Object-drop in Hungarian

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Abstract

In this paper the issue of Hungarian object-drop is presented. It has been stated in the literature that object pronouns are allowed to be dropped only in singular (Farkas 1987, Puskás 2000). This paper, however, explores the possibility of omitting the plural object pronouns. An experiment with acceptability judgment task was conducted concerning plural object-drop. The results show that first and second person plural object pronouns can be dropped – though omitting the second person is more degraded, while third person object pronoun must always be pronounced. The semantic features of pronouns are [speaker], [hearer] and [PL]. There is a hierarchy between the features: *speaker>hearer>PL* (Harley & Ritter, 2002).The omission of the pronoun is allowed if its semantic content can be recovered. Features that are lower in the hierarchy are more difficult to recover, thus second plural pronoun is degraded and third is unacceptable to omit.

1 Introduction

In this paper, I present an experiment on Hungarian object-drop, and propose an analysis for the issue. Hungarian is a language that allows for subjects and objects to be null. Here I am not concerned with the conditions on subject-drop – it is licensed by the rich morphology that distinguishes between subjects in each person and number. The focus of this paper is object-drop, which is strongly connected to the semantic feature composition of object pronouns. Recovering the semantic content of the pronoun is easier if it contains prominent features.

The structure of the paper is as follows: section 2 presents a background to Hungarian pronominal objects; section 3 discusses the experiment on omission of object pronouns; section 4 contains a proposal for the issue at hand; finally, section 5 concludes the paper.

2 Background to Hungarian – Null pronominal subjects and objects

Pronominal elements can be omitted in Hungarian both as a subject and an object. Subject pronouns are generally omitted as the rich agreement morphology on the verb identifies each person in each number distinctively. In Hungarian, subject pronouns may be empty in each person and number. If they are empty, they are generally assumed to be *pro*. Subject pronouns are not pronounced in an unmarked context. Overt pronominal subjects are contrasted. In the next section I discuss the differences and similarities between subject pronouns and object pronouns. Now let us turn to null arguments one by one in more detail.

Pronouns of Hungarian can be null, but there is a difference between omission of subject pronouns and the omission of object pronouns. Subject pronouns are generally null, when they are pronounced they express a contrast to all the other persons (as in (1)).

(1) a. (Én) elmentem a buliba.
I went-1SG the to.party
'I went to the party.'

b. ÉN elmentem a buliba.
I went-1SG the to.party
'I went to the party (not you or anyone else).'

Object pronouns do not have a contrastive or emphatic meaning when overt (as in (2)). They are generally omitted also.

(2) a. Mari szeret.
Mari love-3SG$_{subj}$
'Mary loves me/you.'

b. Mari szeret engem.
Mari love-3SG$_{subj}$ me
'Mary loves me.'

Though subject omission is explained by the fact that Hungarian has rich morphological agreement that marks each person and number distinctly, it is not true for objects. There is no morphological marker on the verb identifying the person or number features of the object pronoun. There is only definiteness agreement (Bartos 1997) between the verb and its object.

There are two verbal paradigms in Hungarian: subjective conjugation (as in (3)), and objective conjugation (see (7) below). The selection of the verbal paradigm is related to the definiteness of the object that the verb takes (Bartos 1997).

(3) subjective conjugation

	singular	plural
1st	lát- ok	lát- unk
	see-1SG$_{subj}$	see-1PL$_{subj}$
2nd	lát- sz	lát- tok
	see-2SG$_{subj}$	see-2PL$_{subj}$
3rd	lát- Ø	lát- nak
	see-3SG$_{subj}$	see-3PL$_{subj}$

The 'subjective' conjugation is used with intransitive verbs (as in (4)), and transitive verbs which take an indefinite object (as in (5)).

(4) (Te)Úszol.
you swim-1SGsubj
'You swim.'

(5) Látok/ *látom egy fiút.
see-1SG$_{subj}$ see-1SG a boy
'I see a boy.'

First and second person pronominal object pronouns also trigger subjective conjugation on the verb (as in (6)).

(6) (Te) Látsz/ *látod minket.
you see-2SG $_{subj}$/ see-2SG $_{obj}$ us
'You see us.'

The 'objective' conjugation (as in (7)) is used with transitive verbs taking a definite object (see (8) below). Concerning the subject of a verb, both conjugations have separate agreement morphology for all persons and numbers. However, the verb only agrees with its object in terms of definiteness.

