] These strategies are indistinguishable in most cases — in fact, always, except when the focus constituent is the embedded subject DP containing a quantifier or a numeral.

1.3 Some Open Questions

The above account of FR via resumption allows for two ways of deriving the dependency between the antecedent and the resumptive pronoun. One option is that the resumptive is linked up with the antecedent, i.e. they are coindexed, and the number feature of the resumptive will depend on which DP layer it is actually coindexed with.[4] If the target is the whole DP, instantiated by the singular N head, the pronoun will inherit singular, whereas if the other overt constituent, the inner NumP, is targeted, the pronoun receives a plural feature. This option of deriving the dependency is exemplified in (5).

(5) a. $[_{CP}\,[_{FP}\,[_{DP}[_{NumP}$ KÉT$[_{NP}$ FIÚT$_j$]]]]$_i$ $[_{AgrOP}$ t_i $[_{VP}$ mondtál $[_{DP}\,t_i$]]]],
two *boy.sg.acc* *say.pst.2s*
$[_{CP}$ hogy $[_{AgrSP}$ pro$^{sg}{}_j$ $[_{VP}$ jön.]]]]
that *come.3s*
'You said that it was two boys that were coming.'

a′. $[_{Num/QuantP}$ KÉT $^{\mathbf{pl}}$ $[_{NP}$ FIÚ$_i$ $^{\mathbf{sg}}$]] … pro$_i^{\mathbf{sg}}$

[3] A closer examination of the judgments given by the individual informants in the survey suggests that the distinction between the two patterns is categorical, i.e. every individual speaker uses only one of the two strategies. In other words, there is no informant who freely switches between the two, and accepts three (i.e. Nom+sg, Acc+sg, Acc+pl) out of the four possible combinations.

[4] There is some evidence to suggest that, in line with Longobardi 2001, the DP may be transparent with respect to coindexation in Hungarian (see Gervain 2002).

b. $[_{CP}\,[_{FP}\,[_{DP}[_{NumP}$ KÉT$_j$ $[_{NP}$ FIÚT$]]]_i[_{AgrOP}$ t$_i$ $[_{VP}$ mondtál $[_{DP}$ t$_i$ $]]]]$,
two *boy.sg.acc* *say.pst.2s*
$[_{CP}$ hogy $[_{AgrSP}$ pro$^{pl}{}_j$ $[_{VP}$ jönnek.$]]]]$
that *come.3p*

b′. $[_{Num/QuantP}$ KÉT$_i$ $^{\mathbf{pl}}$ $[_{NP}$ FIÚ $^{\mathbf{sg}}]]$ … pro$_i{}^{\mathbf{pl}}$

The second option is for the resumptive pronoun to establish a two-faceted dependency with its antecedent, as shown in (6a,b). It may either be bound by it or corefer with it. In the first case, it inherits the formal singular feature of the DP through a syntactic dependency; in the second, it is plural, as overt cross-sentential coreference in (6c) suggests.

(6) a. $[_{DP}$ $[_{Num/QuantP}$ KÉT $^{\mathbf{pl}}$ $[_{NP}$ FIÚ $^{\mathbf{sg}}]]]_j{}^{\mathbf{sg}}$ … pro$_j{}^{\mathbf{sg}}$

b. $[_{DP}$ KÉT FIÚ$]_a$ … pro$_a$
where a: discourse referent ‘two boys’, b$_1$ & b$_2$

c. Két fiú bejött a szobába.
two *boy.sg* *enter.pst.3s* *the* *room.into*
‘Two boys entered the room.
Leültettem *őt/ őket.
sit.caus.past.1s *he.acc* *they.acc*
‘I offered them a seat (lit. I made them sit down).’

Ultimately, the choice between the two options hinges on whether the resumptive pronoun is a gap/trace-like or a pronoun-like entity. If it resembles gaps/traces, it always has to be bound by and coindexed with its antecedent, whereas if it is pronoun-like, it can be bound or free (and coreferential with the antecedent DP). This question has long been debated in the literature of resumption (e.g. Demirdache 1991; Engdahl 1985; Falk 2002; Sharvit 1999). Gervain (forthcoming) remains agnostic about the issue given the lack of decisive empirical evidence. More data are needed to distinguish between the gap and pronoun hypotheses. However, before introducing some new empirical evidence, it is useful to briefly recall the theoretical issues at stake.

2 The Nature of Resumptives: Theoretical Considerations

One of the first detailed theoretical treatments of resumptive pronouns was given by Chomsky (1981, 1982). The main assumption, based mostly on English data, was that resumptives appear in positions where gaps/traces would be ruled out because of constraints on movement (e.g. in island contexts). The resumptive pronoun is base-generated in its surface position and is A′-bound at LF by its antecedent, with which it is coindexed. Thus, no movement is involved.

(7) a. I wonder who$_i$ Mary marries (*him$_i$).

b. I wonder [who$_i$ they think [that [if Mary marries *(him$_i$)] then everybody will be happy]].

Under this view, resumptive pronouns are expected to be in complementary distribution with traces, and they come as a kind of last resort device to save otherwise disallowed movement configurations. Consequently, they are thought of as a rare and marked strategy, with no specific UG constraints required to account for them. Rather, their distribution is believed to fall out from independent UG principles.

This approach was later challenged on several grounds. Resumptive strategies turned out to be subject to considerable cross-linguistic variation, which led to the introduction of different typologies (Aoun et al. 2001; Demirdache 1991; Engdahl 1985; Suñer 1998). The last resort nature of resumption has also been questioned (see e.g. Shlonsky 1992 and Aoun et al. 2001 for strong last resort views; but Suñer 1998 and Willis 2000 for challenges). Some of these issues are briefly summarized below.

