CONTROL AND COMPLEX EVENT NOMINALS IN HUNGARIAN

Tibor Laczkó

Department of English Linguistics, Debrecen, Hungary

1. Introduction

In this paper I will offer a new LFG-account of control phenomena exemplified in (2b). Compare the sentences in (1) and (2).

(1)   a. A fiú újra elkezd-ett kiabál-ni.
            the boy.nom again start-PAST.3SG.INDEF shout-INF
            'The boy started to shout again.'

        b. A fiú újra elkezd-t-e a kiabál-ás-t.
            the boy again start-PAST-3SG.DEF the shout-DEV-acc
            'The boy started the shouting again.'

(2)   a. A fiú újra elkezd-t-e énekel-ni a dal-t.
            the boy.nom again start-PAST-3SG.DEF sing-INF the song-acc
            'The boy started to sing the song again.'

        b. A fiú újra elkezd-t-e a dal énekl-és-é-t.
            the boy.nom again start-PAST-3SG.DEF the song.nom sing-DEV-its-acc
            'The boy started the singing of the song again.'

(1a) and (2a) contain an infinitival complement of the matrix verb. In the spirit of Bresnan (1982) we can assume that it has the open (XCOMP) function and its unexpressed subject argument is functionally controlled by the subject of the matrix predicate. This control analysis can be naturally extended to (1b), which contains a complex event nominal derived from an intransitive verb. We can claim that the unexpressed POSS (or, depending on the details of our analysis, SUBJ) argument is controlled in the same way by the matrix predicate. The nature of the problem (2b) poses is as follows. Here the nominal has been derived from a transitive verb. The argument corresponding to the object of the input verb is mapped onto the POSS (or SUBJ) function and, thus, there is no obvious grammatical function onto which the agent argument which we would like to be realized by PRO could be mapped. So the parallel between (1a) and (2a) cannot be naturally maintained in the case of (1b) and (2b).

One easy way out would be to assume, following Grimshaw (1990), for instance, that at least in the transitive situation the agent argument is suppressed as a result of nominalization (cf. the standard analysis of passivization). However, Szabolcsi (1990) has proved that the unexpressed subject is not a suppressed argument, instead, it has all the major characteristics of a PRO argument (in a GB sense). For example, it can be controlled in the usual fashion, and when it is not controlled, its interpretation is "arbitrary" with the [+human] feature (as opposed to a suppressed argument, which has no such [+human] feature).

In the first part of the paper I will give a brief critical overview of the two salient strategies for addressing this problem that have been proposed so far. The first one is to extend the domain for the control of PRO to the argument structure of derived nominal predicates, cf. Szabolcsi (1990) in a GB framework and Laczkó (1995) in an LFG framework. The other strategy has been outlined by Komlósy (1998), also in an LFG-framework. His fundamental idea is that in the nominal domain, too, there are two distinct semantically unrestricted grammatical functions: POSS and SUBJ. The former is always realized by the possessor constituent and the latter is always unexpressed: it is realized by a PRO as a rule. In the paper I will argue for the first strategy but at the same time I will point out some major problems with the previous two analyses in this vein.

The most important aspects of my new account are as follows.
1) It leaves the standard LFG assumptions about argument structure, the system of grammatical functions available in the nominal domain, and LMT intact.
2) It holds that the unexpressed "subject" argument of a derived nominal argument can only be anaphorically controlled.

3) Just like my earlier account in Laczkó (1995), it postulates a POSS PRO argument for nominals derived from intransitive verbs.

4) In the case of nominals derived from transitive verbs, it assumes that the highest [–o] argument is associated with the zero GF symbol (∅). However, contrary to the general view, it claims that this symbol is ambiguous: in addition to triggering the existential interpretation of the (suppressed) argument it is associated with, it has another function. It can also invoke a "PRO-interpretation" of the argument in question.

2. Previous accounts

In section 2.1 I discuss two approaches similar in spirit. One of them has been proposed by Szabolcsi (1990) in a GB framework and the other by Laczkó (1995) in an LFG framework. Their common feature is that in the case of the type exemplified by (2b) they radically extend the domain for the control of PRO: they insert a PRO argument in the lexical form of the derived nominal.[1] In section 2.2 I summarize Komlósy's (1998) analysis. Its essence is that in the nominal domain, too, the SUBJ grammatical function is available in addition to POSS. However, only PRO arguments can be mapped onto SUBJ.

2.1. PRO in the lexical form of derived nominal predicates

Szabolcsi (1990) assumes a hierarchical lexical structure for derived nominals. This is fundamentally similar to an ordinary GB-style syntactic structure. She inserts the agent PRO argument in the subject position in this lexical structure and she further assumes that it cannot be projected into a syntactic position.[2]

In Laczkó (1995), I offer a rough LFG counterpart of this kind of analysis. In the intransitive case, there is an LFG-style PRO argument in the construction (present in the lexical form of the nominal and in f-structure) and it is mapped onto the POSS function. In the transitive case, I assume that PRO is inserted, without any grammatical function, in the argument structure of the complex event nominal derived from a transitive verb. The obligatory patient argument is mapped onto the POSS function. The PRO is controlled at the level argument structure. The reason for this locus of control is that this PRO has no grammatical function (by the help of which we could capture the control relation at the level of f-structure in the customary fashion).

Three general remarks are in order here.

1. As opposed to Szabolcsi (1990), I do not treat the intransitive and the transitive cases in a uniform manner.[3]

2. Both Szabolcsi's solution and mine handle control relations, at least in the problematic transitive case, in a rather marked fashion: the PRO argument to be controlled is not represented at the usual level: s-structure and f-structure, respectively. Instead, it is inserted into lexical structure and argument structure, respectively.

3. Szabolcsi's solution is a degree less marked than mine in the light of the standard principles of control, because it postulates that the PRO in lexical structure is in the subject position. By contrast, my PRO in the transitive case has no grammatical function at all.