(7) objective conjugation

	singular	plural
1st	lát- om	lát- juk
	see-1SG$_{obj}$	see-1PL$_{obj}$
2nd	lát- od	lát- játok
	see- 2SG$_{obj}$	see-2PL$_{obj}$
3rd	lát- ja	lát- ják
	see- 3SG$_{obj}$	see-3PL$_{obj}$

In (8), the object of the verb *látom* 'see' is a DP with the definite article introducing the noun *fiút* 'boy-ACC'. Interestingly enough, if the object of the verb is pronominal, only the third person pronouns – singular and plural alike – trigger objective conjugation (as in (9)).

(8) a. *Látok a fiút.
see-1SG$_{subj}$ the boy

b. Látom a fiút.
see-1SG$_{obj}$ the boy-ACC
'I see the boy.'

(9) a. *Látok őt/ őket
see-1SG$_{subj}$ him them

b. Látom őt/ őket.
see-1SG$_{obj}$ him them
'I see him/them.'

The objective paradigm presented in the previous section is the only agreement the verb shows with regards to its object. However, Coppock (2004) argues that the inflection *-lak*/*-lek* contains *–l* that is the agreement morpheme for person (den Dikken, 2004). This affix is part of the subjective conjugation and takes an indefinite second person object pronoun (as in (10)).

(10) Lát- l- a- k (téged).
see- 2SG$_{obj}$- 1SG$_{subj}$ you-ACC
'I see you'

This suffix expresses that the subject is first person singular and the object is second person, either singular or plural.

It has been suggested that the object pronouns in Hungarian may be phonologically empty in the singular but not in the plural (Farkas 1987, Puskás 2000). The judgments below reflect those of the literature.

(11) Mari lát (engem).
Mari see-3SG subj me
'Mari sees me.'

(12) Mari lát (téged).
Mari see-3SG subj you
'Mari sees you.'

(13) Mari látja (őt).
Mari see-3SGobj him/her
'Mari sees him/her.'

(14) Mari lát *(minket).
Mari see-3SGsubj us
'Mari sees us.'

(15) Mari lát *(titeket).
Mari see-3SGsubj youpl
'Mari sees you.'

(16) Mari látja *(őket).
Mari see-3SGobj them
'Mari sees them.'

In this section, the necessary background for Hungarian was presented. The aim of this background is to familiarize the reader with the key concepts of the structure and build-up of Hungarian pronouns. I present the results of an acceptability judgment experiment that was designed to investigate whether and to what extent the above empirical generalizations hold. In section 4, I present a theoretical analysis of the findings.

3 Experiment

Based on the claims of the literature the following research questions have been put forward:

(i) Is it possible to drop object pronouns in the plural?

(ii) If so, is there a difference between the acceptability of the singular and plural dropped object pronouns?

(iii) Is there a tendency for speakers to constitute groups in favor or against object drop in the plural?

3.1 Method

The test was an acceptability judgment test on a Likert-scale (scores from one to seven). The test was constructed in Google. The participants were presented with a sequence of sentences following one after another. They were asked not to spend a lot of time thinking about the sentences, and not to go back once they graded the sentence on the scale. After grading the sentence, it disappeared from the screen and the next one appeared.

There were 6 individual tests made out of the 112 target sentences, they were divided into 7 sets, each containing 4 elements. Then a matrix was constructed by the Latin square of the seven sets. To the 112 target sentences there were two filler each. This way one test contained 42 sentences: 14 target sentences and 28 filler sentences. Each test was put in a pseudo-random order, arranging the target sentences in equal distance from each other. A target sentence was followed by two filler sentences. The filler sentences were first randomized and then put to blocks with the target sentences.

3.2 Participants

There were 249 unpaid participants, all of them native speakers of Hungarian from the age of 15 to the age of 58.

3.3 Test Material

Each participant was shown one sentence at a time. The target sentence was a conjunct sentence, where the subject of the first clause served as antecedent for the object of the second clause. The subject itself was unpronounced. The object of the first clause served as the antecedent of the subject of the second clause. I give a sample of the blocks in (17).

(17) Target: Elbújtatok előlünk, mégis megtaláltunk.
hid.2PL from.us, still found.1PL
'You hid from us, still we found you.'
Filler1: Ártatalan voltunk, ők mégis meggyanúsítottak.
innocent were.1PL they still accused.3PL
'We were innocent, still they accused us.'
Filler2: Azóta játszotok vele, mióta megismertétek őt.
that-since play with.him since get.to.know him
'You have been playing with him, since you know him.'