2.1 Cross-linguistic Typologies of Resumptive Pronouns

Resumption is not a uniform strategy cross-linguistically. Several typologies have been proposed (Aoun et al. 2001; Demirdache 1991; Engdahl 1985; Suñer 1998).

Engdahl (1985) argues that if resumptive pronouns are pronominal in nature at S-structure, as Chomsky (1981, 1982) posits, they should not license parasitic gaps. Even though this prediction holds for English, it is not borne out in Swedish. Therefore, Engdahl supposes that in Scandinavian languages, at least some resumptive pronouns are variables at S-structure. She actually claims that Swedish has both English-type resumptives — which are pronouns at S-structure (and thus cannot license parasitic gaps), but A′-bound variables at LF — and resumptives which are phonetic realizations of *wh*-traces, and thus variables both at S-structure and LF (and consequently able to license parasitic gaps). Thus phonetic realization, as a factor, cross-cuts the traditional trace/resumptive pronoun distinction. Both may be overt or covert, the relevant distinctive property being operator-boundedness. Languages that allow phonetically null pronouns in general, i.e. *pro*-drop languages, are expected to have phonetically null resumptive pronouns as well. Thus, the following typology obtains: (i) resumptive pronouns may be phonologically null and pronoun-like, that is A′-unbound (at S-structure), as in Italian; (ii) they may be phonologically full and pronoun-like, as in English and in some Swedish constructions; and (iii) they may be phonologically full and variable-

like (at S-structure), as in Swedish parasitic-gap constructions.[5] This last type is actually the spell-out of a *wh*-trace. This assumption is also made in Koopman and Sportiche 1986 for Vata, and McDaniel and Cowart 1999 for English.[6]

Demirdache (1991) also takes A′-boundedness to be the distinctive criterion for distinguishing between English-type resumptives, or 'intrusives', which cannot be operator-bound, and Hebrew-type true resumptives, which can. Furthermore, this second type of resumptive pronoun can have a [+wh] or [–wh] feature. If they are [–wh], they can be overt or null. Moreover, they can have a quantificational function, receiving a bound variable interpretation; or they can have a resumptive function, having a referential interpretation. The former function is found in restrictive relative clauses, which semantically act as open propositions assigning a range to the otherwise non-referring head noun. This is achieved by the LF movement of the resumptive pronoun from its (base-generated) surface position to the C head of the relative clause in order to bind its trace. Thus at LF, these resumptives are operator-variable chains. The resumptive function is attested in appositive relatives, where the head noun independently refers, the resumptive pronoun receives a referential interpretation and no LF movement is involved. Cross-linguistically, the difference between languages is whether they have relativization involving movement (e.g. English) or *in situ* relativization making use of the resumptive strategy (e.g. Hebrew, Irish etc.), just as they differ with respect to question formation with *wh*-movement or *wh*-in-situ.

Suñer (1998) offers a typology somewhat similar to that of Demirdache (1991). She distinguishes between two resumptive strategies: a syntactic and a phonological one. In the first case, resumptive pronouns serve to overcome violations of movement constraints and are subject to last resort considerations. In the second, they do not appear in island contexts and are not subject to last resort. Rather, they are inserted at PF as the realization of the φ-features of the *in-situ* relative pronoun. In restrictive relative clauses introduced by a general, [–pronominal] complementizer, the relative pronoun is not attracted by this latter and thus stays *in situ*, but because of its [wh] feature, it cannot be interpreted as a bound variable; therefore this feature gets stripped off and the closest pronominal counterpart is spelt out. When the C head is [+pronominal], it attracts the relative pronoun, which thus moves to [Spec CP], leaving a trace behind. The choice between the two strategies does

[5] No instance of the fourth logical possibility, a phonologically null, variable-like resumptive pronoun, is reported in Engdahl 1985.

[6] The claim made by these authors is in fact subtler. On the basis of quantitative (ratio scale) native speaker judgments elicited in an experiment, they show that resumptive pronouns in English are spell-outs of *wh*-traces realized in order to amend violations of constraints on representation (i.e. ECP), but not on movement *per se* (i.e. subjacency).

not fall under last resort considerations, but depends on the feature composition of the complementizer instead. On this view, the phonological resumptive strategy can be observed in English,[7] Yiddish, Hebrew, Spanish, Welsh and Irish, for instance.

Aoun et al. (2001) offer yet another typology of resumptive strategies. In Lebanese Arabic, strong pronouns (and epithet phrases) can resume quantificational phrases only in the context of islands; in the absence of an island, the result is ungrammatical. When the antecedent is not quantificational, resumption is possible both in the presence and in the absence of island contexts. To account for these facts, the authors distinguish between apparent and true resumption, as in (8). The former involves the movement of the antecedent to an A′-position, leaving behind the resumptive element, which is associated to it as an appositive modifier.

(8) from Aoun et al. (2001: 3-4, simplified)

a. true resumption
QP_i … $[_{island}$ $[_{DP}$ resumptive element$]_i$]

b. apparent resumption
DP_i/QP_i … $[_{DP}$ t_i $[_{DP}$ resumptive element]]

Since the authors take appositive modifiers to be independent clauses, the impossibility of quantificational antecedents follows directly, given the fact that quantifiers cannot bind pronouns across sentence boundaries. However, if there is an island, apparent resumption is bound to fail, and true resumption takes over as a last resort. Not involving movement, this strategy links the antecedent to the pronoun by (a mechanism similar to) binding. This is possible both for quantificational and non-quantificational elements, since no sentence boundary intervenes.

