THE POSSESSIVE DATIVE IN SERBIAN AS A VALENCY PHENOMENON: A PRELIMINARY EMPIRICAL STUDY

This paper deals with two factors cross-linguistically known to play a role in the use of the possessive dative constructions: the semantic properties of the verb (patient-affecting vs. non-patient-affecting), and the nature of the possessive relationship (inalienable vs. alienable). Specifically, we look at how these two factors are relevant for Serbian, a language with a relatively free use of the possessive dative. We report an empirical study consisting of an offline Likert scale acceptability judgement task and an online binary acceptability judgement task, whose results indicate that the acceptance rates for the possessive dative in Serbian are dependent on both of the studied factors and are best explained through their interaction.

Keywords: Serbian, possessive dative, affectedness, inalienability, acceptability judgements

1. INTRODUCTION

As illustrated by the Serbian examples in (1), the possessive dative is a syntactic phenomenon in which the possessor is expressed outside the noun phrase containing the possessum, specifically by a clause-level constituent in the dative case.

(1) a. Lekar mu je pregledao glavu.
   ‘The doctor examined *his* head.’ (lit. ‘The doctor examined the head to him’)

b. Brat joj je nestao.
   ‘Her brother disappeared.’ (lit. ‘The brother disappeared to her’)

Owing to the NP-external status of the possessor, the possessive dative forms are also known as (a subtype of) external possession constructions.²

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¹ This paper has been written as part of the project No. 178004, The Standard Serbian Language: Syntactic, Semantic and Pragmatic Explorations (Standardni srpski jezik – sintaksička, semantička i pragmatička istraživanja), funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia.
² The encoding of the possessor in a dative phrase is an areal feature found in European languages, including some non-Indo-European ones (see König/Haspelmath 1998:}
Their syntactic analysis constitutes a major problem for linguistic theory precisely for this same reason, i.e. due to the fact that the dative constituent attaches to the verb despite not being licensed by its argument structure. In other words, as noted by König (2001: 977), “[…] external possession constructions challenge the notion that clause-level syntax depends directly on the argument structure or valence of individual verbs, a notion that is part of many syntactic theories”. Theoretical accounts (see Payne/Barshi 1999 for a detailed overview) typically try to resolve this mismatch by positing lexical mechanisms that will allow the verb to license an additional argument, or by assuming that this argument is in fact indirectly introduced by the possessum (which as a rule is a relational noun). Some proposals are more pragmatically oriented and reliant on the idea that the dative possessor has a more prominent syntactic role (compared to the NP modifier of internal possession constructions, cf. njegova glava ‘his head’) because it is more cognitively or pragmatically salient than the possessum (as is normally the case in inalienable possession in general, and part-whole relationships in particular), and/or because it is affected by the action expressed by the verb.

The possessive dative has also received a lot of attention in the typological literature, where the focus has largely been on defining its conditions of use, or more specifically, the syntactic and semantic constraints it is subjected to. These constraints (described in more detail in the next section) are related to the same properties relied upon by the theoretical accounts, most notably the affectedness of the possessor and the type of the possessive relation. However, in the typological perspective more attention is dedicated to less central cases and to cross-linguistic differences, as the constraints are rather tight in some languages (such as Dutch or French, see Lamiray 2003), while being more loose in others (e.g. German, Italian or Romanian). Going back to the issue of valency, it seems desirable to concentrate more on findings from languages of the latter type, as they alone can provide a full range of data on the relevance for the licensing of the dative NP of factors such as affectedness and possessive relation type.

Serbian is one of the languages that are known to make a wide use of the possessive dative,3 but it has not as yet been extensively studied from this perspective. To be precise, all grammars of Serbian discuss this phenomenon, and examples also abound in papers (see e.g. Antonić 2004), but what still appears to be missing is an in-depth analysis of the productivity of the possess-
The possessive dative with respect to typologically established restrictions. Steps in this direction have been made in studies such as Šarić (2002); the author compares Croatian and Serbian to other Slavic languages, and concludes that about half of their possessive datives differ from those of languages such as Slovenian or Russian, and resemble Bulgarian in being neutral expressions of possession, rather than expressing solely the affectedness of the possessor’s personal sphere. However, a further elaboration of the status of Serbian with regard to the typologically dominant patterns is still lacking.

