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(In)vulnerable agreement in incomplete bilingual L1 learners

Agnes Bolonyai

North Carolina State University, U.S.A.

Abstract

This study investigates morphological vulnerability in incomplete bilingual L1 acquisition. It examines the production of L1 inflections by L2-dominant bilingual children, with the aim of exploring causes of difficulty in agreement marking. Spontaneous data (18 hours) from six Hungarian-English bilingual children, aged seven to nine, is used to compare the production of possessive inflections and verbal inflections, which are expressed by identical surface morphology in Hungarian. Drawing on recent analysis of Hungarian (Alberti, 1995; Szabolcsi, 1994), the paper asks where and why agreement morphology is susceptible to variability in bilingual children's weaker L1. Results indicate significant differences in the accuracy of agreement morphology. Inflections are almost error-free in possessive nominals and subject-verb agreement. However, they are frequently omitted in possessive be-clauses, which can be attributed to a combination of factors: (i) influence of semantic-syntactic properties of English have on Hungarian be possessive construction (transfer from L2); (ii) difficulty with long-distance agreement in Hungarian be-possessives (structural complexity of L1); and (iii) influence of Hungarian existential and locative constructions on possessive-be (ambiguity in L1). It is argued that morphological variability is selective, and the main source of vulnerability is the syntax-semantics interface where the weaker L1 is most susceptible to L2 influence.

1 Introduction

The acquisition of grammatical morphology by first language (L1) and second language (L2) learners has been a central focus of language acquisition research since the early morpheme studies (Bailey, Madden, & Krashen, 1974; Dulay & Burt, 1973). By now, a significant amount of evidence has been accumulated showing that grammatical morphology is an area of difficulty in both L1 and L2 acquisition. In spontaneous production, learners frequently omit or inaccurately use inflectional morphemes, a phenomenon that has been known as morphological variability (Lardiere, 2000; Prévost & White, 2000; White, 2002) or optionality (Hawkins & Liszka, 2002; Sorace, 2000). Research also indicates that certain inflections are more prone to errors than others. In L1 English, for example, verbal inflections (3rdP -s, Past -ed) are much less accurate than is nominal morphology (Plural -s, Possessive -s), whereas in L2 English inflections that participate in movement (3rdP -s, Possessive -s, Past -ed) are more problematic.

Key words

child bilingualism imperfect acquisition morphological variability

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than any other morphology (Ionin & Wexler, 2002; Wei, 2000; also see Zobl & Liceras, 1994, for review).

Researchers cannot fully explain learners’ difficulty with grammatical morphemes. But there are several theories. One view holds that morphological variability is due to an “underspecified” (Wexler, 1994) or restricted grammar (Hawkins & Liszka, 2002; Meisel, 1991, 1997). That is, the learner’s grammar may be immature in that certain abstract features are underdeveloped or unspecified, as argued for early child L1 acquisition; or, in the case of adult L2 acquisition, learners’ grammar may be restricted or impaired in a way that certain features are persistently inaccessible or fossilized. The second view argues that morphological errors are due to a “mapping problem” between syntax and morphology (Lardiere, 2000; Prévost & White, 2000): Although L2 learners are able to access abstract morphosyntactic features such as agreement, they cannot always realize them in surface morphology. Other researchers (de Bot, 1992; Håkansson, 2001; Pienemann, 1998) claim that processing limitations are responsible for variability in the production of grammatical morphemes. This theoretical position explains learners’ morphological problems in terms of processing-constrained structural complexity and transfer.

1.1 Incompleteness and vulnerability

In spite of the extensive research into the acquisition of morphology by infant L1 and adult L2 learners, investigations exploring the same issue in incomplete bilingual L1 learners are still scarce. The goal of this study is to examine morphological variability in bilingual children who acquire their L1 as a weaker language and the L2 as a stronger language. Research into incomplete acquisition in childhood bilingualism is important, since it might help to gain a better understanding of the nature of (in)vulnerability of bilingual competence, flexibility, and robustness of an unstable L1, and influence of the L2 on the L1. Incomplete learners (Polinsky, 1995; Sharwood Smith, 1989) are imbalanced bilinguals who may not have fully acquired or stabilized their L1 in early childhood — such as monolingual native speakers are assumed to do — as a result of living in an L2-dominant environment. This includes young early bilinguals (i.e., children exposed to two languages before the age of 3) in immigrant contexts, whose knowledge of the minority L1 may begin to fall short of or diverge from that of monolinguals once they enter school and become dominant in the majority L2 (Jia & Aaronson, 1999; Silva-Corvalán, 2003; Wong-Filmore, 1991). In this situation, the L1 may function as the weaker language with developmental characteristics of an L2 (Schlyter, 1993). Incomplete bilingual L1 acquisition may precede or co-occur with attrition, the erosion or restructuring of the L1 in extensive contact with the L2 (Bolonyai, 2002; Kaufman & Aronoff, 1991; Montrul, 2002; Silva-Corvalán, 1991, 2003). When this happens, linguistic outcomes of incomplete acquisition and those of incipient attrition may be rather difficult to distinguish.

Recent work within generative grammar suggests that the grammatical system of an incompletely acquired language may be particularly vulnerable at the interface levels. Montrul (2002) convincingly demonstrates that in bilingual heritage speakers with L1 Spanish as the weaker language, grammatical phenomena that involve both morphosyntactic and semantic/pragmatic information, such as the preterite-imperfect aspectual
distinction in Spanish, are susceptible to incomplete acquisition. In a similar vein, Sánchez (2004) reports that convergence affects interpretable features at the interface of syntax and semantics only, while purely morphosyntactic features remain stable in the Quechua-Spanish bilingual children in her study. Further evidence for the vulnerability of the syntax-pragmatics interface, or the so-called C-domain comes from early child acquisition in simultaneous bilinguals in the area of object drop (Hulk & Müller, 2000; Müller & Hulk, 2001), and from adult L1 attrition on the null-subject property (Gürel, 2004; Sorace, 2000; Tsimpli, Sorace, Heycock, & Filiaci, 2004).