It appears from the above discussion that cross-linguistic variation is considerable; nevertheless some common factors seem to underlie most of the typologies. First, most typologies make a distinction between languages that make regular use of resumptive pronouns, like Hebrew, and other languages, such as English, where resumptives are rare and their main function is to circumvent constraints on movement. Hungarian belongs to the latter category. A second issue concerns the phonological realization of resumptives. In addition to overt resumptives, some languages appear to have phonologically null ones. It has been proposed that this option largely correlates with the *pro*-drop or Avoid Pronoun property of the language. A third question, partly related to the previous ones, centers on the distinctive features of resumptives as opposed to traces, on the one hand, and ordinary

[7] Note that the English data Suñer relies on are much more varied and ample than what is usually assumed about resumption in English.

pronouns, on the other. When overt, resumptives phonologically coincide with pronouns; when null, they are indistinguishable from traces. However, there are considerable overlaps in the distributions of the three categories, especially those of gaps and resumptives. The behavior of resumptives with respect to binding is no more revealing. A′-boundedness has been proposed as a key feature, but even that does not do the job. The next section will therefore be devoted to a more detailed review of previous proposals about this issue.

2.2 Resumptives: Pronouns or Variables?

Discussing relative clauses in Hebrew, Sharvit points out that some of the syntactically free and optional alternations between traces and resumptives actually produce interpretative differences. Pair-list/multiple individual readings are not available for resumptives, while they are possible with traces in non-equative relative clauses; but this asymmetry disappears in equative clauses. On her account, resumptives are licensed under two conditions: (i) they need a contextually salient (e.g. D-linked) antecedent, and (ii) they can only be assigned values that the given pronoun can take when it is A/A′-free. Pair-list readings generally violate the first condition, but this impairment is amended in equative clauses, where a highly salient antecedent is available.

(9) from Sharvit (1999: 3)

ha-iSa Se kol gever hizmin t/ota hayta iSt-o
the-woman that every man invite.past.3s pro.3s.f was wife-poss.3s

a. ‘The woman every man invited was his (he = y) wife.’
b. ‘For every man x, the woman x invited was x’s wife.’

Sharvit further claims that resumptives have a dual nature. Like traces, they are A′-bound and are interpreted as bound variables, while their distribution (e.g. within islands) resembles that of ordinary pronouns.

Falk (2002) offers an LFG account of resumptives. He starts out by introducing the pronoun versus variable debate, and summarizes some of the empirical evidence that has been put forth in favor of one position or the other. As arguments for the trace hypothesis, he enumerates the following observations: (i) resumptives, just like gaps, are linked to some discourse function or operator (Erteschik-Shir 1992; Sharvit 1999); (ii) anaphora between a possessive reflexive in a fronted whP and its antecedent DP in an embedded subject position is allowed when the extraction site of the whP contains a trace or a resumptive (Zaenen et al. 1981); (iii) like traces, resumptives are able to license parasitic gaps (Engdahl 1985; Shlonsky 1992); (iv) both traces and resumptives show crossover effects (Shlonsky 1992); and (v) resumptives can be coordinated with gaps/traces. On the other hand, as Falk argues, resumptives are exempt in most (but not all) languages from the island constraints traces/movement obey (Chomsky 1981, 1982). Also,

resumptives are associated with special morphology on the verb or the complementizer in some languages (McCloskey 2001; Vailette 2002). In Falk's own analysis, resumptives receive the same treatment as gaps, except that they are licensed differently from gaps. Interestingly, on the basis of the same empirical evidence as Sharvit, Falk makes the additional claim that resumptives are referential and *cannot* be bound variables. Rather, they are D-linked; and in addition to syntactic constraints, they also respect the principle of Sufficiency of Expression, which says that syntactic elements providing cues for parsing are exceptions to (syntactic) considerations of economy.

The debate between the pronoun and the trace hypotheses is far from being resolved. In the following, I will examine resumptives in Hungarian FR, by applying some of the empirical tests mentioned above in order to gain more insight into the nature of resumptives.

3 New Empirical Findings

Focus-raising in itself, as shown in section 1.3, is not a good testing ground to distinguish between the trace and pronoun hypotheses. Therefore, some of the diagnostics mentioned above had to be applied to allow a better comparison between the predictions of the two approaches.

If resumptives behave like traces, i.e. bound variables, they are expected not to be able to corefer. They are supposed to license parasitic gaps and show crossover effects. Moreover, their coordination with another trace should be grammatical. If, on the other hand, they resemble ordinary pronouns, they can corefer, they don't license parasitic gaps or show crossover effects and it is impossible to coordinate them with traces.

To test these predictions, a small paper-and-pencil survey was carried out, comprising the following diagnostics: (i) parasitic gap licensing; (ii) coordination with traces/pronouns; and (iii) crossover effects. Test sentences were constructed in such a way that FR or *wh*-raising[8] was combined with these diagnostics.

[8] As pointed out before, the only visible empirical difference between the movement and the resumptive strategies of FR is attested when the focus constituent is the embedded subject, which, in addition, has to be a *két fiú* type DP. Ideally, therefore, *subject* FR should have been combined with the diagnostic constructions. However, in most cases, this was impossible, and object FR or wh-raising (whR) was used instead.

