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Modelling possession, agreement, and "anti-agreement" in Hungarian DPs: A paradigmatic approach

1. Introduction

Previous LFG analyses of Hungarian possessive DPs have mostly concentrated on some basic (morpho)syntactic issues, including the treatment of pro-drop, c-structure representation, the grammatical/discourse functions of nominative and dative possessors, and the encoding of definiteness in possessive DPs with various types of possessors, see, for instance, Laczkó (1995), Chisarik & Payne (2001), Charters (2014), and Laczkó (2017). In this talk, I will develop a formal LFG analysis of the fundamental morphological aspects of the behaviour of Hungarian possessive DPs (in comparison with some important previous accounts in alternative frameworks).

2. The data and my objective

(A) Hungarian possessive DPs host nominative or dative possessors, see (1a) and (1b).
(B) The possessed noun agrees with the possessor, see (1a-c), and possessor pro-drop is possible (typical), see (1c).
(C) The possessum exhibits rich inflectional behaviour: it is morphologically marked for (i) possession (ii) number (iii) agreement with the possessor. In the most transparent (i.e. truly agglutinative) cases, three different (strictly ordered) morphs encode these morphosyntactic features, see (2a). However, descriptively speaking, there are several feature value combinations in the case of which we can only find two overt inflectional elements or one attached to the noun stem, see (2b) and (2c,d), respectively. Note that *-i* is the plural marker of the possessum, see (2a,b,d), and *-k* is the plural marker of ordinary nouns, e.g. *a hajó-k* 'the ships'. In what follows, I will omit POSS from the glosses when it is not relevant for the discussion of the given examples.
(D) In the case of first and second person possessors (which are obviously pronouns), there is a regular agreement relationship between the possessor and the (inflected) possessum, see (1c).
(E) In the case of third person possessors, the regular agreement pattern is followed when the possessor (whether a referential DP or a pronoun) is singular, see (3a) and (3b).
(F) When the (interpretation of the) third person possessor is plural, however, we find two exceptional ("economy-driven") agreement phenomena (i.e. "anti-agreement"), which are mirror images of each other, see (4). (i) If the plural possessor is a referential DP, the possessum has 3SG (possessor) marking: (4a). (ii) If the possessor is a (droppable) pronoun, the possessum has 3PL agreement marking, and when the pronominal possessor is overt, it must be in its 3SG form: (4b). Thus, both patterns exhibit anti-agreement with respect to the dual encoding of PL in opposite directions.
(G) The (always dative-marked) possessor can occur externally to the possessive DP. When this external possessor is a 3PL referential DP, the inflection on the possessum can follow either the regular agreement pattern or the anti-agreement version, see (5i) and (5ii), respectively.

My objective is to develop a formal LFG analysis that will capture (i) the agglutinative and "fusional" aspects of the inflectional behaviour of the possessum, see (B)-(C) above (ii) the anti-agreement facts, see (F) (iii) the dual agreement pattern admitted by external possessors, see (G). I will also discuss some implementational issues.

3. The basic morphology of the possessum

3.1. To begin with: I assume that there is an extremely productive lexical redundancy rule that turns an ordinary noun (without an argument structure) into a noun subcategorizing for a possessor argument: (6), cf. Bresnan (2001).
3.2. If the possessum always followed a strictly agglutinative pattern, as in (2a), the analysis could be rather straightforward. A particular morpheme (realized by its allomorphs) would need to be associated with the relevant feature value(s). An obvious LFG solution would be to employ lexical forms for these morphemes with appropriate functional annotations. For instance, the inflectional elements in (2a) would need the annotations in (7) in their lexical forms. The possession marker would simply require/check the presence of a possessor (function): (7a). The special plural marker, again, would call for a possessor (function): (7b). Finally, the agreement marker would encode the possessor's person and number features: (7c).
3.3. However, there are a great number of instances in which the morphological composition of a word is not (fully) agglutinative. In such cases, basically there are three strategies that can be followed: Item and Arrangement (IA), Item and Process (IP), and Word and Paradigm (WP), see Spencer (1991). IA is templatic in nature: it assumes strictly ordered morpheme positions, and, consequently, it needs to admit zero (allo)morphs when there is no full (overt) agglutination. IP, instead, fuses two or more ("underlying") morphemes into a single morph in such cases. WP, by contrast, employs paradigmatic slots the feature value combinations of which are realized by particular word forms of varied morphological compositions (whether fully agglutinative or not). LFG's architecture and principles are most compatible with WP, because the theory fundamentally rejects empty/zero elements (IA) and deep (morphological) structure → surface (morphological) structure transformations (IP). Consequently, I will develop an LFG analysis of the morphology of Hungarian possessed nouns in the spirit of WP. There have been analyses of the relevant Hungarian phenomena along both the IA and IP lines. Compare the crucial aspects of the treatments of *toll-unk* 'our pen' in the framework of Kiefer (2000), Bartos (2000) and my proposal (with the number feature of the possessum ignored for simplicity's sake), in (8), (9) and (10), respectively. In the possessive paradigm, the presence of the stem and the POSS feature is obligatory, and the combination of the number feature values of the possessum (SG vs PL) and the (possessor) agreement feature values yields 12 paradigmatic slots, see (11), where I also indicate the morphs that can be found in