In this Study I investigate whether, and to what extent, morphology is vulnerable in the weaker L1 by focusing on L1 verbal and nominal agreement morphology in L2-dominant bilingual children. I use spontaneous data from six Hungarian-English bilingual children, between ages seven and nine, to compare the production of possessive inflections and verbal inflections, which are expressed by almost identical surface morphemes in Hungarian (1–3).

(1) A Hold úgy kap-ja a világítás-t a Nap-tól.
the Moon so get-PRES/3SG/DEF the light-ACC the Sun-ABL
‘The Moon has light by getting it from the Sun.’ (HK 3)

(2) A mamá-nak a kutyá-ja.
the mom-DAT the dog-POSS/3SG
‘Mom’s dog’ (KSH 1)

(3) Nek-i van egy róká-ja.
DAT-3G is a fox-POSS/3SG
‘She has a fox.’ (KSH 4)

Drawing on the DP-hypothesis (Szabolcsi, 1983, 1994) and generative approaches to Hungarian (Alberti, 1995; Bartos, 1997, 2000), the paper will show that agreement markers are not equally vulnerable across these constructions. It will be argued that morphological variability is selective and points to vulnerability at the interface between syntax and lexico-semantics, where the weakened L1 is the most susceptible to L2 influence and persistent optionality.

This paper is organized as follows. First, a short overview of the theoretical assumptions for this study is given. Then I describe verb agreement and possessive agreement in Hungarian and discuss the DP-hypothesis, as proposed by Szabolcsi (1983, 1994). Next, I present the corpora and the methodology used in the analysis. This is followed by a discussion of the results on the children’s use of verbal and possessive agreement morphemes, and possible explanations for the findings are suggested. The paper concludes with some additional implications.

2 Theoretical assumptions

Following Chomsky (1995), it is assumed here that lexical knowledge plays an essential role in language acquisition. Lexical knowledge entails knowledge of lexical items, together with their semantic-conceptual properties and syntactic features and knowledge of functional categories, together with their abstract features and morphological reflexes.
Within the minimalist paradigm, cross-linguistic differences are linked to the lexicon, and in specific, to abstract features of functional elements and lexical categories. Languages vary with respect to what “interpretable” features (e.g., definiteness, focus) and “uninterpretable” features (e.g., agreement, case) they encode in the lexicon and also in terms of which uninterpretable features are strong or weak. The difference in feature strength determines whether feature-checking and syntactic movement takes place before or after spellout and whether these operations have an overt morphological reflex. Interpretable features that convey semantic-pragmatic meaning are interpreted at the interface with the intentional-conceptual systems (Platzack, 1996; Tsimpli, Sorace, Heycock, & Filiaci, 2004). It is further assumed that for successful acquisition to take place learners have to acquire full specifications of functional elements and language-specific feature compositions of lexical items, which, in turn, may give rise to different syntactic structures across languages.

3 Linguistic background

Hungarian has a “free,” pragmatic word order, where surface structure expresses logical rather than syntactic relations (É. Kiss, 1987). Grammatical relations are expressed by affixes. Hungarian is an agglutinative language, with rich verbal and nominal morphology. It allows for pro-drop: both subject and object pronouns can be dropped.

3.1 Verbal agreement morphology

Verbal inflections mark agreement with both the subject and the object, which can be encoded in portmanteau or separable inflections. In subject-verb agreement, the verb shows person and number of the subject as in English. Unlike in English, however, there is no morphological plural agreement when the subject phrase contains a numeral or quantifier. Plurality is not marked on the noun either; it is indicated by the semantics of the plural numeral or quantifier only (4).

(4) Sok vendég érkezett.
many guest/SG/NOM arrive-PAST/3SG/INDEF
‘Many guests have arrived.’

In object-verb agreement, the verb agrees with the object in in / definiteness (and non / specificity). There are two conjugations: indefinite conjugation and definite conjugation. Both paradigms consist of six forms, corresponding to the number and person of the subject. The choice between the two conjugations depends on “an exceedingly complex set of disparate factors” (MacWhinney & Pléh, 1997, p.78), which include syntactic properties of the object, pragmatic factors, and lexical-semantic requirements of certain verbs for their object complements. In (5), indefinite conjugation is used with a verb with a [−definite / −specific] object; (6) shows definite conjugation for a verb with a [+definite / +specific] object.

(5) Én látnok egy kalapot.
(I) see-PRES/1SG/INDEF a hat-ACC
‘I see a hat.’
In current generative analysis of Hungarian (Bartos, 1997, 2000; Brody, 1995; É. Kiss, 1998), the hierarchical structure of the Hungarian sentence is the following: Topic Phrase > Focus Phrase > Subject Agreement Phrase > Object Agreement Phrase > Tense Phrase > Verb Phrase. It is assumed that the grammatical features [+definite/specific] of verbs are checked in the functional phrase AgrOP, while the uninterpretable phi-features of [+person] and [+number] are checked in AgrS\textsubscript{P}. Both subject-verb verb agreement and object-verb agreement are strong features in Hungarian and checked in overt syntax. This is in parametric contrast with English: English has weak subject-verb agreement features that are checked at LF, and it does not exhibit object-verb agreement at all.