In order to avoid any bias introduced by this change, it had to be established that object FR and whR are derived in the same way as subject FR, i.e. via resumption. As for whR, it is well known (Bródy 1995) that this involves essentially the same mechanism as FR. Moreover, section 3.3 of the present paper will offer further empirical confirmation of this assumption. As far as object FR is concerned, it was compared to subject FR in the survey as a baseline condition. No statistically significant difference between the two constructions was found. Moreover, they share some additional properties as well, e.g. neither of them

Eighteen native Hungarian informants participated in the survey. It was made sure that all of them derive FR via resumption. Subjects were asked to judge the grammaticality of 63 test and control sentences on a 5-grade scale ranging from -2 to +2. The experimental procedure and the principles guiding the generation of the sample sentences were identical to those of Gervain 2003, to which the reader is referred for further details. Subjects' responses were given a statistical treatment. The grammaticality judgments reported below reflect statistical averages across speakers.

3.1 Parasitic Gap Constructions

Given the fact that gaps/traces can license parasitic gaps, but pronouns cannot (Engdahl 1985; Falk 2002), the behavior of resumptives may be revealing in this respect. Parasitic gaps were combined with object FR, as in (10).

(10) HÁROM GYEREKET$_i$ hallottam, hogy megvertek, pro$_i$
three child.sg.acc hear.past.2s that beat.past.3p
anélkül hogy ismertek volna e$_i$.
without that know.past.3p aux.cond
'I heard that it was three children that they had beaten without knowing.'

The average of the grammaticality judgments was .019. This was compared, in a *t*-test, to object FR, the average grammaticality of which was .815 (see n. 8), revealing a significant difference ($t(17)= -3.690$, $p<.05$). Nevertheless, note that the absolute grammaticality of parasitic gap + object FR sentences is still within the positive range of the –2 to +2 scale.

Parasitic gaps do worsen grammaticality, but do not induce radical violation. These results are not, therefore, decisive. Further evidence could be gained from a comparison with simple parasitic gap constructions, i.e. those not containing an additional resumptive dependency. If parasitic gaps are in themselves slightly impaired, the results obtained suggest that resumptives do license parasitic gaps, and the decrease in grammaticality values results from the general markedness of parasitic gaps, not from the failure of resumptives to license them. If, on the other hand, parasitic gaps are fully grammatical structures, the worsening of acceptability in the present study implies that resumptives are unable to license parasitic gaps.

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allows overt resumptive pronouns, and they both differ statistically from the control sentences in which the focussed argument in the main clause corefers with an independent ordinary pronoun in the embedded clause. Therefore, it can safely be concluded that object FR is also derived via resumption in the relevant syntactic 'dialect' or variant of Hungarian. Consequently, for the purposes of testing, they can be used interchangeably.

3.2 Coordination with Gaps

A convincing empirical argument for the gap-like nature of resumptives derives from the fact that they allow across-the-board extraction, i.e. they can be coordinated with gaps.

This, however, can only be tested empirically in languages where resumptives are overt. This turned out not be the case in Hungarian (see n. 8), since subjects rejected even the simple subject FR sentences when they contained an overt resumptive. Therefore, the test sentences that had been designed to measure resumptives' ability to coordinate with gaps are not analyzable, since their ungrammaticality results, at least partly, from the overtness of the pronoun, not from the impossibility of coordination.

3.3 Crossover Effects

The presence of crossover effects has also been invoked as evidence to show that resumptives behave like gaps (Engdahl 1985). In the present survey, both strong and weak crossover phenomena were tested.

Test sentences were construed with *wh*-raising instead of FR to match as closely as possible the general literature on crossover. As a consequence, object FR could no longer serve as the baseline for comparison. Several different constructions were used instead. They will be described as the analysis proceeds.

3.3.1 Strong Crossover

Strong crossover (SCO) effects, as illustrated in (11),[9] were tested with both singular and plural embedded verbs.

(11) *Hány embert$_i$ kérdeztél, hogy pro$_i$ ismer/ismernek t$_i$?
how-many people.acc ask.past.2s that know.3s/3p
'How many people did you ask know themselves?'

The average grammaticality of the singular sentences was –1.500, while that of the plural ones was –1.352. There was no significant difference between the grammaticality of the two types ($t(17)= –1.512$, ns.).

The absolute values are very low, implying that the sentences are quite marginal. However, it had to be shown that it was not the configuration alone that was ungrammatical. Therefore, anaphoric binding within FR, as in (12), and whR, as in (13), was used as the baseline for comparison, because these

[9] Whenever any indications of grammaticality are given for in-text sample sentences in this and the following section, they refer to 'common opinion' about the sentences in the literature, not to the actual grammaticality values found in the survey. However, in most of the cases, the two values coincide, of course.

constructions also contain a dependency between three elements in the relevant positions, but the nature of the items is different.

(12) KATIT$_i$ akarod, hogy pro$_i$ lássa magát$_i$.
Kati.acc want.2s that see.subj.3s herself.acc
'You want Kati to see herself.'

(13) Hány katonát$_i$ hiszel, hogy pro$_i$ megvédte magát$_i$?
how.many soldier.acc believe.2s that protect.past.3s himself.acc
'How many soldiers do you believe protected themselves?

The averages of the two constructions were .278 and .463, respectively. There was no significant difference between the two control conditions (t(17)= –.857, ns.). On the other hand, the difference in grammaticality between these controls and the SCO sentences (singular and plural collapsed) was very significant, both when the two controls were also collapsed (t(17)=4.498, p<.001) and when they were treated separately (t(17)= –3.665, p=.0019 for the FR control, t(17)= –5.318, p<.0001 for the whR control). In sum, then, the test sentences do show very pronounced SCO effects.