the examples in (1) and (2). The gist of my approach is that I describe the properties of each morph in its lexical form by specifying which paradigmatic slot it fills. Depending on the morpho-phonological properties of the stem, the same slot can be occupied (i.e. instantiated) by a variety of allomorphs (of varying complexity). In (12), I present the full allomorphic batteries of both the singular and the plural possessive paradigmatic slots.

3.4. Pro-drop can be handled in the customary LFG manner, see Bresnan (2001). These paradigmatic morphological elements can optionally also contribute the 'PRO' value for the PRED feature of the possessor: ((↑ POSS PRED) = 'PRO'). This works in the following way. When there is no overt possessor, the annotation must be activated, otherwise the construction will be incomplete, given that the argument requirement of the possessive noun head, see (6), cannot be satisfied. When there is an overt pronominal (or ordinary) possessor, the annotation must not be activated, because the possessor constituent contributes the PRED value, and PRED values cannot be unified (or multiply instantiated).

4. The treatment of anti-agreement

4.1. From a strictly morphological point of view, the pattern shown in (4a) is radically exceptional: the plural (nonpronominal) referring possessor DP (3PL) is in an anti-agreement relationship with the formally singular morphology on the possessum (3SG). This must be (disjunctively) encoded in the lexical form of the suffix, see (13). The second disjunct, allows (or, rather, constrains) the possessor to be 3PL if it is not a pronoun.

4.2. The peculiarity of the other anti-agreement type, illustrated in (4b), concerns a special, unpredictable use of a single (and singular) pronoun: *ő* '(s)he' (there is no gender distinction in Hungarian even in the case of 3SG pronouns). The interpretation of this 3SG pronominal is 3PL in the given construction type. This can be captured by a disjunction in the lexical form of the pronoun, see (14). The first disjunct encodes the regular use of the pronoun with its customary features, see (3a). If it did not have the irregular use, we would not need the disjunction at the end of this disjunct: {(SUBJ ↑) | (POSS ↑)}. This (inside-out function application) disjunct specifies that the pronoun can be used in the regular way in a clausal domain (i.e. in a configuration containing the SUBJ function), or in a possessive DP domain (i.e. in a configuration containing the POSS function). The second (major) disjunct captures the irregular use of the pronoun with its exceptional PL number value, see (4b) – and this use is constrained to the possessive DP domain: (POSS ↑).

5. External possessors

The dual agreement pattern involving external (nonpronominal) possessors illustrated in (5) has been analyzed in a detailed fashion in the GB/MP literature, see É. Kiss (2014) for a critical overview of earlier analyses and for her new proposal. Her two most important claims, from our present perspective, are as follows. (i) A dative "external possessor" can be base-generated outside the possessive DP (i.e. in the matrix clause) when it is thematically related/relatable to the matrix verb. In this case, the possessive DP contains a small *pro*, which is bound by the "external possessor", and, thus, the agreement is regular, see (5i). (ii) The possessor can be extracted from the possessive DP for discourse functional purposes. In this case it is generated within the possessive DP; therefore, it is involved in anti-agreement, and then it is raised into the matrix clause to acquire a discourse function (topic or focus), see (5ii). In the talk, I will show that (i) requires no modification whatsoever in my analysis: this is an ordinary case of (LFG-style) pro-drop, and ordinary anaphoric control takes place (regular agreement) (ii) the discourse-related phenomena can be straightforwardly captured by outside-in function application (in which case anti-agreement is naturally triggered).

6. Implementational issues

As I will discuss in the talk, it should be rather straightforward that the more "surface-dependent" an analysis is, the more efficient its implementation can be with respect to both parsing and generation, see Prószéky (2000), for instance. This computational linguistic requirement is most adequately satisfied by the implementation of a WP approach.