2.2. PRO subject in the f-structure of the DP

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[1] The most fundamental aspect of this extension is that control here operates over lexical structure as opposed to syntactic structure.

[2] One of the main motivations for Szabolcsi to introduce the notion of PRO insertion in lexical structure is that at least in the transitive case (that is, in DPs containing a noun head derived from a transitive verb) there is no syntactic position available to PRO, given that the only likely position is always occupied by the possessor constituent. Although in the intransitive case this position would, in theory, be available, Szabolcsi opts for the same lexical PRO insertion device. For details and criticism, see Laczkó (1995).

[3] In the new solution to be proposed in section 3.3, I will maintain this split and I will discuss my motivation for it.

This strategy has been outlined by Komlósy (1998), also in an LFG-framework. His fundamental idea is to describe control phenomena with the well-known tools in an invariant manner. In order to achieve this, however, he has to modify, rather radically, the inventory of grammatical functions available to arguments of derived nominals. In particular, he claims that in the nominal domain, too, there are two distinct semantically unrestricted grammatical functions: POSS and SUBJ. The former is always realized by the possessor constituent and the latter is always unexpressed phonetically: it is realized by a PRO as a rule. Consider the following examples and the grammatical functions Komlósy assumes.[4]

(3)   a. a kiabál-ás
         the shout-DEV
         'the shouting'   (SUBJ PRO)

      b. a fiú kiabál-ás-a
         the boy.nom shout-DEV-his
         'the boy's shouting'   (the boy: POSS)

(4)   a. a dal énekl-és-e
         the song.nom sing-DEV-its
         'the singing of the song'   (SUBJ PRO, the song: POSS)

      b. a dal Edit által-i énekl-és-e
         the song.nom Edith by-AFF sing-DEV-its
         'the singing of the song by Edith'   (the song: POSS, by Edith: OBL)

I would like to make the following three remarks on this analysis.

1. It is an unquestionable advantage of this solution, as opposed to the previous two discussed in section 2.1, that it is compatible with the principles and rules of LFG-style control theory, because the PRO to be controlled is mapped onto the SUBJ function in both the transitive and the intransitive cases.

2. At the same time, I think it is a rather serious disadvantageous feature that, in order to respect control theory, it makes the array of grammatical functions available in the DP domain considerably more complex by introducing the lexically always unexpressible SUBJ function. This move, as far as I can tell, has no independent motivation. Furthermore, if we compare the intransitive cases in (3) with non-finite participial constructions in Hungarian, we can observe a surprising discrepancy. In addition to the PRO SUBJ possibility, some participles also admit the incorporated subject pronoun option, realized by inflectional elements, and they also allow their subject argument to be overtly expressed. Consider the following infinitival constructions.

(5)   a. Győz-ni kell.
         win-INF must
         'It is necessary to win.'

      b. Győz-ni-e kell.
         win-INF-3SG must
         'It is necessary for him to win.'

      c. János-nak/Neki győz-ni/győz-ni-e kell.
      John-dat/he.dat win-INF/win-INF-1PL must
      'It is necessary for John/him to win.'

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[4] Note that in his system there is no SUBJ Condition in the DP domain, cf. (3b) and (4b). This contrasts with my POSS Condition in Laczkó (1995).

In (5a) there is an uninflected infinitive with a PRO subject. (5b) contains an incorporated pronominal subject. As (5c) demonstrates, the subject of the infinitive can also be expressed by a DP in the dative case. On such occasions agreement marking on the infinitive is optional. What I intuitively find surprising in Komlósy's system is that when the agent argument of the nominal derived from an intransitive verb is expressed by an incorporated pronoun or by a lexical DP in the nominative (or dative), he assumes that this argument is mapped onto the POSS and not the SUBJ function. On the basis of the pattern exhibited by Hungarian infinitival constructions, I think either of the following two alternative solutions would be more in line with this pattern attested in another non-finite domain, and hence more appropriate. One could allow a PRO argument also to be mapped onto POSS, or they could allow the subject to be lexically realized under certain circumstances. In the former case, both in (3a) and in (3b) we would uniformly have the POSS function, while in the latter case we would uniformly have the SUBJ function. Thus, it is strange that Komlósy's account postulates a PRO SUBJ but when the nominal is inflected (the inflection either solely marking person and number agreement or expressing an incorporated pronoun) an entirely different function is assumed: POSS. My suspicion is that Komlósy has been forced to employ this counter-intuitive solution in order to be able to keep the control principles intact.

3. In Laczkó (2000) I postulate that the POSS function in the DP domain is the true counterpart of the SUBJ function in the verbal domain. On these grounds, the verbal domain LMT principles can be naturally adapted to the nominal domain. Only two straightforward assumptions have to be made. A) Because of the intransitive nature of nominals, [+o] functions are unavailable. B) Because there is only one [–r] function available, the POSS, the mapping principles follow the ergative strategy (just like certain Hungarian participles). Its essence is that the default rule maps the [–r] argument onto POSS (in the unaccusative and transitive cases) and there is an elsewhere condition which maps the highest [–o] argument onto POSS in the absence of [–r] in the argument structure (in the unergative case). Although Komlósy (1998) is not explicit on this point, it is obvious that in his system the mapping principles will have to be made rather stipulative and peculiar to the DP domain. In particular, the choice between the SUBJ and the POSS functions will be dependent on the inflected vs. uninflected nature of the noun head.