3.3.2 Weak Crossover

The presence of SCO is not so much of a surprise, given the cross-linguistically uniform and highly pronounced nature of the phenomenon. On the other hand, weak crossover (WCO) effects, as in (14), appear to be finer diagnostic tools (Bissell 1999; Ruys 2000). It is all the more interesting since, as Richards (1997) notes, Hungarian does not show WCO effects in simple, non-focus sentences, while, as É. Kiss (1994) points out, ones containing focus do.

Like SCO, these constructions were also lexicalized both with singular and plural morphology, but, of course, the relevant site of agreement is not the embedded verb, but the possessive suffix of the subject DP.

(14) ???Hány férfiti gondolsz, hogy a feleségei/ feleségüki
how-many man.acc think.2s that the wife.poss3g wife.poss3p
szeret ti ?
love.3s
'How many men do you think his/their wife loves?'

The averages were .296 and –.333, respectively, for the singular and the plural. Here, there is a slight but statistically significant difference between them (t(17)=2.507, p=.023). This, however, does not question the use of the resumptive strategy, because, if den Dikken's (1999) analysis of possessives in Hungarian is correct, then the singular/plural agreement on the DP is motivated at least partly independently of the number feature of the possessor DP. In fact, he assumes an optional resumptive mechanism within the DP that

explains why plural DPs render the sentences more marginal. In the plural constructions, the antecedent whP has to establish the dependency with the embedded object resumptive pronoun over one more coindexed element, the additional resumptive pronoun within the DP; thus it incurs one more WCO violation.

Controls for the WCO were also whR sentences, as in (15), but ones in which the *wh*-constituent was in the subject rather than object position of the embedded clause, hence no crossover could obtain. Both singular and plural realizations were tested.

(15) a. Hány igazgatót mondtál, hogy ugráltatja a
how-many director.sg.acc say.past.2s that order.3s the
beosztottait?
inferior.pl.poss3s.acc
'How many directors did you say order about his inferiors?'

b. Hány igazgatót mondtál, hogy ugráltatják a
how-many director.sg.acc say.past.2s that order.3p the
beosztottaikat?
inferior.pl.poss3p.acc
'How many directors did you say order about their inferiors?'

The averages were 1.315 and 1.185, respectively, for the singular and the plural. A *t*-test showed no difference between the two ($t(17)=1.236$, ns.). The high degree of absolute grammaticality and the absence of any statistical difference between singular and plural agreement further confirm previous empirical results (Gervain 2003, forthcoming) and the resumptive analysis thereof.

To compare WCO sentences to their controls, a repeated measures ANOVA was performed with factors Crossover (WCO vs. control) and Number (singular vs. plural). The factor Crossover had a highly significant main effect ($F(1,17)=47.361$, $p<.0001$), indicating that WCO sentences are less grammatical than controls. The main effect of Number was also significant ($F(1,17)=8.286$, $p<.05$). There was no two-way interaction between the factors ($F(1,17)=3.180$, ns.).

To summarize the findings, whR constructions exhibit WCO effects. These are slightly stronger when plural agreement is used, but this happens for reasons independent of the raising structure itself. Also, the absolute grammaticality values for WCO sentences are not very low, just on the verge of grammaticality, while SCO effects are marked. This is expected, since WCO violations are, by definition, milder than SCO effects (e.g. Ruys 2000).

3.4 General Discussion of the New Empirical Findings

Focus- (and *wh*-)raising constructions were tested with three diagnostics in order to decide whether the resumptive pronoun they contain is pronominal or variable-like.

Only two out of the three diagnostics yielded results. Coordination with traces could not be evaluated, because the first part of the survey revealed that resumptives cannot be spelt out in Hungarian. This observation is readily explicable by the Avoid Pronoun (Montalbetti 1984) principle.

Parasitic gaps, one of the two tests that could actually be carried out, gave mixed results. When combined with FR, parasitic gaps do decrease grammaticality significantly; however, the overall values are still within the grammatical range.

Findings are more straightforward for crossover effects. Both SCO and WCO phenomena had been found, and the degree of the violations corresponds to the judgments generally reported in the literature, i.e. SCO effects are very pronounced, while WCO induces less marked unacceptability.

Note that the absolute values for FR with parasitic gaps and whR with WCO effects are very close, both on the margin of grammaticality. It is important to point out, however, that these values are not directly comparable. WCO effects, by their very definition, are slight impairments in grammaticality. For these constructions, therefore, the current results correspond very closely to predictions. Parasitic gaps, on the other hand, come with no clear expectations as to their degree of grammaticality (cf. Postal 1998; but Levine 2001). Proposals, if any, have been made to the effect (e.g. Postal 1998 and references therein) that parasitic gap constructions are in fact rather grammatical (but again, see Levine 2001).

All in all, the presence of crossover effects shows a variable-like behavior, while the marginality of the parasitic gap test points in the other direction. The new results are not conclusive in themselves. We might gain more insight by combining them with previous empirical observations (Gervain, forthcoming) to draw a more complete picture of the syntactic behavior of resumptives in FR.

First, results show that the resumptive dependency is grammatical with a quantified antecedent, as in (16a), even through islands, as in (16b).

(16) a. AZ ÖSSZES LÁNYT mondtad, hogy jönnek.
the all girl.sg.acc say.past.2s that come.3p
'You said that it was all of the girls that were coming.'

b. AZ ÖSSZES VENDÉGET mondtad, hogy hallottad.
the all guest.sg.acc say.past.2s that hear.past.2s
a hírt, hogy megérkeztek.
the news that arrive.past.3p
'You said that you heard the news that it was all of the guests that had arrived.'