3.2 Possessive agreement morphology

Unlike English, Hungarian shows overt agreement in possessive constructions as well. The possessed noun morphologically agrees with the possessor in person and number; the agreement marker on the possessed noun carries the grammatical features [+poss], [+person], and [+number]. An interesting property of Hungarian is that possessive inflections are almost identical to verb inflections (Szabolcsi, 1994). With a singular possessor, the agreement morpheme on the possession corresponds to an agreement marker in the definite conjugation; with a plural possessor, the possessed noun is inflected with an indefinite agreement morpheme (Table 1).

<table>
<thead>
<tr>
<th>Possessive agreement</th>
<th>Indefinite agreement</th>
<th>Definite agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG kalap+om 'my hat'</td>
<td>lát+ok 'I see'</td>
<td>lát+om 'I see'</td>
</tr>
<tr>
<td>2SG kalap+od 'your hat'</td>
<td>lát+sz 'you see'</td>
<td>lát+od 'you see'</td>
</tr>
<tr>
<td>3SG kalap+ja 'his hat'</td>
<td>lát+Ø 'he/she sees'</td>
<td>lát+ja 'he sees'</td>
</tr>
<tr>
<td>1PL kalap+unk 'our hat'</td>
<td>lát+unk 'we see'</td>
<td>lát+juk 'we see'</td>
</tr>
<tr>
<td>2PL kalap+otok 'your hat'</td>
<td>lát+tok 'you see'</td>
<td>lát+já-tok 'you see'</td>
</tr>
<tr>
<td>3PL kalap+juk 'their hat'</td>
<td>lát+nak 'they see'</td>
<td>lát+ják 'they see'</td>
</tr>
</tbody>
</table>

There are two types of possessive constructions: one with a nominative possessor (7), and the other one with a dative possessor, shown in (8) and (9). The nominative possessor can only occur in nominal possessive phrases (7). The dative possessor occurs both in phrasal (8) and clausal (9) possessives. Since Hungarian is a pro-drop language, in neutral, nonemphatic readings the pronominal possessor is null (7b; 9b). A possessive verb such as English have is lacking in Hungarian; clausal possession is expressed by means of an existential verb van 'be' (9a-b).

(7) a. A fiú kalap-ja
    the boy/NOM hat-POSS/3SG
    'The boy’s hat.'
b. Az (ő) kalap-ja
the he hat-POSS / 3SG
‘His hat.’

(8) A fiú-nak a kalap-ja
the boy-DAT the hat-POSS / 3SG
‘The boy’s hat.’

(9)a. A fiú-nak van egy kalap-ja
the boy-DAT is a hat-POSS / 3SG
‘The boy has a hat.’

b. (nek-i) van egy kalap-ja
DAT-POSS / 3SG is a hat-POSS / 3SG
‘He has a hat’

3.3 The structure of Hungarian possessives: The DP-hypothesis

Following Szabolcsi (1983, 1994), the idea that noun phrases are structurally similar to finite clauses (DP = CP), and possessive agreement is like subject-verb agreement has been well established in recent analyses of Hungarian (Bartos, 2000; Dikken, 1999). In this analogy the possessor corresponds to the subject, and the possession corresponds to the finite verb. Further, the possessor can be extracted from its NP the same way as the subject can be moved from its clause in English. The structure of the Hungarian noun phrase (Szabolcsi, 1994) is shown in (10).

[Diagram of DP structure]

Szabolcsi posits that the nominative possessor is base-generated in the specifier of [N+I]P (11), where it receives nominative case from the possessed nominal inflectional complex [N+I]. In her analysis, the nominative possessor in (11) and the dative possessor in (12) are related by movement. She argues that the dative possessor comes about via moving out of the [N+I]P-internal position to the specifier position of DP, where it receives case from the D-head, that is, a / az (‘the’). In terms of current grammatical theory (Chomsky, 1995), the possessor raises to the specifier of DP(Agr) to check its case feature, and the possession raises to D(Agr) to check its phi-features [+person],...
Feature checking takes place in overt syntax and has an overt morphological reflex.

\[(11) \quad [\text{DP} \quad [\text{D} \ a] \quad [\text{NP} \quad \text{Péter} \quad [\text{N}+\text{I}] \text{kalap-ja}]] \]
\[\quad \text{the Peter-NOM hat-3SG/POSS} \]
\[\quad \text{‘Peter’s hat’} \]

\[(12) \quad [\text{DP} \quad \text{Péter-neki} \quad [\text{D} \ a] \quad [\text{NP} \quad \text{ti} \quad [\text{N}+\text{I}] \text{kalap-ja}]] \]
\[\quad \text{Peter-Dat the hat-3SG/POSS} \]
\[\quad \text{‘Peter’s hat’} \]

It is further proposed (Alberti, 1995; Szabolcsi, 1992) that in the possessive be-clause (13), the possessor is obligatorily extracted from the possessive DP to a higher position: it moves to the specifier (topic) position of the CP, for reasons of specificity.

\[(13) \quad \text{Péter-neki \ van \ [C” \ e_{i} \ [C] \ [I” \ e_{i} \ kalap-ja]} \]
\[\quad \text{Peter-DAT is hat-POSS/3SG} \]
\[\quad \text{‘Peter has a hat.’} \]

For the existential verb van [+EXIST] to yield a possessive reading [+POSS], it has to form a complex predicate with the possession that is overtly marked for the feature [+poss] by the possessive inflection (i.e., on the semantic level, the possession is incorporated into van). According to Alberti, the complex predicate van kalapja (‘is hat-POSS/3SG’) takes the extracted possessor Péternek (‘Peter-DAT’) as its only argument. As Kayne (1993) has pointed out, the English possessive have-clause is also derived through movement from inside the nominal DP. However, the possessor in English always appears as a nominative argument and requires no agreement checking or marking with the possessed.