7. References

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8. Examples and representations

(1) a. *Kati* *toll-a*
Kate.NOM pen- POSS.3SG
'Kate's pen'

b. *Kati-nak* *a* *toll-a*
Kate-DAT the pen- POSS.3SG
'Kate's pen'

c. *a* *(mi)* *toll-unk*
the we.NOM pen-POSS.1PL
'our pen'

(2) a. *a* *toll-a-i-nk*
the pen-POSS-PL-1PL
'our pens'

b. *a* *toll-a-i*
the pen-POSS-PL.3SG
'her pens'

c. *a* *toll-a*
the pen-POSS.3SG
'her pen'

d. *a* *hajó-i*
the ship-POSS.PL.3SG
'her ships'

(3) a. *a* *lány* *toll-a*
the girl.NOM pen-3SG
'the girl's pen'

b. *az* *ő* *toll-a*
the she.NOM pen-3SG
'her pen'

(4) a. *a* *lány-ok* **toll-uk* / *toll-a*
the girl-PL.NOM pen-3PL pen-3SG
'the girls' pen'

b. *az* **ők* / *ő* *toll-uk* / **toll-a*
the they.NOM she.NOM pen-3PL pen-3SG
'their pen'

(5) *A* *lány-ok-nak* *elvesz-ett*
the girl-PL-DAT get.lost-PAST.3SG
'The girls' pen got lost.'

(i) *a* *toll-uk.*
the pen-3PL.NOM

(ii) *a* *toll-a.*
the pen-3SG.NOM

(6) N, (↑ PRED) = '…' → N, (↑ PRED) = '… < (↑ POSS) >'

(7) a. *-a:* (↑ POSS)

b. *-i:* (↑ POSS) (↑ NUM) = PL

c. *-nk:* (↑ POSS PERS) = 1 (↑ POSS NUM) = PL

(8) Kiefer (2000) – IA:	STEM	POSS	AGRN (1PL)	MORPHEMES
	toll	*0*	*-unk*	MORPHS
(9) Bartos (2000) – IP:	STEM	POSS	AGRN (1PL)	MORPHEMES
	toll	*-unk*		MORPHS – AFTER FUSION
(10) here – WP:	STEM	{POSS; AGR: 1PL}		PARADIGMATIC SLOT
	toll	*-unk*		MORPHS

(11)

STEM	**{POSS; NUM; AGR}**	**{POSS; NUM; AGR}**
toll 'pen' [1a,c] [2a,b]	{POSS; SG; 1SG}	{POSS; PL; 1SG}
	{POSS; SG; 2SG}	{POSS; PL; 2SG}
	{POSS; SG; 3SG} ***a*** [1a]	{POSS; PL; 3SG} ***ai*** [2b] ***i*** [2d]
hajó 'ship' [2d]	{POSS; SG; 1PL} ***unk*** [1c]	{POSS; PL; 1PL} ***aink*** [2a]
	{POSS; SG; 2PL}	{POSS; PL; 2PL}
	{POSS; SG; 3PL}	{POSS; PL; 3PL}

(12)

{POSS; NUM; AGR}		**{POSS; NUM; AGR}**	
{POSS; **SG**; 1SG}:	*m, am, em, om, om*	{POSS; **PL**; 1SG}:	*im, aim, eim, jaim, jeim*
{POSS; **SG**; 2SG}:	*d, ad, ed, od, öd*	{POSS; **PL**; 2SG}:	*id, aid, eid, jaid, jeid*
{POSS; **SG**; 3SG}:	*a(á), e(é), ja(já), je(jé)*	{POSS; **PL**; 3SG}:	*i, ai, ei, jai, jei*
{POSS; **SG**; 1PL}:	*nk, unk, ünk*	{POSS; **PL**; 1PL}:	*ink, aink, eink, jaink, jeink*
{POSS; **SG**; 2PL}:	*tok, tek, tök, atok, etek, ötök*	{POSS; **PL**; 2PL}:	*itok, itek, aitok, eitek, jaitok, jeitek*
{POSS; **SG**; 3PL}:	*uk, ük, juk, jük*	{POSS; **PL**; 3PL}:	*ik, aik, eik, jaik, jeik*

(13) *a, e, ja, je*
(↑ POSS)
(↑ NUM) = SG
{ (↑ POSS PERS) = 3
(↑ POSS NUM) = SG
| (↑ POSS PERS) =c 3
(↑ POSS NUM) =c PL
(↑ POSS PRED) ~= 'PRO' **}**

(14) *ő* **{** (↑ PRED) = 'PRO' [3a]
(↑ PERS) = 3
(↑ NUM) = SG
(↑ CASE) = NOM
{ (SUBJ ↑) | (POSS ↑) }
| (↑ PRED) = 'PRO' [4b]
(↑ PERS) = 3
(↑ NUM) = PL
(↑ CASE) = NOM
(POSS ↑) **}**