Absolute values are very high, and even though no statistical analysis was performed on these data in Gervain, forthcoming, the grammaticality of these constructions is comparable to that of FR with non-quantificational antecedents.

These findings show that the resumptive pronoun can be bound, confirming previous theories of the A′-boundedness of resumptives. Boundedness is thus a strong indication that resumptives behave like variables. Note, however, that on a syntactic level, both traces and pronouns can act as bound variables; therefore this test is not decisive. The discussion of FR with quantified DPs will be picked up again later.

Another observation made in Gervain, forthcoming is that reciprocals in the embedded clause improve or even force plural agreement.

(17) A két legjobb barátodat mondtad, hogy
the two best friend.poss2s.sg.acc say.past.2s that
még sosem ?látta/ átták egymást.
yet never see.past.3s/ see.past.3p each-other.acc
'You said that it was your two best friends that had never seen each other.'

Note that this is not the case in simple clauses.

(18) A két legjobb barátod látta/ ??látták
the two best friend.poss2s.sg.nom see.past.3s/ see.past.3p
egymást.
each- other.acc
'Your two best friends saw each other.'

Unlike the previous one, this property of FR goes very much in the direction of the pronoun hypothesis. An antecedent that is made contextually more salient is easier to establish coreference with. Importantly, contextual salience, already evoked in earlier discussions (e.g. Erteschik-Shir 1992; Falk 2002), is not a syntactic notion. We are thus facing a phenomenon here that highlights some of the pragmatic properties of resumptives.

The most general conclusion on the basis of these results is that resumptives have both trace-like properties, for instance crossover effects and (possibly) parasitic gap licensing, while they also exhibit traits characteristic of pronouns, e.g. they appear in islands and are sensitive to contextual

salience. Furthermore, some semantic and pragmatic aspects have also been evoked. Therefore, I conclude, in accordance with Sharvit (1999) and Falk (2002), that resumptives are inherently ambiguous between traces and pronouns.

4 A Syntactic Account of the Double Nature of Resumptives: Vehicle Change

The cross-linguistic theories of resumptives introduced earlier all assume some kind of ambiguity in the behavior of these elements. However, they also posit that resumptives with different properties constitute different subtypes — for example, Demirdache's (1991) introsives and resumptives, and Aoun et al.'s (2001) apparent and true resumptives.

The claim I am making here is stronger than this. Resumptives do not have subtypes of disparate natures, rather all resumptives are inherently ambiguous between traces (syntactic variables) and pronouns.

Sharvit (1999) and to some extent Falk (2002) make similar claims. In their systems, however, the ambiguity lies between syntactic constraints and some other level of description relevant in the behavior of resumptives. Sharvit (1999) formulates two conditions on the licensing of resumptives: the presence of a contextually salient antecedent and the typological match/identity between the entities refered to by the pronoun when it is used as a resumptive and when it is free (for details, see above). However, she offers no syntactic account of the ambiguity. The same is true of Falk (2002), who derives the syntactic resemblance between traces and resumptives in an LFG framework, then attributes the differences to parsing factors (Sufficiency of Expression principle).

Without denying the need for a complex, multilevel account, I argue that the ambiguity of resumptives has to be captured on a syntactic level as well. Such an analysis has not yet been proposed.

4.1 Resumptives as Instances of Vehicle Change

Vehicle change, as defined by Fiengo and May (1994) and Safir (1999), is a mechanism that allows copies/traces of names to be treated as pronouns by interpretive principles. It was originally proposed to explain the lack of Principle C effects in certain elliptic constructions, such as those in (19).

(19) a. ???Lara loves Sol_i and he_i thinks that Sally loves Sol_i too.

b. Lara loves Sol_i and he_i thinks that Sally does too.

Sentence (19a) violates Principle C on the reading that the indices define, because the second occurrence of *Sol* is not free. However, the same does not

hold true of the elliptical counterpart (19b). Fiengo and May (1994) argue that the first instance of *Sol* is not copied identically into its trace in the second VP. Rather, the trace changes into a pronominal element for purposes (and mechanisms) of interpretation, e.g. binding.

I claim that the same mechanism applies to FR in Hungarian. The resumptive pronoun behaves like a variable in many respects, e.g. crossover and parasitic gaps, but it can be treated as a pronoun for interpretive purposes, for instance when there is a contextually salient antecedent that facilitates coreference.

A clear objection that can be made at this point is that vehicle change was proposed for names, i.e. non-quantificational DPs, while Hungarian FR is grammatical with quantified DPs as antecedents. The reason for this, I believe, is that resumptives in FR are linked with quantified DPs that are *in focus*. Focus obviously comes with strong discursive/contextual relevance. Moreover, as É. Kiss (1998) argues, the function of Hungarian focus is exhaustive identification, or, as Kenesei (2003) puts it, 'exclusion by identification'; therefore it creates a set of possible interpretations among which the predicate holds for the one identified by the focus. Thus I claim that focussed quantifiers lose their real quantificational force, and behave like ordinary, non-quantified DPs. This is illustrated in (20).[10]

(20) a. *MINDEN LÁNY jött el.
every girl.sg.nom come.past.3s part
'It was every girl that came.'

b. SOK LÁNY jött el, (nem KEVÉS/ KEVÉSFIÚ)
many girl.sg.nom come.past.3s part not few/ few boy
'It was many girls that came (not a few/a few boys).'