Filler1 in (17) is ungrammatical, as it has an adjectival predicate '*innocent*' that needs to agree in number with the subject. The ungrammaticality of the filler sentences was due to mismatch in agreement or wrong complementation. In each test there were 28 filler sentences: 9 ungrammatical, 4 marginally acceptable and 15 grammatical sentences. The filler sentences balanced the expected grammaticality judgments of the target sentences. The expected results for the sentences were the following:

(18) null object pronoun: *engem* 'me'→expected score: 7
null object pronoun: *téged* 'you' → expected score:7
null object pronoun: *őt* 'him/her' → expected score:7
null pronoun: *minket* 'us'→ expected score: ? varies among speakers
null object pronoun: *titeket* 'you' → expected score: ? varies among speakers
null object pronoun: *őket* 'them' → expected score: 1-2

3.4 Results

The responses to the test were separated into a sheet in Excel sorted by the person and number of the null object pronoun. Then the following statistical analyses were run on the scores given in the responses.

3.4.1 Descriptive statistics

The descriptive statistical tests were run on the set of the 6 dimension – the six object pronouns. The following frequency tables illustrate the distribution of scores in the six dimensions (figure 1 to figure 6):

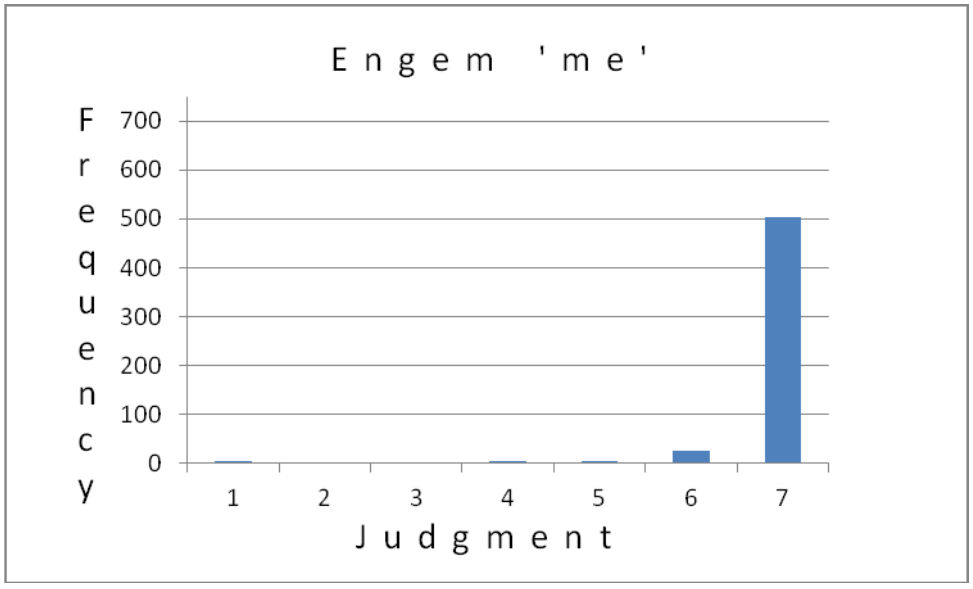


Figure 1: The frequency of jugdments given for dropping *engem* 'me'

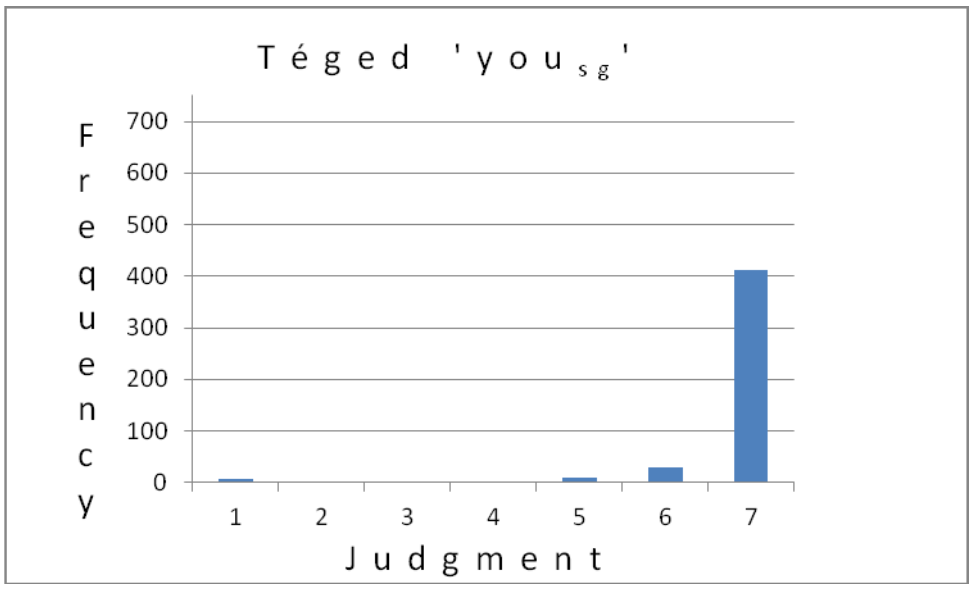


Figure 2: The frequency of judgments given for dropping *téged* 'you'