3. PRO at a different level of representation

The accounts briefly presented in sections 2.1 and 2.2 have one trait in common: in order to capture the control relations of nominals derived from transitive verbs, they introduce a marked feature in one of the components of grammar. The former (Szabolcsi (1990) and Laczkó (1995)) extend the use of PRO and the scope of control relations to the lexical structure (in LFG: the argument structure) of nominals derived from transitive verbs, while the latter (Komlósy (1998)) keeps the treatment of control relations intact, however, it introduces an otherwise unmotivated SUBJ grammatical function. It should be obvious from the foregoing discussion that, because of the nature of the relevant phenomena, it is inevitable for any approach to employ some marked device. Consequently, our fundamental choice between the two main alternatives has to be determined by our preference as to which component of grammar should be affected by the introduction of a special device. My choice both in Laczkó (1995) and here is leaving the well-attested system of grammatical functions in the DP domain untouched (and making the minimally required, intuitively plausible changes in applying the principles of LMT to this domain) and extending the treatment of control phenomena to other components of grammar. The basic motivation for this is that in my view the former area is definitely and entirely in the scope of syntax proper while the latter (the system of various coreference relationships) is not necessarily.

It is important to note that the accounts in both Szabolcsi (1990) and Laczkó (1995) (which extend capturing control phenomena to lexical or argument structure) are far from being fully developed. Moreover, the insertion of a PRO without a grammatical function in the argument structure in the transitive case raises a significant theory internal problem: it is not clear how the standard notion of the completeness constraint can be satisfied. For this reason in what follows I will outline a modified account which handles the "transitive PRO element" at a different level of representation and I will also sketch the way in which I propose control should work.

The essence of the new approach is as follows. Contrary to the standard LFG view, I postulate that the ∅ grammatical function symbol admits more than one interpretation of the argument it is associated with. I claim that in addition to the argument's being existentially bound, this symbol can also trigger a "PRO-like" interpretation of this argument under certain specifiable circumstances. As a consequence, control relations on this account are not treated at the level of f-structure but in semantic structure. The reason for this is that a "PRO-like" element such as this, without any grammatical function, cannot even appear in f-structure and, consequently, control theory as conceived of so far cannot target it. The actual format of semantic structure is not crucial for this proposal as long as it can capture certain basic relationships, for instance the existentially bound nature of an argument associated with the ∅ function symbol. For the sake of concreteness, I will make use of the relevant aspects of Halvorsen's (1983) classical semantic component.

3.1. Halvorsen's (1983) semantic structure

In his model, when linking is made between f-structure and semantic structure, the following operations take place. Base expressions are replaced by their semantic translations, quantifiers acquire their scope, variables are introduced for representing controlled expressions. In addition, embeddings in f-structure as well as purely formal syntactic elements irrelevant to semantics (e. g., marking for case, number and gender) are deleted.[5]

Consider the following pair of examples from Halvorsen (1983).[6]

(6) a. John kicked Pluto.

b.
$$\begin{bmatrix} \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'John'} \\ \text{NUM} & \text{SG} \end{bmatrix} \\ \text{TENSE} & \text{PAST} \\ \text{PRED} & \text{'kick} < (\text{SUBJ}) , (\text{OBJ}) >' \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'Pluto'} \\ \text{NUM} & \text{SG} \end{bmatrix} \end{bmatrix}$$

c.
$$\begin{bmatrix} \text{PREDICATE} & \textit{kick'} \\ \text{ARG1} & \lambda PP\{j\} \\ \text{ARG2} & \lambda PP\{p\} \\ \text{TENSE} & H \end{bmatrix}$$

(6b) shows the f-structure of (6a) and (6c) demonstrates the corresponding semantic structure. Given that two proper names are involved, the semantic structure does not contain number features solely required for morphosyntactic agreement in f-structure. Furthermore, in semantic structure the two arguments have no grammatical functions.

From our present perspective, another important ingredient of Halvorsen's system is that when in a passive sentence there is no *by*-phrase, that is when the agent argument is associated with

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[5] In Halvorsen's model this semantic structure serves as input to the intensional logical level of representation, which, in turn, is input to model theoretic interpretation. These additional levels of his semantic component are irrelevant for my present purposes, so in the remainder of this paper I will be concerned with his semantic structure.

[6] I have made some insignificant changes in the f-structural representation in order for it to be formally similar to the other f-structures in this paper.

the ∅ grammatical function symbol, Halvorsen offers the following semantic translation of this ∅ function.[7]

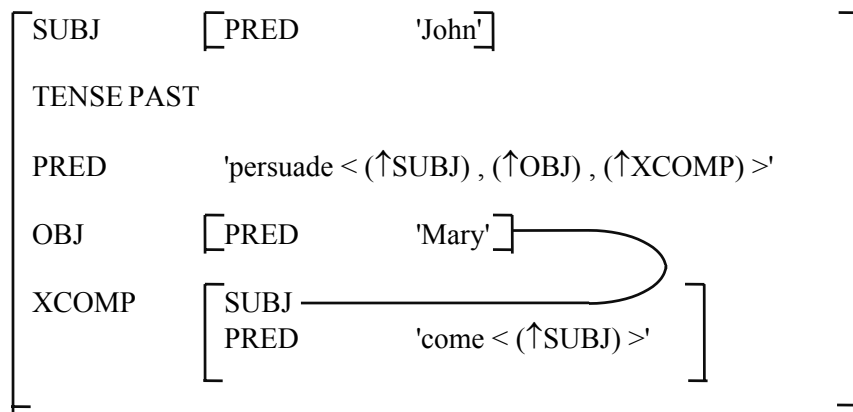(7) $\lambda P \exists x [P\{x\}]$

This technically means that argument x is existentially bound ($\exists$) in the semantic structure of the given predicate (P).