As (20a) shows, when there is nothing to contrast with the focussed quantifier, the result is ungrammatical. As É. Kiss (1998) argues, universal quantification is incompatible with focus, because it performs identification *without* exclusion. On the other hand, when exclusion is possible, i.e. the complementary set is not empty, a sentence like (20b) is ruled in. Without a more elaborate theory of the semantics of focus, strong conclusions might appear far-fetched, but (20) suggests that when in focus, quantifiers suspend their usual function of quantifying over NPs and denote contrastable elements within a set, for instance many girls as opposed to a few girls, no girls or some boys (within the contextually relevant group of boys and girls). In this

[10] This might seen contradictory given the grammaticality of examples (3c, d), (4a, c), and (16). Note, however, that the seemingly universal quantifier in these sentences is not *minden* 'every', but *összes* 'all of', which is known to behave differently from real universal quantification for independent reasons.

situation, quantified DPs are not different from ordinary ones; thus vehicle change is allowed to apply.

Note how this approach parallels Sharvit's (1999) two constraints on resumptives, but offers a syntactic account at the same time. Focus provides a contextually salient antecedent, which can be further reinforced by other coreferent pronouns, e.g. a reciprocal. When in focus, quantified DPs act like ordinary ones, which makes them possible referents for the free counterpart of the pronoun; in other words, the difference between *két fiú* and *az összes fiú* is minimized.

Safir (1999) also raises the possibility that vehicle change is responsible for resumptives, and hypothesizes that restrictions on the type of the antecedent might be relaxed in resumptive contexts, as opposed to ellipsis and reconstructions. However, in the absence of empirical evidence, he elaborates the claim no further. I assume that the Hungarian data presented in this work offer exactly this evidence. Furthermore, restrictions do not need to be relaxed in an *ad hoc*, thus unattractive way. The interaction of quantifiers and focus takes care of this issue.

A prediction of my proposal is that resumptives should not be able to link to their antecedents when those are quantified but not in focus. This prediction seems to be borne out, for instance in Lebanese Arabic, where resumptives cannot be construed with QPs in certain contexts (see Aoun et al. 2001 for the data, although the account given there is different; see also Sharvit 1999 and Falk 2002 for some relevant Hebrew data).

In sum, it has been proposed that the syntactic duality of resumptives can be explained if we assume that they are subject to vehicle change. The otherwise variable-like resumptives are seen as pronouns by interpretive mechanisms.

To answer the original question left open in Gervain, forthcoming, the two options that were put forward to describe the resumptive dependency do not represent an either/or choice. Rather, interpretive mechanisms 'see' the mixed kind of chain (coindexation and coreference), while the 'coindexation only' chain appears in the rest of the syntax.

5 Conclusion

A proposal has been put forth claiming that the syntactic ambiguity of resumptives is best explained as a case of vehicle change. This account makes special reference to interpretive mechanisms. As mentioned earlier, this is not the only analysis of resumptives that links their syntactic properties to semantic (Sharvit 1999), pragmatic (Erteschik-Shir 1992) or even parsing (Falk 2002) considerations.

The questions that need to be addressed on these levels of description are somewhat similar to the one formulated in syntactic terms above. What is the semantic type of resumptives? Are they bound variables or rather pronouns that refer to individuals (e-type entities)? If resumptives play a role in parsing, as some experimental results suggest (Alexopoulou and Keller 2002), what is the interaction between their syntax, semantics and psychology? In more general terms, what level of language is responsible for resumptives: is it possible that they constitute an 'intrusion' into the autonomy of syntax?

References

Alexopoulou, Theodora and Frank Keller. 2002. Resumption and Locality. *Papers from the 38th Meeting of the Chicago Linguistic Society, Vol. 1: The Main Session*. Chicago.

Aoun, Joseph, Lina Chouieri and Norbert Hornstein. 2001. Resumption, Movement, and Derivational Economy. *Linguistic Inquiry* 32: 371-404.

Bissell, Teal. 1999. Further Evidence for Null Pronominal Variables. M.A. thesis, University of California at Santa Cruz. Downloadable at http://www.mit.edu/~bissell/NullPro.pdf

Bródy Mihály. 1995. Focus and Checking Theory. In István Kenesei, ed., *Levels and Structures* (*Approaches to Hungarian* 5), JATEPress, Szeged.

Chomsky, Noam. 1981. *Lectures on Government and Binding*. Foris, Dordrecht.

Chomsky, Noam. 1982. *Some Concepts and Consequences of the Theory of Government and Binding*. (*Linguistic Inquiry Monographs* 6). MIT Press, Cambridge, MA.

Demirdache, Hamida. 1991. *Resumptive Chains in Restrictive Relatives, Appositives and Dislocation Structures*. Ph.D. diss., MIT, Cambridge, MA.

den Dikken, Marcel. 1999. On the Structural Representation of Possession and Agreement. In István Kenesei, ed., *Crossing Boundaries: Advances in the Theory of Central and Eastern European Languages*. John Benjamins, Amsterdam.

É. Kiss Katalin. 1987. *Configurationality in Hungarian*. Akadémiai Kiadó, Budapest, pp. 121-171.

É. Kiss, Katalin. 1994. Sentence Structure and Word Order. In Ferenc Kiefer, Katalin É. Kiss, *The Syntactic Structure of Hungarian*. Academic Press, New York, pp. 1-90.

É. Kiss, Katalin. 1998. Identificational Focus versus Informational Focus. *Language* 74: 245-273.

Engdahl, Elisabet. 1985. Parasitic Gaps, Resumptive Pronouns, and Subject Extractions. *Linguistics* 23: 3-44.