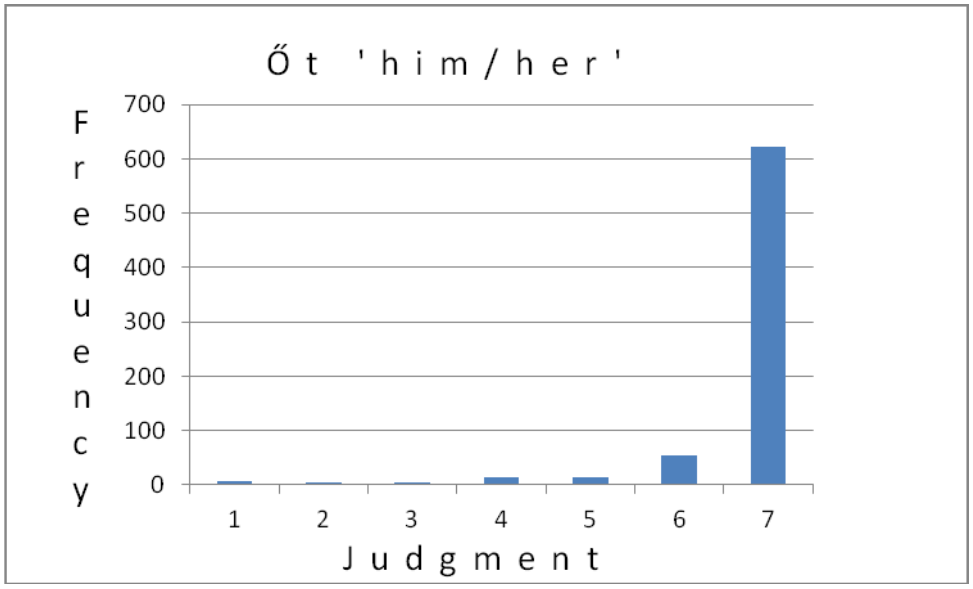


Figure 3: The frequency of judgments given for dropping *őt* 'him/her'

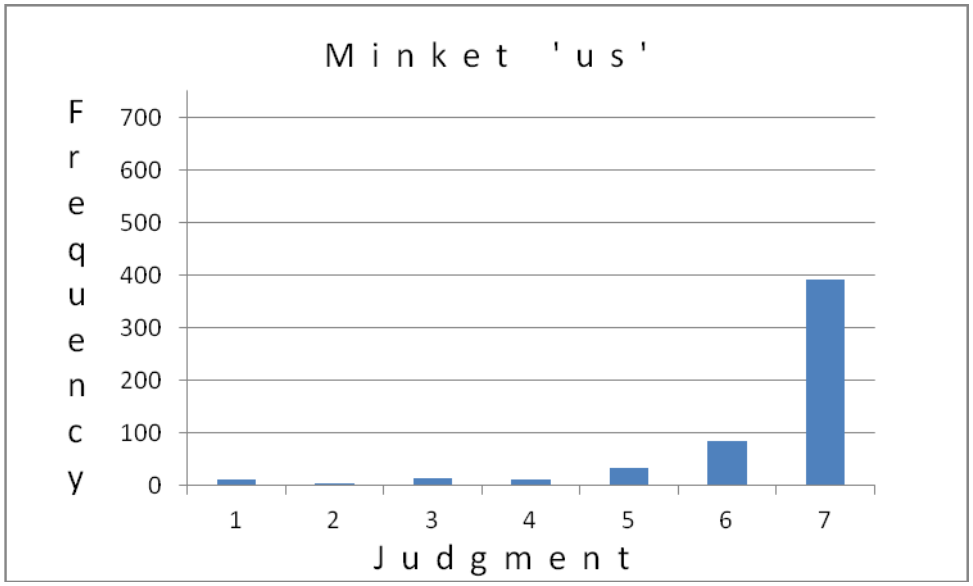


Figure 4: The frequency of judgments given for dropping *minket* 'us'