Now let me briefly illustrate how Halvorsen analyses control phenomena through an example of lexically induced functional control.
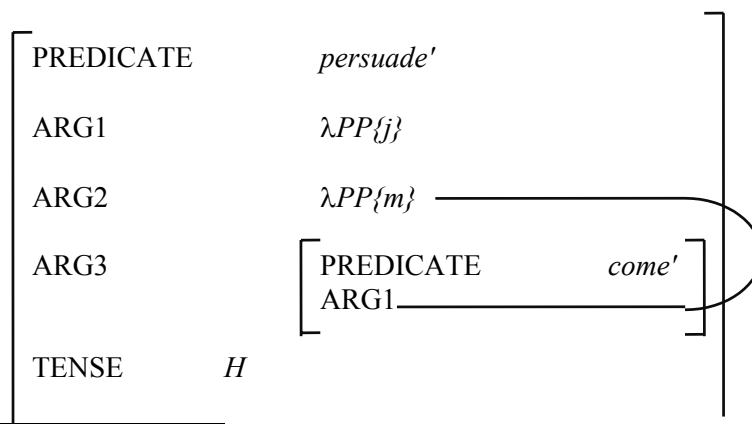
(8)   a. John persuaded Mary to come.

        b. lexical form: V, 'persuade < ($\uparrow$SUBJ) , ($\uparrow$OBJ) , ($\uparrow$XCOMP) >'
                                        ($\uparrow$OBJ) = ($\uparrow$XCOMP SUBJ)

        c. f-structure:

        d. semantic structure:

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[7] As is well-known, it is not only passivization that can optionally associate an argument with the ∅ symbol in LFG. For instance intransitivization is classically treated along similar lines:
(i) eat_1, V 'EAT < (SUBJ) , (OBJ) >'
(ii) eat_2, V 'EAT < (SUBJ) ,   ∅ >'

3.2. Control relations in Hungarian DPs and Komlósy's (1998) approach

In this section I will offer an overview of what kinds of LFG-style control relations[8] we can assume when in a DP an (agent-like) argument of a derived nominal is controlled from outside (or it has an arbitrary [+human] interpretation) and I will also discuss the relevant aspects of Komlósy's (1998) analysis.

      A) When the DP realizes one of the arguments of a matrix verb, we can consider two possibilities: (i) lexically induced functional control and (ii) anaphoric control. The reason why structurally induced functional control is unavailable is that according to the relevant LFG principles in such a relation the argument to be controlled is the subject of an adjunct. From the discussion of Komlósy (1998) above it should be obvious that his choice is (i). Now let us take a closer look at the consequences of this view. It will turn out that it would lead to some significant modifications in the classical version of LFG's control theory. Consider the following examples.

(9)   a. A fiú elkezd-t-e a kocog-ás-t.
         the boy.nom start-PAST-3SG.DEF the jog-DEV-acc
         'The boy started (the) jogging.'

      b. A fiú elkezd-t-e a levél ír-ás-á-t.
         the boy.nom start-PAST-3SG.DEF the letter.nom write-DEV-its-acc
         'The boy started (the) writing of the letter.'

(10)   a. A lány rábeszél-t-e a fiú-t a kocog-ás-ra.
         the girl.nom talk.into-PAST-3SG.DEF the boy-acc the jog-DEV-onto
         'The girl talked the boy into (the) jogging.'

      b. A lány rábeszél-t-e a fiú-t a levél ír-ás-á-ra.
         the girl.nom talk.into-PAST-3SG.DEF the boy.acc the letter.nom write-DEV-its-onto
         'The girl talked the boy into (the) writing of the letter.'

(11)   a. A lány ráerőltet-t-e a fiú-ra a kocog-ás-t.
         the girl.nom force-PAST-3SG.DEF the boy-onto the jog-DEV-acc
         'The girl forced (the) jogging onto the boy.'

      b. A lány rábíz-t-a a fiú-ra a levél ír-ás-á-t.
         the girl.nom entrust-PAST-3SG.DEF the boy-onto the letter.nom write-DEV-its-acc
         'The girl entrusted (the) writing of the letter to the boy.'

In the spirit of Komlósy (1998), in the relevant DPs in all these examples (whether intransitive or transitive) we have to assume the presence of a controlled subject. The DPs in turn have to be taken to be mapped onto XCOMP, because in lexically induced functional control, as a rule, it is the subject of an XCOMP that is controlled. This looks like a plausible assumption in the case of constructions exemplified in (10), given that Komlósy (1992) analyses several oblique case-marked DPs as mapped onto the XCOMP function with certain matrix predicates. Consider:

(12)   Kati darab-ok-ra tör-t-e a játék-a-i-t.
        Kate.nom piece-PL-onto smash-PAST-3SG.DEF the toy-her-PL-acc
        'Kate smashed her toys to pieces.'

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[8] Cf. Bresnan (1982) and Bresnan (2001).

There is, however, a significant difference between (10) and (12). In (12) and, generally, when the *-rA* oblique case marked constituent is an argument of the verb *tör* 'smash' it is always mapped onto the XCOMP function. Compare (12) and (13).

(13)   *Kati a padló-ra tör-t-e a játék-a-i-t.
        Kate.nom the floor-onto smash-PAST-3SG.DEF the toy-her-PL-acc
        '*Kate smashed her toys onto the floor.'

By contrast, the corresponding argument of *rábeszél* 'talk somebody into something' in (12) can clearly have an ordinary (OBL) function when it is not expressed by a DP containing a complex event nominal. Consider:

(14)   A lány rábeszél-t-e a fiú-t a zöld sapká-ra.
        the girl.nom talk.into-PAST-3SG.DEF the boy.acc the green cap-onto
        'The girl talked the boy into the green cap.'

Furthermore, as I will discuss in detail below, the relevant DPs in (12) could naturally be regarded as mapped onto OBL if Komlósy's (1998) functional control assumption did not force the XCOMP function. This means that in such cases, in order for the principles of this control type to be applicable in an unmarked manner, Komlósy has to associate predicates like *rábeszél* 'talk somebody into something' with two lexical forms with partially different arrays of grammatical functions: <(SUBJ), (OBJ), (OBL)> and <(SUBJ), (OBJ), (XCOMP)>. I find it even more counter-intuitive that on Komlósy's account in (9) and (11) one has to consider DPs in the accusative to be mapped onto XCOMP. On the one hand, as far as I can see, no other phenomena in Hungarian trigger (or motivate) this move. On the other hand, we can argue in the case of (11), too, that there is simply no need for an additional lexical form for the predicates *ráerőltet* 'force something onto somebody', *rábíz* 'entrust something to somebody', except for Komlósy's functional control assumption.