Erteschik-Shir, Nomi. 1992. Resumptive Pronouns in Islands. In Helen Goodluck, Michael Rochemont, eds., *Island Constraints*. Kluwer, Dordrecht, pp. 89-108.

Español-Echevarría, Manuel and Angela Ralli. 2000. Case Mismatches in Greek: Evidence for the Autonomy of Morphology. *Acta Linguistica Hungarica* 47 (1-4): 179-203.

Falk, Yehuda. 2002. Resumptive Pronouns in LFG. In Miriam Butt, Tracy Holloway King, eds., *Proceedings of the LFG 02 Conference*, pp. 154-173. On-line publication at http://.cslipublications.standord.edu/LFG/7/lfg02.html

Fiengo, Robert and Robert May. 1994. *Indices and Identity*. MIT Press, Cambridge, MA.

Gervain, Judit. 2002. *Linguistic Methodology and Microvariation in Language: the Case of Operator-raising in Hungarian*. Unpublished MA Thesis. University of Szeged, Hungary.

Gervain, Judit. 2003. Syntactic Microvariation and Methodology: Problems and Perspectives. *Acta Linguistica Hungarica* 50 (3-4): 405-434.

Gervain, Judit. Forthcoming. Two Strategies of Focus-Raising: Movement and Resumption. In Chris Piñón et al., eds., *Approaches to Hungarian 9*, Akadémiai Kiadó, Budapest.

Horvath, Julia. 1995. Partial Wh-Movement and Wh 'Scope-Markers.' In István Kenesei, ed., *Levels and Structures (Approaches to Hungarian 5)*, JATEPress, Szeged, pp. 89-124.

Horvath, Julia. 1998. Multiple Wh-Phrases and the Wh-Scope-Marker Strategy in Hungarian Interrogatives. *Acta Linguistica Hungarica* 45 (1-2): 31-60.

Kenesei, István. 1992. Az alárendelt mondatok szerkezete [The Structure of Subordinate Clauses]. In Ferenc Kiefer, ed., *Strukturális magyar nyelvtan II. Mondattan*. Akadémiai Kiadó, Budapest, pp. 529-714.

Kenesei, István. 1994. Subordinate Clauses. In Ferenc Kiefer and Katalin É. Kiss, *The Syntactic Structure of Hungarian*. Academic Press, New York, pp. 275-354

Kenesei, István. 2003. On the Functions and Domains of Focussing. Ms., Institute of Linguistics, HAS.

Koopman, Hilda and Dominique Sportiche. 1986. A Note on Long Extraction in Vata and the ECP. *Natural Language and Linguistic Theory* 4: 357-374.

Levine, Robert. 2001. The Extraction Riddle: Just What Are We Missing? *Journal of Linguistics* 37: 145-174.

Lipták, Anikó. 1998. A magyar fókuszemelések egy minimalista elemzése. In László Büky, Márta Maleczki, eds., *Proceedings of "A mai magyar nyelv leírásának újabb módszerei III."* 23-24 April 1998, Szeged, pp. 93-115.

Longobardi, Giuseppe. 2001. NP Structure. In Chris Collins and Mark Baltin, eds., *The Handbook of Current Syntactic Theory*. MIT Press, Cambridge, MA.

Marácz, László. 1987. Wh-strategies in Hungarian: Data and Theory. In Imre Ruzsa and Anna Szabolcsi, eds., *Logic and Language*. ELTE, Budapest.

McCloskey, James. 2001. The Morphosyntax of Wh-extraction in Irish. *Journal of Linguistics* 37: 67-100.

McDaniel, Dana and Wayne Cowart. 1999. Experimental Evidence for a Minimalist Account of English Resumptive Pronouns. *Cognition* 70: B15-B24.

Montalbetti, Mario. 1984. *After Binding*. Ph.D. diss., MIT, Cambridge, MA.

Postal, Paul. 1998. *Three Investigations of Extraction*. MIT Press, Cambridge, MA.

Richards, Norvin. 1997. *What Moves Where When in Which Language?* Ph.D. diss., MIT, Cambridge, MA.

Ruys, E.G. 2000. Weak Crossover as a Scope Phenomenon. *Linguistic Inquiry* 31: 513-539.

Safir, Ken. 1999. Vehicle Change and Reconstruction in A′-Chains. *Linguistic Inquiry* 30: 587-620.

Sharvit, Yael. 1999. Resumptive Pronouns in Relative Clauses. *Natural Language and Linguistic Theory* 17: 587-612.

Shlonsky, Ur. 1992. Resumptive Pronouns as a Last Resort. *Linguistic Inquiry* 23: 443-468.

Suñer, Margarita. 1998. Resumptive Restrictive Relatives: A Cross-Linguistic Perspective. *Language* 74: 335-364.

Vailette, Nathan. 2002. Irish Gaps and Resumptive Pronouns in HPSG. In Frank van Eynde, et al., eds., *Proceedings of the 8th International HPSG Conference*, pp. 284-299. On-line publication: http://cslipublications.stanford.edu

Willis, David. 2000. On the Distribution of Resumptive Pronouns and *Wh*-traces in Welsh. *Journal of Linguistics* 36: 531-573.

Zaenen, Annie, Elisabet Engdahl and Joan Maling. 1981. Resumptive Pronouns Can Be Syntactically Bound. *Linguistic Inquiry* 12: 679-682.

Zolnay, Gyula. 1926. Mondatátszövődés. *Értekezések a Magyar Tudományos Akadémia Nyelv- és Széptudományi Osztálya Köréből*, 23.