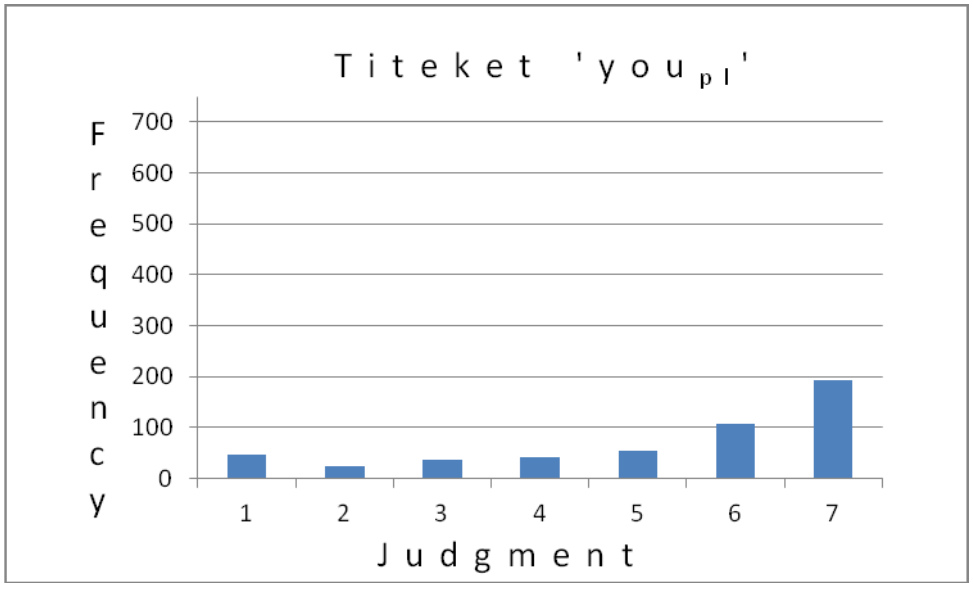


Figure 5: The frequency of judgments given for dropping *titeket* 'you'

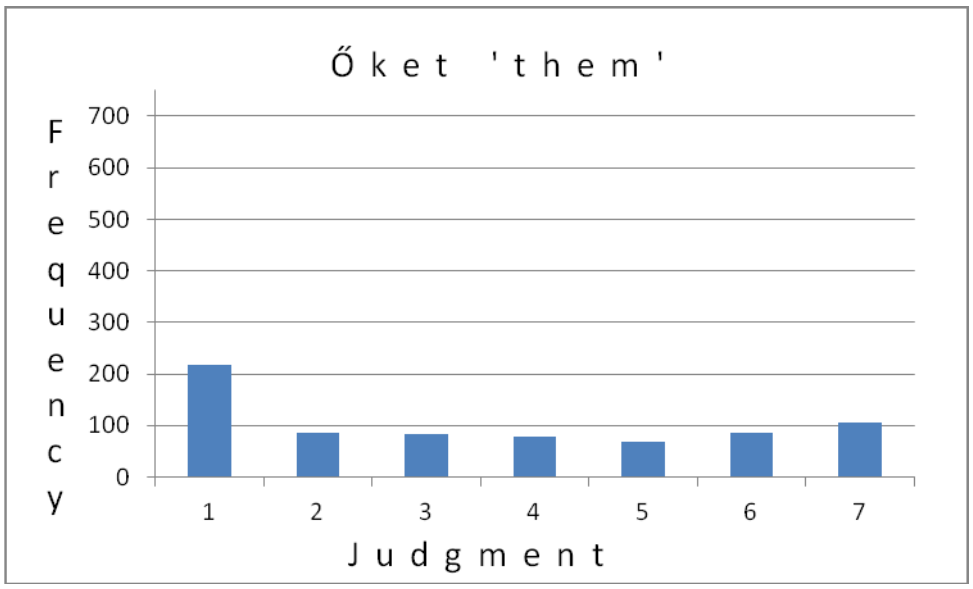


Figure 6: Frequency of judgments given for dropping *őket* 'them'

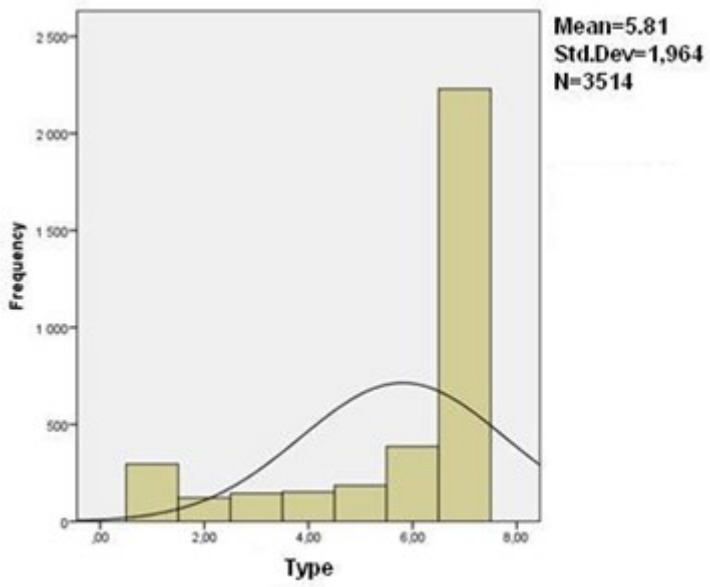


Figure 7: The distribution of the entire sample

The statistics run on the raw materials – without normalization - yielded the following results. The histogram in Figure7 illustrates the shape of the distribution for the entire sample (normal curve displayed): It can be seen that the distribution is heavily skewed to the right. Therefore, non-parametric tests were carried out (Mann Whitney U test, Wilcoxon
Signed Rank Tests.)

Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted to test normality. Both tests for the entire sample indicated non-normal distribution (p values of < 0.001 for both tests), which prompted us to analyze the data using non-parametric statistics (Mann-Whitney U tests and Wilcoxon signed-ranks tests).

Altogether, 3514 data points served as input to inferential statistics. There were no missing data points. The median score for the entire sample was 7, the mean 5.81, the mode 7. Other descriptive data and frequencies are reported in the following two tables:

Statistics

Tipus

N	Valid	3514
	Missing	0
Mean		5,8122
Median		7,0000
Mode		7,00
Std. Deviation		1,96366
Variance		3,856
Range		6,00
Minimum		1,00
Maximum		7,00

Figure 8 Further descriptive statistics of the sample

From the aspect of the analysis it was essential to make a comparison between the singular-plural pairs of the pronouns; that is, we wanted to know what kind of differences are there between the pronouns, namely between the following pairs: *őt* 'him/her'-*őket* 'them', *engem* 'me- *minket* 'us',

In the following, inferential statistics are to be reported. Both within- and between-subject analyses were conducted on the data because the design of the experiment combines these two approaches. However, given the list-design of the experiment, within-subject analyses are to be taken primary. Mann-Whitney U tests with Bonferroni correction were carried out on the average of raw scores in the 6 dimensions. Pairwise comparisons revealed that the comparisons are highly significant (p<.001) (the reported p values are already Bonferroni-corrected). *őt* 'him/her'-*őket* 'them'(p<.001), *engem* 'me'-*minket* 'us'(p<.001), *téged* 'you$_{sg}$'-*titeket* 'you$_{pl}$' (p<.001), *minket* 'us'-*titeket* 'you$_{pl}$' (p<.001), *minket* 'us'-*őket* 'them' (p<.001), *titeket* 'you$_{pl}$'-*őket* 'them' (p<.001).

Within-subject analyses complemented these between-subject analyses, which exactly parallel the results of the between-subject analyes. Wilcoxon signed-ranks tests were conducted, which returned the previous six comparisons also as significant (p<.001) (p values already Bonferroni-corrected): *őt-őket, engem-minket, téged-titeket, minket-titeket, minket-őket, titeket-őket*.

Test Statistics[a]

	Őket - Őt	Minket - Engem	Titeket - Téged	Titeket - Minket	Őket - Minket	Őket - Titeket
Z	-20,733[b]	-8,067[b]	-12,575[b]	-10,079[b]	-17,026[b]	-12,326[b]
Asymp. Sig. (2-tailed)	,000	,000	,000	,000	,000	,000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks.

Figure 9 Wilcoxon signed-ranks Test

To answer the research question whether there is variation among the speakers in the acceptability of null plural object pronouns, a two-step cluster analysis was conducted. The two-step cluster analysis is a procedure of statistics that is designed to reveal the clusters (or groups) within a set of data. The clusters are detected using various techniques, all of which aims at discovering similarities that is undetectable for the human observer. The mathematical algorithm selects variables on which the data of a group or cluster is similar. The result of the cluster analysis revealed that there are two clusters. The algorithm selected *minket* 'us' as the best predictor. The predictor is the variable chosen from the variables of the test. The selected variable will be the basis of the division among the responses. This means that the scores given for the omission of *minket* 'us' can predict the scores the participants will give for the other omitted object pronouns. The predictor is the variable around which the clusters are organized. The results for the acceptability of the pronouns are presented in Figure10.