Considering the structural similarities between verbal agreement and possessive agreement in Hungarian, I aim to address the following questions: Is agreement marking equally vulnerable to imperfect acquisition in finite verbs and the various possessive constructions? If not, where and why does morphological variability exist in bilingual children’s weaker LI?

The following hypotheses are considered here:

1. Agreement marking is equally vulnerable in verbal and possessive agreement.

   If morphological agreement in the weaker LI constitutes a general “mapping” problem between syntax and morphology, then we expect to find similar variability in verb agreement and possessive agreement morphology.

2. Agreement marking is differentially affected in verbal and possessive agreement.

   If morphological problems result from vulnerability at the interface between lexico-semantics and syntax and involve interpretable features where the LI and L2 differ, then the possessive be-clause is likely to be the most affected. According to this prediction, cross-linguistic differences between Hungarian be-possessives and English have-possessives may motivate L2-induced change in the weaker LI.
3. Agreement marking is differentially affected in possessive noun phrases and possessive be-clauses.

If morphological marking is sensitive to the complexity of syntactic operations and associated processing procedures, then agreement is expected to be more vulnerable in possessive be-clauses than in noun phrases. Given that possessor extraction targets the vulnerable C-domain (i.e., topic position) in the possessive be-clause, this hypothesis suggests morphological agreement is indirectly affected in C-related construction.

4 Method

4.1 Subjects
The study was undertaken among six Hungarian-English bilingual children, five females and one male. At the time of data collection, the ages of the children ranged from seven to nine. The parents were native speakers of Hungarian and bilingual in English. Four children were born in the U.S.; two arrived in the U.S. before the age of two. All six children learned Hungarian as their first language in the home, but they were also exposed to English before age of two. Given that families lived in areas where access to a larger Hungarian-speaking community was not available, the families’ social network was predominantly English speaking. In fact, outside the home the children had little contact with Hungarian. In each family, however, the parents attached great importance to preserving the mother tongue in the children. They made an effort to maintain the home as a largely monolingual space: they mainly spoke Hungarian to the children, taught them basic literacy skills, and tried to instill a sense of cultural tradition and values in them. At the same time, they also felt important to maximize the children’s access to English and provided space for practices keyed toward assimilation and success in the dominant culture. They envisioned their children to become bicultural, full bilinguals, that is, “double monolinguals.” Five out of six children attended an English-speaking day-care or preschool before they enrolled in public elementary school. At the time of the study each child was described by his or her parents as English-dominant. The children’s preferred language in conversations with siblings and Hungarian-speaking peers was English. The parents also reported gradual relaxation of the “Hungarian-only” home language policy over the years, whereas codeswitching and the use of monolingual English became increasingly acceptable code practices in the families.

4.2 Data
The data come from 18 hours of naturalistic conversations that involved the children and their family members or bilingual peers. The exchanges that took place in a variety of situations—at play, at the dinner table, in the car, on the beach, over the phone—were audio-recorded by the parents. The tape recordings were carried out in an unobtrusive way, although the children were aware of being tape-recorded. No instructions were given regarding language use; that is, the children were free to use Hungarian, English, or codeswitching.
For data analysis the conversations were transcribed, translated, and glossed morpheme-by morpheme as part of a larger project. For the purpose of this paper, the transcripts were analyzed for the use of verbal agreement morphemes and possessive agreement morphemes; tokens and percentages for correct or incorrect morphology were calculated. Incorrect forms were categorized as errors of omission or substitution. Ambiguous forms, phonologically or otherwise, were not included in the count. The distribution of errors was established for verb agreement and possessive agreement in the different types of possessive constructions.

5 Results

Table 2 summarizes the children’s total production of agreement morphology and the proportion of correct and incorrect inflections in each domain. As can be seen, the children produced many more verb inflections (1878) than possessive inflections (285). It is also evident that the children were much more accurate on verb agreement than on possessives: while the error rate was only 3% with verbs, possessive agreement showed a much higher 21% error rate. This finding clearly contradicts the hypothesis that morphological agreement constitutes a general “mapping” problem and all agreement inflections are equally affected in incomplete acquisition.

<table>
<thead>
<tr>
<th></th>
<th>Total Correct</th>
<th>Incorrect</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td>Verb agreement</td>
<td>1878</td>
<td>1815 (96.7)</td>
</tr>
<tr>
<td>Possessive agreement</td>
<td>285</td>
<td>225 (78.9)</td>
</tr>
</tbody>
</table>

In Table 3 we note another striking contrast between verbal and possessive agreement concerning error types. All errors in possessives involve omission (zero-marking) of the inflection on the possessed noun, whereas all verb agreement errors consist of substitutions, that is, misuse of inflections. According to Goad, White, and Steele (2003), Lardiere (1998), White (2003) and others, surface inflections may be omitted in spontaneous speech due to prosodic factors. If production of word-final inflections were the source of difficulty for these bilinguals, we would expect omission of the phonologically identical verb agreement forms. Given the results, a prosodic account seems problematic for these data.