In my opinion Komlósy's account would be rather appealing if it could leave the classical LFG-style control principles entirely intact (at the above-mentioned expense of complicating the inventory of grammatical functions, mapping principles and lexical forms in the DP domain). However, there is one crucial respect in which it is inevitably forced to make a radical change: it has to assume that arguments with certain [+r] functions, namely OBLiques, can also function as controllers, as opposed to the standard [–r] assumption, cf. (11). In my view, this fact weakens the initial appeal of the account and reinforces its marked features.

Partially on the basis of these considerations, in section 3.3 I will propose that in the relevant instances we are dealing with (an extended notion of) anaphoric control rather than lexically induced functional control. My main motivation, however, will be that, given my assumptions about grammatical functions in the Hungarian DP, the transitive case simply cannot be handled in terms of functional control even if we try to make some sensible modifications. By contrast, the extension of anaphoric control relations appears to be much more plausible.

B) A DP containing a controllee can also be part of an adjunct. Komlósy (1998) is not explicit about which of the two possible analyses he would opt for. Consider the following examples.

(15)   a. A kocog-ás után a fiú iv-ott egy kólá-t.
           the jog-DEV after the boy.nom drink-PAST.3SG.INDEF a coke-acc
           'After (the) jogging the boy drank a coke.'

        b. A levél meg-ír-ás-a után a fiú iv-ott egy kólá-t.
           the letter.nom PERF-write-DEV-its after the boy.nom drink-PAST.3SG.INDEF a coke-acc
           'After (the) writing of the letter the boy drank a coke.'

One possibility is to assume structurally induced functional control in both the intransitive and the transitive cases. In Komlósy's framework we could claim that the DPs functioning as the

complements of the postposition *után* 'after' in both (15a) and (15b) contain an agent argument mapped onto the SUBJ function and, according to the classical LFG-style control principles, the functional structure of this argument is identical to that of a constituent in the matrix clause, *a fiú* 'the boy' in these two examples. The other possibility is the use of the LFG version of a PRO subject, appearing in the lexical form of the nominal predicate and in the f-structure of the matrix DP. In this case the relevant relationship between the controller and the controllee is anaphoric.

C) When there is no controller present in a construction, that is when, in GB terms, we are dealing with arbitrary control, the classic LFG solution is to assume a PRO element in the lexical form of the predicate and in f-structure (but not in c-structure) with the special [+human] interpretation, cf. Bresnan (1982).

(16)   A dokumentum[9] megsemmisít-és-e nagyon fontos.
           the document.nom destroy-DEV-its very important
           'The destruction of the document is very important.'

Although Komlósy is not explicit about such constructions, either, it seems natural that he would adopt the same solution.

In the context of this construction type, I think it is a further peculiar aspect of Komlósy's approach that, if it aims at being consistent, it has to assume that *all* DPs containing a complex event nominal head have to be mapped onto either the XCOMP or the COMP function in accordance with the standard LFG control principles.[10] Compare the following examples.

(17)   a. A dokumentum megsemmisít-és-e mindenki-t meglep-ett.
             the document.nom destroy-DEV-its everybody-acc surprise-PAST.3SG.INDEF
             'The destruction of the document surprised everybody.'

         b. A dokumentum-nak a fiú által-i megsemmisít-és-e mindenki-t meglep-ett.
                the document-dat the boy by-AFF destroy-DEV-its everybody-acc surprise-PAST.3SG.INDEF
             'The destruction of the document by the boy surprised everybody.'

         c. A hír mindenki-t meglep-ett.
             the news.nom everybody-acc surprise-PAST.3SG.INDEF
             'The news surprised everybody.'

The DPs in (17a) and (17b) must be taken to be mapped onto a closed function, given that both arguments of the nominal *megírás* 'writing' are realized in them. In the former the agent argument is

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[9] On most accounts (e. g., Szabolcsi (1990), Laczkó (1995) and Komlósy (1998)) the possessor constituent in the nominative and in the dative (the two forms are, as a rule, in complementary distribution) is mapped onto one and the same grammatical function. For different views, see É. Kiss (2000) and Chisarik–Payne (2001).

[10] On the basis of evidence from Balinese, Arka–Simpson (1998) propose that in addition to the customary functional control of XCOMP SUBJ, the control of SUBJ SUBJ should also be incorporated into LFG's control principles. Such a modification would help Komlósy's account to solve the problem posed by (17a) and (18a). Note, however, that for this account to be capable of handling all the relevant cases, it would have to modify the control principles to a much larger extent: it would also have to allow the control of the following additional argument types: OBL SUBJ and OBJ SUBJ, cf. (10) and (11), respectively. I would also like to point out that Dalrymple (2001) analyses certain control relationships in English as anaphoric as opposed to the classical lexically induced functional control account, cf. Bresnan (1982) and (2001). For instance, she postulates the following lexical entries for *try* and *convince* (Dalrymple (2001: 327)).
(i)   try   V   (↑PRED)= 'TRY < SUBJ , COMP >'
                              (↑COMP SUBJ PRED)= 'PRO'
(ii)   convince   V   (↑PRED)= 'TRY < SUBJ , OBJ , COMP >'
                              (↑COMP SUBJ PRED)= 'PRO'
It seems to me that if, on the basis of the diagnostics discussed by Dalrymple (2001), Komlósy's (1998) account were recast in terms of anaphoric control, it would get rid of several rather marked features.

an LFG-style PRO mapped onto the SUBJ function, and, depending on the context in which the sentence occurs, it is involved in anaphoric control or it receives arbitrary interpretation. On the basis of the logic of Komlósy's account and the general LFG assumptions about the relationship between XCOMP and COMP, the most likely function to be chosen for the DPs in (17a) and (17b) is COMP. This, however, leads to at least two unfavourable consequences.