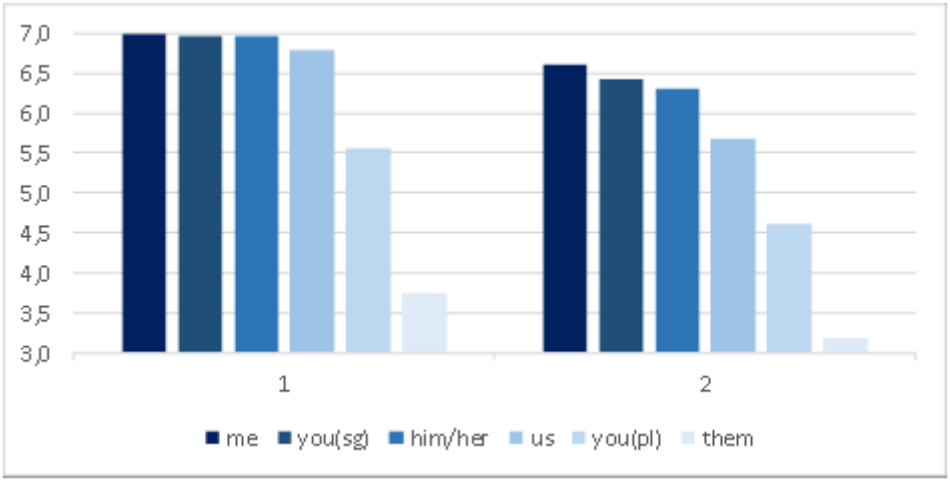


Figure 10 Acceptability scores for pronoun omission

As can be seen from Figure10, the two clusters differ in the rating of singular pronouns as well. The reason for the occurrence of two clusters is external to grammar proper; it might be connected to processing, that is, to the ease of recoverability of antecedent.

3.5 Discussion

Based on the result of the experiment I answer the research questions. (i)The results of the experiment show that speakers of Hungarian accept the omission of plural object pronouns in coordinated sentences with the exception of *őket* 'them'. (ii) There is a decline in acceptability among the plural object pronouns from the first person to the third person. (iii) Speakers seem to accept the omission of object pronouns the same way. The above cluster analysis does not show that there would be two separate groups of speakers; that is, the answers of the two groups in Figure10 are almost identical.

4. Proposal

Based on the results of the experiment, it can be seen that the acceptability of dropped object pronouns decreases in plural and even more so in the case of third person plural object pronouns. To account for this, let us turn to a morphosyntactic approach that might be able to shed some more light on the features that constitute personal pronouns, and play an ample role in the licensing of the deletion of the pronouns.

The importance of features of pronouns has been realized as early as Greenberg (1963) but he does not go beyond a crosslinguistic descriptive generalization on the relations of feature and agreement or the dependence of one feature on another. However, there has not been proposed an organized structure for the features, they were regarded as an unordered feature bundle. Greenberg's generalizations capture some regularities already, and those regularities are described in the system of Noyer (1992).

Noyer sets up a hierarchy among the features, which is called *Universal Feature Hierarchy* (UFH). In the following, I present the relevant hierarchical order for this proposal (as in (19)).

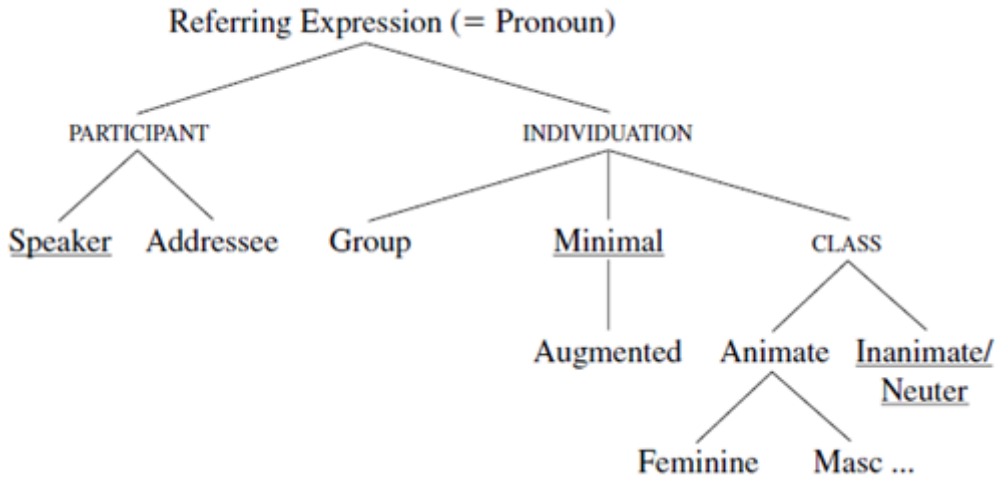
(19) Universal Feature Hierarchy (Noyer 1992)

person feature > number features >gender features

This is important because it relates the features to one another in an ordered manner and the deletion of those may depend on the hierarchical order. Though Noyer sets up the hierarchy for the features, he still treats them as unordered inside the bundle. His hierarchy serves as a constraint on the deletion of the features. If a form needs to be distinguished through the deletion of a feature, the hierarchy will tell which one of the features is the lower on the hierarchy and the lower one gets deleted.