<table>
<thead>
<tr>
<th></th>
<th>Omission error</th>
<th>Substitution error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N)</td>
<td>(N)</td>
</tr>
<tr>
<td>Verb agreement</td>
<td>0</td>
<td>63</td>
</tr>
<tr>
<td>Possessive agreement</td>
<td>60</td>
<td>0</td>
</tr>
</tbody>
</table>

1 The count for verb agreement errors includes errors in S–V as well as O–V agreement.
Two alternative explanations present themselves for the observed asymmetry in error types. First, one might argue that omissions are consistent with the typological fact that nouns commonly occur outside the possessive agreement paradigm, which includes their frequent use in the unmarked nominative form of the case system. Indeed, this unmarked nominative form tends to replace other overtly marked cases in situations of case loss (Bolonyai, 2002; Clyne, 2003; Fenyvesi, 1995; Kovács, 2001). Verbs, on the other hand, are overwhelmingly used in their conjugated form, marking agreement with their subject and object. Moreover, some verbs in Hungarian are stem-based rather than word-based, which means that they can never surface without an overt inflection. Given these differences between nouns and verbs, omission errors could be more likely to occur in the former than in the latter category. The second, and more plausible, explanation implies L2 influence. In verb agreement, where both Hungarian and English have abstract agreement features—whether linked to a rich or an impoverished morphological paradigm—the children make substitution errors. They never produce “missing inflections,” only faulty ones. In possessive constructions, however, where only Hungarian, the weaker language has agreement features on the possessed noun the children are more likely to “skip” checking features and omit surface inflections altogether. This could indicate that the presence or absence of corresponding abstract features in the stronger L2 may affect error types—and, ultimately, maintenance or loss of morphology—in the weaker L1.

Table 4
Distribution of substitution errors in verb agreement: Subject-verb agreement and object-verb agreement

<table>
<thead>
<tr>
<th></th>
<th>Total N</th>
<th>Correct N (%)</th>
<th>Incorrect N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject-Verb agreement</td>
<td>1878</td>
<td>1862 (99.1)</td>
<td>16 (0.9)</td>
</tr>
<tr>
<td>Object-Verb agreement</td>
<td>1878</td>
<td>1837 (97.5)</td>
<td>47 (2.5)</td>
</tr>
</tbody>
</table>

Table 4 indicates some difference in error rate between the two types of verb agreement: errors were more frequent in object-verb agreement (2.5%) than in subject-verb agreement (0.9%). Errors in object-verb agreement meant that the children inaccurately used a definite inflection when indefinite agreement was required or vice versa. An example of incorrect use of verb morphology is given in (14), where definite verbal inflection occurs with an indefinite object (i.e., intransitive infinitival object complement of auxiliary verb tud ‘can’). In monolingual acquisition, definiteness agreement also causes children difficulty, but few errors are made after the age of three (MacWhinney, 1976, 1985). By contrast, a number of studies have found mixing of definite and indefinite inflections in the speech of second-generation adult Hungarian-American immigrants and interpreted it as loss of a marked feature in contact with English (Bartha, 1995/1996; Fenyvesi, 1995; Kontra, 1990). While the bilingual children’s data in this study suggest some instability in the acquisition of object-verb agreement, the relatively low error

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2 While only Hungarian exhibits object-verb agreement, the fact that the definiteness agreement morpheme is often inseparable from the subject agreement morpheme may also facilitate substitution errors in verb agreement rather than omissions as found in possessive agreement.
rate does not indicate that their ability to produce agreement inflections is significantly impaired or lost.

(14) Nem tud-om tovább-men-ni
    not can/PRES-1SG/DEF farther-go-INF
    ‘I can’t go farther’ (JNY 3)

Target: tud-ok
    can/PRES-1SG/INDEF

Table 5
Subject–verb agreement (person and number) and possessor–possession agreement (person and number)

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Correct N (%)</th>
<th>Incorrect N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S–V agreement</td>
<td>1878</td>
<td>1862 (99.1)</td>
<td>16 (0.9)</td>
</tr>
<tr>
<td>Poss. agreement in NP</td>
<td>205</td>
<td>198 (96.6)</td>
<td>7 (3.4)</td>
</tr>
<tr>
<td>Poss. agreement in be-clause</td>
<td>80</td>
<td>27 (33.8)</td>
<td>53 (66.2)</td>
</tr>
</tbody>
</table>

In Table 5, the percentages for subject-verb agreement—that is on person and number marking only—are presented and compared with possessor-possession agreement in noun phrases and be-clauses. Accuracy is the highest in subject-verb agreement (99.1%). The few errors the children made involved quantifier-noun agreement, which then resulted in incorrect subject-verb agreement (cf. Seliger & Vago, 1991). In (15), the noun shows overt plural marking in agreement with the plural quantifier, whereas Standard Hungarian requires that an inherently plural quantifier take a syntactically singular noun with no overt plural agreement on the verb. It is possible that examples such as in (15) reflect influence from English, which exhibits morphological agreement in similar contexts. Overall, however, the findings suggest that agreement morphology—that is, the morphological realization of overtly checked phi-features—in subject-verb agreement does not constitute a problem for these children.

(15) nagyon sok zsák-ok vol-t-ak
    very many sack-PL be-PAST-3PL
    ‘There were a lot of sacks’ (KSH 1)

Target: nagyon sok zsák vol-t
    very many sack/SG be-PAST/3SG

Examining the numbers for possessive agreement, we see a clear contrast between morphological vulnerability in noun phrases and possessive clauses. Agreement marking is fairly accurate (96.6%) in noun phrases but shows many errors at the clausal level; here, inflections are omitted in 66% of the time. Fenyesi (1995) has found a similar pattern among second-generation Hungarian-English bilinguals: she reports almost five times as many errors in clausal possessives ($N = 23$) than in noun phrases ($N = 5$). Monolingual Hungarian children with Specific Language Impairment (SLI) also tend to omit the possessive marker in clausal possessives where the possessor is separated from the possessed noun (Vinkler & Pléh, 1995). In Hungarian L1 acquisition, however,
children do not seem to have problems with possessive agreement after the age of two (Lengyel, 1981).