First, a predicate like *meglep* 'surprise' has to have the alternative lexical form shown in (18a) in addition to that in (18b), which is needed because of (17c).

(18)   a. meglep, V 'SURPRISE < (COMP) , (OBJ) >'
        b. meglep, V 'SURPRISE < (SUBJ) , (OBJ) >'

Again, this duplication of the lexical forms of such predicates would not be necessary otherwise. As I will point out in section 3.3, it can be naturally postulated that DPs containing complex event nominal heads are never mapped onto the XCOMP and COMP functions, instead, they are always mapped onto "nominal" functions like SUBJ, OBJ and OBL.

Second, the mapping pattern in (18a) is rather exceptional because it violates the Subject Condition. It is true that, just like in several other languages, in Hungarian there is a set of predicates that lack an argument structure, and, therefore, they must be exempted from the Subject Condition; however, all other verbal predicates, whether finite or non-finite, can be shown to observe it. Thus, (18a) would cause a special problem in this respect. This problem could be avoided by assuming, in a somewhat incoherent manner in Komlósy's system, that *meglep* 'surprise' as used in (17a) and (17b) also has the lexical form shown in (18b). This solution would be incoherent because in Komlósy's functional control pattern the DP with its unexpressed subjects must have the XCOMP function.

3.3. Towards an alternative theory of control in Hungarian DPs

As I have already pointed out, the new analysis I will outline here is similar in spirit to Szabolcsi's (1990) and Laczkó's (1995) accounts, and it contrasts with Komlósy's (1998) approach, inasmuch as it fundamentally proposes an extended domain and mechanism for the treatment of control phenomena and leaves the other relevant components of LFG intact (e. g., LMT principles and the inventory of grammatical functions in DPs). In fact, it is a considerably revised version of Laczkó (1995).

My first general assumption both in Laczkó (1995) and here is that at least Hungarian DPs containing an argument to be controlled from outside are, as a rule, involved in anaphoric control and not in functional control.[11] In Laczkó (1995) I give some justification for this and in section 3.2 I have

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[11] As a matter of fact, in Hungarian even the possibility of realizing a propositional argument by an infinitival construction mapped onto the XCOMP function and involved in functional control according to the classical control principles of LFG is rather severely restricted. For instance, there are very few raising (to subject or object) predicates, and even they are not compatible with all kinds of intransitive XCOMP predicates and they are typically incompatible with transitive XCOMP predicates with [+definite] objects. Compare:
(i)   János fárad-ni látsz-ott.
         John.nom get.tired-INF appear-PAST.3SG.INDEF
         'John seemed to be getting tired.'
(ii)   ??János fut-ni látsz-ott (a kert-ben).
         John.nom run-INF appear-PAST.3SG.INDEF the garden-in
         'John seemed to be running (in the garden).'
(iii)   Lát-t-am János-t könyv-et olvas-ni.
         see-PAST-1SG John-acc book-acc read-INF
         ca. 'I saw John involved in book-reading.'
(iv)   ??Lát-t-am János-t ez-t a könyv-et olvas-ni.
         see-PAST-1SG John-acc this-acc the book-acc read-INF
         'I saw John reading this book.'
(v)   *Hisz-em János-t haldokol-ni / szeret-ni a zené-t.
         believe-PRES.1SG John-acc be.dying-INF like-INF the music-acc
         'I believe John to be dying / to like music.'

offered a more detailed discussion, criticizing various aspects Komlósy's (1998) functional control analysis.

The treatment of intransitive constructions, that is, DPs containing nominal heads derived from intransitive verbs, on this new account is the same as in Laczkó (1995), because this type has never raised any theoretical problems. I still assume that in the DP domain the POSS function is semantically unrestricted and it is the true counterpart of the SUBJ function in the verbal domain, with the [–r, –o] feature specification.[12] When the nominal head denotes a complex event and no possessor constituent is present in the DP, I postulate that the nominal's lexical form is associated with the ($\uparrow$POSS PRED) = 'PRO' equation. The DP can function as either a propositional argument or a propositional adjunct of the matrix predicate, and in both cases the POSS PRO in it is anaphorically controlled. Otherwise the interpretation of this PRO argument is arbitrary with the [+human] feature. In order for anaphoric control to work in these instances, two assumptions have to be made. A) A POSS PRO argument can also be a controllee.[13] B) Anaphoric control is also allowed into DPs with a variety of grammatical functions: SUBJ, OBJ, OBL and ADJ.[14,15]

As I briefly discussed in the introductory part of section 3, the control analysis of the transitive case in Laczkó (1995) raised some important theory-internal problems. Now I propose to eliminate them along the following lines. It is standardly assumed that the argument associated with the $\varnothing$ grammatical function symbol has an existential interpretation. The essence of my proposal is that under clearly identifiable circumstance yet another interpretation can be associated with such an argument. This is a "PRO-like" interpretation. In (7) above I have already shown the semantic

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There are several "intransitive" equi-verbs but practically no "transitive" ones with infinitival XCOMPs. Instead of such infinitival phrases nominal constituents are used, cf.:

(vi)   János megpróbál-t fut-ni / level-ek-et ír-ni.
               John try-PAST.3SG.INDEF run-INF / letter-PL-acc write-INF
               'John tried to run / write letters.'

(vii)   *Az igazgató utasít-otta János-t fut-ni / level-ek-et ír-ni.
               the manager.nom order-PAST.3SG.DEF John-acc run-INF / letter-PL-acc write-INF
               'The manager ordered John to run / to write letters.'

(viii)   Az igazgató utasít-otta János-t a fut-ás-ra / level-ek ír-ás-á-ra.
               the manager.nom order-PAST.3SG.DEF John-acc the run-DEV-onto / letter-PL-acc write-DEV-their-
onto
               'The manager ordered John to run / to write letters.'