Harley & Ritter (2002) propose a feature geometry – similar to that of phonological models – where the features are ordered in a tree structure with the hierarchical dependencies (see in (20)).

(20) Feature geometry by Harley / Ritter (2002:486)



The highest node on the geometry of features is the node of person features (in accordance with UFH). This geometry is universal and languages can use any of the subset of features represented above. Person is defined by the feature of speaker (first person) and addressee (second person). Number features are under the second node: Group being plural and Minimal representing singular. Class is not relevant for my proposal as I am only concerned with animate object pronouns. When deleting pronouns the directionality of the deletion counts. The features are easiest to be omitted from the lower nodes.

Thus, it is clear that the deletion of singular pronouns is accepted, given the fact that the feature node '*Minimal*' is more to the left and lower with respect to the other relevant feature nodes. The information is less specific as one goes lower on the geometrics. The schema in (20) is universal, and so languages may choose from the nodes that they make use of.

Using the speaker and addressee features, it may be easier to explain the difference between the plural object pronouns that presented the puzzle so far. In light of the results of the experiment, it can be seen that the acceptance of omitting plural object pronouns is becoming more degraded towards third person. This can be accounted for if one follows the feature geometrics and the featural set-up of the pronouns. The deletion of the first person plural object pronoun *minket* 'us' seems to be almost as good as the deletion of singular pronouns, whereas the deletion of the second person plural object pronouns is slightly less acceptable. Nevertheless, the gap is even wider between second and third person plural objects. Third person plural null object pronoun *őket* 'them' is not acceptable.

The reason for the (un)acceptability of the omission lies in the featural composition of the pronouns. I propose that the features of the pronouns are privative, that is, they do not have values. A feature is either present or absent. The number feature manifests only in plural as a [PL] feature. The features [speaker] and [hearer] are privative as well, thus they are completely absent from the third person pronouns. In (24), I give the assumed features of object pronouns of Hungarian.

(21) 1st person singular: *engem* 'me' [speaker]
2nd person singular: téged 'you' [hearer]
3rd person singular: őt 'him/her'
1st person plural: minket 'us'[speaker], [PL]
2nd person plural: titeket 'you' [hearer], [PL]
3rd person plural: őket 'them' [PL]

The fact that there is no number feature marking [singular] explains why the deletion of singular object pronouns poses no difficulty. The only feature to be recovered is found on the verb. Third person singular does not contain person features (following den Dikken 2004). However, when it comes to plural, the recovery is made harder by the presence of plural number feature. When the plural object pronoun is deleted, the number [PL] feature is the lowest on the scale to get deleted, then [hearer] and only after that is [speaker] deleted. Harley & Ritter (2004) claim that those features that are lower on the hierarchy scale are easier to be dropped. I propose that the reason for the deterioration in acceptance of null plural object pronouns from the 1st person to 3rd person is because the most prominent [speaker] then [hearer] features are deleted and it makes it harder to recover the content of the pronoun. First and second person plural object pronouns have a plus value for the prominent feature in them and are easier to recover for the speakers. Third person plural object pronouns do not contain any of the prominent features, only the number feature that needs to be pronounced together with the pronoun.

The feature matrix of the pronouns indicates that there is a difference between third person and the other pronouns. Though third person pronouns are seemingly similar, their behavior in object-drop suggests that they are not. The mechanism responsible for the deletion of object pronouns is NP-deletion. Third person singular null object pronoun is not the result of NP-deletion; rather it is an instance of agreement based *pro*-drop due to the definiteness agreement between the verb and its object.

5. Conclusion

In this paper, I considered the possibility of object-drop in Hungarian for plural object pronouns. The object-drop in Hungarian poses a complicated picture. Traditionally it is claimed that plural object pronouns cannot be omitted. While this may be true for matrix clauses, in coordinate constructions plural object pronouns may be phonologically zero, if the antecedent for the object is indicated in the first conjunct.

The analysis proposed in this paper is based on the semantic feature composition of pronouns. I propose that the pronouns are described by the privative features [speaker], [hearer] and plural [PL] feature. Singular is not marked or rather marked by the lack of number feature. In recovering the zero object pronouns, the speaker relies on the prominent PERSON features, that is either [speaker] or at least [hearer] must be present. First person plural object pronoun *minket* can be dropped almost as easily as the singular ones, since it has the feature [speaker], second person plural object pronoun *titeket* is already harder to recover as it lacks the feature [speaker] but still [hearer] is present, so it can be dropped. Third person plural object pronoun *őket* lacks all person features but has only the number feature, that is why it cannot be dropped, as plural would not be recoverable. The absence of both the person and number features allows singular third person *őt* 'him/her' to be dropped.

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