Table 6
Errors in possessive agreement: Possessor type and construction

<table>
<thead>
<tr>
<th>Possessor type/Construction</th>
<th>Correct N (%)</th>
<th>Incorrect N (%)</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative Poss. / DP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Null pronoun</td>
<td>134 (97.8)</td>
<td>3 (2.2)</td>
<td>137</td>
</tr>
<tr>
<td>Overt pronoun</td>
<td>32 (91.4)</td>
<td>3 (8.6)</td>
<td>35</td>
</tr>
<tr>
<td>Full noun</td>
<td>3 (100)</td>
<td>--</td>
<td>3</td>
</tr>
<tr>
<td>Dative Poss. / DP</td>
<td>29 (96.7)</td>
<td>1 (3.3)</td>
<td>30</td>
</tr>
<tr>
<td>Full noun</td>
<td>29 (96.7)</td>
<td>1 (3.3)</td>
<td>30</td>
</tr>
<tr>
<td>Dative Poss. / be-clause</td>
<td>27 (33.8)</td>
<td>53 (66.2)</td>
<td>80</td>
</tr>
<tr>
<td>Overt pronoun</td>
<td>7 (14.0)</td>
<td>43 (86.0)</td>
<td>50</td>
</tr>
<tr>
<td>Null pronoun</td>
<td>16 (72.2)</td>
<td>6 (27.8)</td>
<td>22</td>
</tr>
<tr>
<td>Full noun</td>
<td>4 (50)</td>
<td>4 (50)</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 6 presents the breakdown of errors by possessor type and construction type.

As we see, there is no significant difference between nominative and dative possessors in noun phrases: accuracy of possessive marking is equally high in both constructions (96.6% and 96.7% respectively). Inflections in noun phrases are the least accurate (91%) when the possessor is an overt nominative pronoun. In (16) for example, the noun *cica* ‘cat’ lacks the requisite possessive inflection that would show agreement with the emphatic pronominal possessor *ő* ‘he’. The overall numbers, however, for possessive nominal phrases suggest two things: First, the children know the appropriate surface morphology for agreement; second, they have little difficulty with dative possessor movement to Spec of DP and agreement checking within the DP.

(16) az *ő* cica-Ø aranyos-abb
the she cat/NOM cute-COMPAR
‘Her cat is cuter’ (HK 5)

Target: cicá-ja
cat-POSS/3SG

With respect to possessive *be*-clauses, the findings in Table 6 suggest a connection between possessor type and agreement marking on the possession. Most errors occur when the dative possessor is an overt pronoun: agreement morphemes are missing 86% of the time. In Example (17), the possessed noun *bicikli* ‘bicycle’ is not marked for agreement with the 1st person singular pronominal possessor *nekem* ‘to me’. Agreement is better

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3 The children displayed no difficulty with case marking on either type of possessor, suggesting that the checking mechanism of uninterpretable case features is intact.
with full nominal possessors (50% correct), shown in (18), and it is the most accurate when the possessor is a null pronoun (72% correct), as illustrated in (19). Unlike in the case of overt possessors (in Examples (17) and (18)), omission errors in the context of pronominal possessor pro-drop result in a formally correct but pragmatically anomalous existential Sentence (19).

(17) Nek-em van egy bicikli-Ø
Dat-POSS/1SG is a bicycle/NOM
‘I have a bicycle.’ (KS 2)
Target: bicikli-m
bicycle-POSS/1SG

(18) A család-nak van egy kutya-Ø
the family-DAT is a dog/NOM
‘The family has a dog and a cat.’ (KS 2)
Target: kutyá-ja
dog-POSS/3SG

(19) Van zöld ruha-Ø
is green dress-NOM
‘I have a green dress.’ (AN 1)
Target: ruhá-m
dress-POSS/1SG

These findings correspond to those of Pfaff (1991) on Turkish among Turkish-German bilingual children who showed a similar tendency to omit inflections on the possessed nouns with overt pronominal possessors. Since overt pronouns provide transparent morphological information about person and number of the possessor (in (15), nekem ‘to me’ carries 1SG inflection), the high rate of agreement omission might occur for reasons of economy. Indeed, the overall pattern of errors indicates a preference for marking the possessive relation only once — on the dative possessor when it is overt, and on the inflected possessed noun when the possessor is null — perhaps in the interest of minimizing costs of syntactic operations (by avoiding overt checking the requisite agreement features in syntax in the presence of overt possessors), while preserving discourse anchoring and interpretability of intended meaning (by maintaining agreement in the presence of null possessors that helps to distinguish possessive sentences from existential ones).

Additionally, the absence of agreement morphology can be linked to the absence of possessor pro-drop, or the faulty use of null pronominal possessors in unfocused contexts where Standard Hungarian does not require them. The children’s data reveals that some of the overt possessors that co-occur with uninflected possessed nouns are pragmatically unmotivated (i.e., they are not emphasized). Arguably, restructuring of the weaker L1 is not random but systematic. It should be noted that the vulnerability of possessor pro-drop in contact with a non pro-drop language parallels that of subject pro-drop in finite sentences, a phenomenon that has been widely attested in various bilingual situations (Silva-Corvalán, 1994; Sorace, 2000; Tsimpili et al., 2004). In both cases we find an over-production of overt subjects. This interpretation is also compatible
with Szabolcsi’s theory (1994) that underscores the structural similarities between possessive agreement and subject-verb agreement.