It is also noteworthy in this connection that Rappaport (1983) argues that in English DPs the "unexpressed" subject arguments of the propositional arguments of nominal predicates are always anaphorically controlled. Compare:

(ix)   The captain (SUBJ) ordered the private (OBJ) to leave (XCOMP).
(x)   the captain's (POSS) order to the private (OBL) to leave (COMP)

In Hungarian this can be even more straightforwardly assumed, given that practically none of the verbal predicates taking infinitival XCOMP arguments can be nominalized, and the nominal predicates that exist correspond to verbal predicates whose propositional argument, as a rule, is realized by DPs and not infinitival constituents.

On the basis of all these considerations it appears to be plausible to assume in a uniform manner that DPs in Hungarian are involved in anaphoric control relationships in two respects: a) when they express a propositional argument, and b) when they contain a nominal head which has a propositional argument (and this argument is never realized by an infinitival construction, as opposed to the English counterparts).

[12] For an extensive discussion, see Laczkó (2000).

[13] This cannot be either a general or a theory-specific problem, because in several fundamental respects POSS in DPs can be considered a true counterpart of SUBJ in clauses, cf., for instance, Bresnan (1982), Bresnan (2001), Laczkó (1995) and Laczkó (2000). Moreover, in principle it is not implausible in an analysis along these general lines to assume that POSS is actually SUBJ in the DP domain (however, for considerations supporting the POSS view, see Laczkó (2000)). This POSS $\rightarrow$ SUBJ replacement would only be problematic in Komlósy's (1998) framework, which employs both grammatical functions in Hungarian DPs.

[14] Note in this connection that, as has already been pointed out above, Arka–Simpson (1998) propose that even functional control should be allowed into SUBJ (in addition to XCOMP).

[15] On the formalism encoding anaphoric control, see the discussion of the transitive case.

translation Halvorsen (1983) offers for the customary existential treatment of the $\varnothing$ function. For convenience, I repeat it as (19) below.

(19) $\lambda P \exists x [P\{x\}]$

In this vein, I suggest that the "PRO-like" function of this $\varnothing$ symbol should translated as follows.

(20) $\lambda P \pi x [P\{x\}]$

The novelty of (20) is that it alternatively replaces the $\exists$ symbol, indicating existential binding, by π.[16] This symbol prescribes that the argument associated with it has to be handled in semantic structure in the same way as ordinary syntactic PRO arguments are treated at this level of representation: either it has to be (anaphorically) controlled or it has to receive arbitrary interpretation with the [+human] specification.

    As is well-known, the $\varnothing(\exists)$ symbol can only be associated with an argument with a negative intrinsic feature: [–o] or [–r]. On the basis of the general characteristics of "syntactic" PRO, my proposal is that the $\varnothing$ symbol in this alternative function ($\varnothing(\pi)$) can only target the highest negatively specified argument in the argument structure. Consider (21).

(21)
$\varnothing$
    a. $\varnothing(\exists): \lambda P \exists x [P\{x\}]$,   condition: $x = {}^{\wedge}\Theta_{[-o]}$ or $\Theta_{[-r]}$

    b. $\varnothing(\pi):$ $\lambda P \pi x [P\{x\}]$,   condition: $x = {}^{\wedge}\Theta_{[-o]/[-r]}$

Note that although both rules make it possible to target the argument structure of intransitive predicates in addition to that of transitive ones, certain general LFG principles will rule out the unwanted intransitive cases. When a verb is transitive, (21a) can apply to its argument structure in two different ways. A) It can associate the $\varnothing(\exists)$ symbol with the ${}^{\wedge}\Theta_{[-o]}$ argument in the course of passivization. B) It can associate this symbol with the $\Theta_{[-r]}$ argument in the course of intransitivization. Both the unergative and the unaccusative intransitive cases will be filtered out by the Subject Condition: if the sole [–o] or [–r] argument is associated with the $\varnothing(\exists)$ symbol, this condition simply cannot be met. (21b) is my newly introduced function attributed to $\varnothing$. Although in theory it allows the association of the $\varnothing(\pi)$ symbol with the highest [–o] argument in the argument structure of transitive and unergative verbs and also with the [–r] argument of unaccusative verbs, the unergative and the unaccusative cases are ruled out by my Possessor Condition. Apparently, the only additional assumption we need to make is that it depends on the derivational affix (or process) in question whether it employs the $\varnothing(\exists)$ or the $\varnothing(\pi)$ function. As a first approximation we can say that passivization and intransitivization makes use of the former while nominalization, at least in Hungarian, utilizes the latter.[17]

    At this point the following question arises. How can we reconcile this proposal with the standard LFG control principles? In my answer I will refer to Halvorsen's (1983) model for concreteness and expository reasons, but I think my general assumptions could be shown to carry over to more recent alternative semantic approaches within LFG. Recall that in Halvorsen's analysis functional control relations represented in f-structure are inherited by semantic structure, cf. (8c) and (8d). Likewise, the coindexation, in f-structure, of constituents involved in anaphoric control is also inherited by semantic structure. My claim is that these ordinary cases are supplemented by a special instance of obligatory anaphoric control. Its domain is semantic structure solely. The two relevant aspects of this subtype of control are encoded by the $\varnothing(\pi)$ symbol associated with the designated "PRO-like" argument of the derived nominal and the specification in the lexical form of the matrix predicate to the effect that it is an obligatory (anaphoric) control predicate. It is also indicated in the

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[16] This function name is mnemonic: $\pi \sim P(RO)$.

[17] In this paper I have no space to discuss the status and possible analysis, in this framework, of "by-phrases" in nominal, as opposed to passive verbal, constructions. I intend to do this elsewhere.

lexical form which argument of this predicate is a potential controller. For instance, for the matrix predicates in (9), (10) and (11) I propose the lexical forms in (22a), (22b) and (22c), respectively.

(22)   a. elkezd, V 'START $< \Theta_1$, $\Theta_2 >$'
                        [–o]   [–r]
                  {+AC}

        b. rábeszél, V 'TALK-INTO $< \Theta_1$, Θ_2 , $\Theta_3 >$'
                           [–o]   [–r] [–o]
                         {+AC}

        c. ráerőltet, V 'FORCE-ONTO $< \Theta_1$, Θ_2 , $\Theta_3 >$'
                           [–o]   [–r] [–o]
                          {+AC}

The interpretation of {+AC} is as follows. If in the f-structure in which the matrix predicate occurs there is a PRO/π argument, the {+AC} argument must understood as the anaphoric controller of this argument. We need the *if*-clause in this description because the majority of the matrix predicates in question can also have a non-propositional argument, in which case there is no control, cf. (14).[18] In the case of PRO, coindexation already takes place in f-structure (and it is inherited by semantic structure), while in the case of π, it takes place in semantic structure.

      In my view it is semantic structure that is the most appropriate level for (ultimately) checking control relationships. After all, the complete identity or the coreferentiality of arguments is most naturally handled in semantic terms. It is noteworthy that the scenario which allows certain (but not all) control relationships to be encoded in f-structure and which also requires that all these relationships be checked in semantic structure can be likened to the GB treatment of WH-movement. The scope of WH-expressions is checked in Logical Form. Languages vary as to whether in the course of generating multiple WH-questions they move one (English) or all (Hungarian) WH-phrases into the scopally appropriate positions in S-Structure or they move the rest (English) or all (Chinese) of these constituents at the level of LF.

      Finally, I would like to point out that the extended treatment of control phenomena proposed here may provide a more flexible tool for capturing apparently obligatory control relations in cases when, at least according to Grimshaw's widely adopted view, the "controllee does not appear in an argument structure, only in the lexical-conceptual structure of a nominal. Consider the following examples.

(23)   a. A professzor elkezd-te a beteg operáció-já-t.
        the professor.nom start-PAST.3SG.DEF the patient.nom operation-his-acc
        'The professor started the patient's operation.'

        b. A professzor elkezd-te az operáció-t.
        the professor.nom start-PAST.3SG.DEF the operation-acc
        'The professor started the operation.'

        c. A professzor elkezd-te az előadás-t.
         the professor.nom start-PAST.3SG.DEF the lecture-acc
        'The professor started the lecture.'

On the basis of Grimshaw's (1990) generalized diagnostics and also Szabolcsi's (1990) Hungarian-specific tests, we can safely say that *operáció* 'operation' and *előadás* 'lecture' are "simple event" or "result" nominals with a lexical conceptual structure but without an argument structure. However, a

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[18] Or, alternatively, we can postulate two lexical forms for these matrix predicates. Note that this is only a possible option on this account, while it is absolutely necessary in Komlósy's (1998) model.

participant in these LCS-s can be taken to be obligatorily controlled by the subject argument of the matrix verb. I think cases like these can be, in principle, more appropriately captured in the framework proposed here, provided that the details of the analysis are fully and consistently developed. It is interesting to note that Williams (1987) uses a similar example to demonstrate that a controlled argument (or participant) does not necessarily have a grammatical function and it is best treated as a kind of an implicit argument, cf.:

(24)   The professor performed Mary's operation.

4. Concluding remarks

In this paper I have offered a considerably modified analysis of control phenomena in Hungarian DPs containing complex event nominal heads. Its most important aspects are as follows.

1) It leaves the standard LFG assumptions about argument structure, the system of grammatical functions available in the nominal domain intact, and supplements LMT in Hungarian DPs in a principled manner.
2) It holds that the unexpressed "subject" argument of a derived nominal argument can only be anaphorically controlled.
3) It postulates a POSS PRO argument for nominals derived from intransitive verbs.
4) In the case of nominals derived from transitive verbs, it assumes that the highest [–o] argument is associated with the zero GF symbol ($\varnothing$) which triggers a "PRO-interpretation" of the argument in question in semantic structure.
5) Thus, the PRO interpretation of an argument comes from two sources: a) from the appearance of a PRO argument with a grammatical function in the lexical form of a predicate and consequently in the f-structure, and b) from the appearance of the π functor associated with the argument in question in the semantic structure.

Finally, let me make two general comments on this approach.
*   As I have already mentioned in passing, the treatment of the transitive type calls for a marked solution in some component of the grammar on any account. Given that in my view the system and the operation of grammatical functions clearly belong to (morpho-)syntax, while control relations are best regarded as being in the scope of both syntax and semantics, my motivation was to handle control by such means as do not interfere with solely (morpho-)syntactic phenomena. That is why I set out to explore a possible approach in semantic structural terms.
*   The reason why I treat "the transitive PRO" and the "intransitive PRO" differently is that I consider LFG's principles pertaining to argument structure and grammatical relations of primary importance. Therefore, I only employ grammatical functions for the existence of which in a particular construction type we have (independent) evidence. If a grammatical function is available then it must be present – associated with an ordinary or a PRO argument. This principle is especially relevant in the "intransitive case" because the following question arises. What motivates the use of a POSS PRO? Why not postulate the same $\varnothing(\pi)$ strategy as in the transitive case? My answer is twofold. On the one hand, in my LMT approach to Hungarian DPs I assume the POSS Condition, which is the mirror image of the verbal domain SUBJ Condition. From this it follows that the sole argument of an unergative or unaccusative derived nominal predicate cannot be associated with the $\varnothing(\pi)$ symbol. On the other hand, I think we can claim that certain economical considerations also point in this direction. It can be argued that a suppression process, that is the association of an argument with the $\varnothing(\exists)$ or $\varnothing(\pi)$ symbol, is more costly than mapping this argument onto an available grammatical function, which is POSS in this case.

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