### 6 Discussion

The results so far have confirmed the hypotheses that morphological agreement is differentially affected in verb agreement versus possessive agreement on the one hand, and in possessive noun phrases versus possessive clauses, on the other. Of all constructions, possessive clauses showed the most agreement errors, as predicted. In this section, I attempt to account for the selective nature of morphological variability. The specific question is, why is morphological agreement particularly vulnerable in possessive *be*-clauses?

#### 6.1 Syntactic complexity: Long-distance agreement

One possibility is that the children’s morphological problem results from the interaction of syntactic and processing factors. Under this assumption, syntactic complexity associated with long-distance possessor agreement could have an impact on the production of morphology. Recall Szabolcsi’s (1994) claim that it takes two steps for the possessor to extract in *be*-clauses: first to Spec of DP, and then out of the noun phrase to Spec of CP, the Topic position. Given that possessive agreement was fairly accurate in dative nominal phrases (96.6%), we could argue that it is in the second step of possessor movement when problems arise and agreement morphology gets omitted. Omission errors may result from limited processing capacity to produce or check agreement across distance; that is, when the possessor and the possessed do not form a constituent (being are separated by the verb *van* ‘*be*’) in overt syntax. The outcome might be seen as a trade-off: Long-distance possessor movement is achieved at the cost of overt checking and supplying agreement inflections. Given the high (66%) omission rate, it is unlikely that these are mere performance errors, but the explanation that complexity of syntactic movement is the sole cause of agreement difficulties seems insufficient as well. While the transcripts reveal difficulty with other types of left-edge movement (e.g., focus-movement) and discontinuous structures (see also Bolonyai, 1999; 2000), these do not appear to coincide with inflectional errors. Syntactic-processing factors alone cannot fully explain why morphology is vulnerable precisely in possessive *be*-clauses.

#### 6.2 Transfer at the syntax-semantics interface: Mapping ‘have’ onto ‘van’

As another possibility, the absence of possessive agreement could be explained by reference to transfer from English. According to this account, the children’s weaker L1 is influenced by their stronger L2 at the syntax-semantics interface where contrastive features of English possessive *have* are mapped onto Hungarian *van* ‘*be*’ in the possessive clause. English and Hungarian possessives show a number of contrastive features, as indicated in (20a-b).

\[(20)\]
\[\text{a. English: } \textit{have} [+POSS] \text{ two-place V; possessor Nom; possessed [-poss, agr]} \]
\[\text{b. Hungarian: } \textit{van} [+EXIST] \text{ one-place V; possessor Dat; possessed [+poss, agr]} \]

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c. Contact variant: \textit{van} [+POSS] two-place V; possessor Dat; possessed [-poss, agr]

Based on the feature specifications of English \textit{have}, the children might assume that Hungarian \textit{van} is like \textit{have}, a two-place predicate with the semantic (interpretable) feature [+POSS] in its lexical representation, rather than an existential verb [+EXIST] that can express possessive meaning only in association with the morphologically marked possession [+poss, agr] (Alberti, 1995; Szabolcsi, 1992, 1994). Under this assumption, activating the morphosyntactic features [+poss, agr] on the possessed noun—which is never inflected in English—may appear to be redundant or optional. Due to English influence, the children treat the possessed noun as if it were a nominative argument of \textit{have} with no morphological agreement features to check and produce a bilingual contact variant, shown in (20c). Further evidence for English influence comes from the patterning of codeswitched nouns in possessive structures. A closer look at the data has revealed that lack of possessive agreement is particularly high (80%) when the possessed noun is a codeswitch from English, which suggests that the insertion of L2 lexical elements (along with their abstract properties) into the structure of L1 may interact with and promote variability in the use of L1 inflections.

This explanation is also consonant with previous claims that in intensive contact with the L2, lexical aspects (semantic-pragmatic, or interpretable features) of the unstable L1 are particularly susceptible to imperfect acquisition, restructuring, and/or eventually to attrition (e.g., Montrul, 2002; Myers-Scotton, 2002; Sorace, 2000). When a grammatical phenomenon involves an interface level between the lexicon and syntax, cross-linguistic mapping of semantic features that differ in the L1 and L2 may have repercussions in morphosyntax\footnote{Vulnerability of interface phenomena with an affect on agreement marking can also be seen in the few errors the children made in verb agreement. Recall that in subject-verb agreement, errors occurred in number agreement with quantified noun phrases, which involves interaction between lexical-conceptual information (inherent plurality of quantifier) and syntax (zero-marking or suppressing grammatical plural agreement). In object-verb agreement, the children showed some difficulty choosing between indefinite and indefinite conjugation, which is governed by a combination of syntactic and semantic-pragmatic factors.}. Arguably, the strong phi-features of possessive agreement are not permanently impaired or lost in the children’s L1; rather, their distribution is more restricted, or context-dependent due in part to cross-linguistic of influence of the semantics of \textit{have} on that of \textit{van} ‘be’. Thus in noun phrases, agreement is almost intact, whereas in possessive clauses it is optional.

6.3 Ambiguity in L1: Partial overlap between possessives, existentials, and locatives

Finally, a third factor that may facilitate morphological variability in possessive clauses has to do with ambiguity in the L1. Note the partial overlap between existential, possessive, and locative constructions in (21).

(21) Existentials: \textit{van egy bicikli} ‘(there) is a bicycle}; Theme [-poss]
Locatives: \textit{nálam van egy bicikli} ‘at me is a bicycle}; Theme [-poss]
Possessives: \textit{nekem van egy biciklim} ‘to me is a bicycle}; Theme [+poss, agr]
Children’s variant: \textit{nekem van egy bicikli} ‘to me is a bicycle}; Theme [-poss]
These constructions are similar in that they all contain the existential verb *van*, but they differ with respect to their arguments. Unlike in possessives, *van ‘be’* in existential and locative constructions takes a nominative theme argument that is [-poss, agr]; this, in turn, is what we find in English *have* constructions. The partial overlap among these structures might further facilitate mapping *have* onto *van* in possessive clauses (cf. ‘transfer to somewhere’) so that the left periphery of the possessive clause (i.e., Dative possessor) appears to be combined with an existential verb phrase. This account also supports Müller (1998, p.153), who argues that “transfer, as indirect influence, is a function of ambiguous properties of the recipient language” and it is used as a “relief” strategy or economic choice.

## Conclusion

In sum, the main goal of this paper was to investigate whether overt morphological agreement is susceptible to variable use in bilingual children’s weaker L1. The data showed evidence of selective vulnerability of the same surface inflections across the nominal and verbal domains: agreement marking caused significant difficulty only in possessive *be*-clauses, while in possessive noun phrases and the verbal domain it was largely error-free. I argued that the main source of instability was at the interface between syntax and lexico-semantics, which in association with other factors—transfer from dominant L2; structural complexity of L1; and ambiguity in L1—affected agreement marking in the possessive-*be* clause only, thereby pointing to the overall robustness of the L1 in bilingual acquisition. On the one hand, these findings provide support for the claim that grammatical phenomena involving interface levels constitute a vulnerable domain in various types of unbalanced bilingualism (Hawkins & Liszka, 2002; Montrul, 2002; Müller & Hulk, 2001; Tsimpli et al., 2004). They show that the “interfaces between syntax and other cognitive systems (i.e., discourse pragmatics, lexical semantics) exhibit more developmental instability than narrow syntax” (Sorace, 2004, p.143). On the other hand, the results of this study also suggest that interface instability and agreement vulnerability may interact in different ways in various syntactic domains, depending on the compounding effect of other additional factors. What this indicates is that there might be “orders” of interface instability, with different interface structures exhibiting different degrees of instability in bilingual contact.

Unlike some L2 learners (Lardiere, 1998; Prévost & White, 2000), the bilingual children in this study did not display a general mapping problem from abstract syntactic features to morphological form. In case of a morphological mapping difficulty, omissions would have been expected in all agreement contexts that require similar inflections, since it is the procedure of “algorithmic mapping,” or “conversion” at the post-syntactic surface level which causes problem (Lardiere, 1998). The findings thus do not support the Missing Inflection hypothesis (Prévost & White, 2000), which also treats morphological omissions as a surface phenomenon. This hypothesis suggests that learners’ “problem is due to inadequate knowledge of specific realization of certain morphemes” (Prévost & White, 2000, p.205), which is not what was found in this study.

At the same time, the children differed from monolingual children as they showed significant delay and imperfect acquisition of a grammatical feature that is not particularly
problematic for monolinguals. Yet, their possessive constructions did not show the type of “underspecification” (Wexler, 1994) that might occur in early monolingual acquisition (Babarczy, 1997). If possessive structures were underspecified, variability in possessive morphology should have co-occurred with other morphosyntactic phenomena such as the use of nominative possessor in place of the requisite dative possessor. Since the bilingual children’s data suggested no such contingency, the distribution of possessive morphology in incomplete L1 acquisition does not support an account in terms of “underspecification” or “structural determination” (Prévost & White, 2000) as proposed for typical monolingual L1 acquisition. That is, a standard L1 maturational explanation cannot be called upon to capture all the characteristics of the L1 of these children. This, of course, is not that surprising, given that they are very much past the early stages of acquisition and that the L1 is no longer their dominant language.

Indeed, the bilingual children in this study behaved more like L2 learners in that their weaker language appeared to be susceptible to cross-linguistic influence from their stronger language and showed restructuring as a result of bilingual contact. This finding lends support to the view that bilinguals’ languages are not stored “in watertight compartments” (Cook, 2003, p.6) in the mind, and that cross-linguistic interaction is more common when bilinguals speak in their weaker, incompletely acquired language, be it L1 or L2. And while this similarity alone does not confirm the hypothesis that weaker L1 acquisition is like L2 acquisition (Schlyter, 1993), it does point to “the potential role of the primary or dominant language in the grammar of the ‘other’ language” (Montrul, 2004, p.274, emphasis in the original) in both incomplete L1 acquisition and L2 acquisition.

Finally, if incomplete bilingual L1 acquisition constitutes a specific type of L1 attrition (Montrul, 2004), the selective vulnerability of agreement morphology may be interpreted as an indication of incipient L1 attrition. This interpretation is in line with the claim that “an L1 system can indeed be eroded … if the attrition process sets in well before puberty” (Köpke & Schmid, 2004, p.9). Studies (Bolonyai, 1998, 2002; de Bot & Clyne, 1989; Jia & Aaronson, 1999; Kaufman & Aronoff, 1991) show that immigrant children’s L1 is particularly prone to L2-induced attrition when the process of attrition begins to affect the L1 before it has been fully stabilized or reached at least a developmental “critical threshold” (Neisser, 1984).

Several questions remain to be explained. Further research is needed to determine whether morphological vulnerability that emerges in early stages of incomplete acquisition is subject to persistent optionality or ultimate attrition in the adult grammar under conditions of prolonged asymmetrical bilingual contact. A related question to be systematically addressed concerns similarities and differences in contact-induced morphological variation between child and adult bilinguals. Comparing contact varieties of bilingual speakers with different acquisition histories might provide more specific information about the relative importance of factors such as age, input, and proficiency in the potential outcomes of language contact. Finally, future work is needed to evaluate whether the asymmetrical distribution of (more or less) vulnerable versus invulnerable morphology holds in a similar way when Hungarian is in contact with languages other than English.

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