The aim of the present paper is to address some of the above topics by exploring how two of the four typically discussed cross-linguistic constraints on the use of possessive dative are relevant for Serbian, in particular the semantic properties of the verb (patient-affecting vs. non-patient-affecting), and the nature of the possessive relationship (inalienable vs. alienable). We report an empirical study that consisted of an offline and an online acceptability judgement task, whose results indicate that despite its productivity, the possessive dative in Serbian is influenced by both of the studied factors; however, unlike in some other languages, the constructions with alienable possessa and non-affecting predicates receive indeterminate judgements rather than being rejected as fully unacceptable. The (tentative) conclusion we reach is that the use of the possessive dative in Serbian might be dependent primarily on the ease of establishing a possessive relation between two referents, and only indirectly on the possessor’s affectedness and the nature of the possession relationship.

2. Cross-linguistic constraints on the possessive dative

The possessive dative is cross-linguistically subjected to a set of constraints often subsumed under the label “affectedness condition” (see e.g. Haspelmath 1999: 111), generally meaning that the possessor in question must be in some way affected by the described situation. This broad condition is typically split into four more specific restrictions, all of which contribute to seeing the possessor as affected. Following König and Haspelmath (1998), Haspelmath (1999), Payne and Barshi (1999) and König (2001), these restrictions can be summarised as shown in Table 1; each constraint is associated with an implicational hierarchy given in the column to the right.
1. The animacy of the possessor

Animate (in particular human) possessors are strongly preferred over non-animate possessors.

\[1/2^{nd} \text{ p. pronoun} > 3^{rd} \text{ p. pronoun} > \text{proper name} > \text{other animate nouns} > \text{inanimate nouns} \]

(Haspelmath 1999: 113, König 2001: 976)

2. The type of predicate

Dynamic or eventive predicates are preferred over the stative ones, and patient-affecting predicates are preferred over the non-patient-affecting predicates.¹

patient-affecting > dynamic non-affecting > stative

(Haspelmath 1999: 113)

3. The type of the possessive relation

The possessive dative is typically used to describe a situation in which the possessum is inalienably possessed by the possessor.

body part > garment > other contextually unique item

(Haspelmath 1999: 113)

4. The syntactic relation of the possessum

The possessive dative is favoured if the possessum is a prepositional phrase or a direct object. Unaccusative subjects are also often allowed; other subjects are cross-linguistically very rare.

PP > direct object > unaccusative subject > unergative subject > transitive subject

(Haspelmath 1999: 113)

Table 1. Constraints on the use of the possessive dative

Clearly, while the fourth constraint is a syntactic one, the remaining three are semantic in nature. As mentioned in the introductory section, the focus of the present paper is on constraints 2 and 3, i.e. on the semantic properties of the verb and the nature of the relation between the possessor and the possessum. Both these constraints have a well-attested syntactic relevance outside the domain of the possessive dative, with affectedness believed to be of crucial importance for a number of voice-related phenomena such as the passive, or reflexive and reciprocal formation (see e.g. Shibatani 1985), and (in)alienability having consequences in all types of possessive marking and interpretation (Nichols 1988; Stolz et al. 2008; Lichetnberk et al. 2011).²

¹ The most typical instances of possessive dative use contain verbs denoting physical contact and change (König/Haspelmath 1998: 533).

² The distinction between inalienable and alienable possession is a key one in the domain of possessive marking. Many languages have special markers for each of the two types of possession; the languages of Europe do not grammaticalise this difference in such a way, but many do have trends that go in a similar direction; the use of the possessive dative, typically used to encode inalienable possession, is one of them.
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The hierarchies discussed above are relevant for Serbian too, as evidenced by the existing quantitative data. Šarić (2002: 9) reports, based on the study of a 700,000 words corpus of Croatian, Serbian, Bosnian and Montenegrin fictional prose, that the ratio of dynamic to non-dynamic verbs in the possessive dative in these languages is 4:1, while the possessum “tends to be inalienable“ (body parts take up about 61% of the cases, human qualities 10%, other abstract nouns 9%, kinship terms 8%, other concrete nouns 6%, clothing terms 5%, and other humans less than 1%). However, what is also relevant for the analysis of the possessive dative in Serbian is that it can (albeit less frequently) be used in the rightmost cases of all four typological hierarchies. Focusing on the contexts relevant for our study, examples in (2) illustrate the use of the possessive dative with non-patient-affecting/stative verbs, while examples in (3) show the same for alienably possessed nouns; all examples are taken from the *Corpus of Contemporary Serbian Language* (Vitas et al. 2003).

6 Overall, the possessive construction appears to be relatively infrequent compared to other meanings of the dative; according to Šipka (2006), it takes up only about 5% of all dative uses.

7 http://korpus.matf.bg.ac.rs/prezentacija/korpus.html (last accessed on 10 May 2012). The reference numbers in brackets are assigned to sentences by the corpus.
An interim conclusion to be drawn, therefore, is that Serbian does follow the cross-linguistic tendencies in preferring inalienable possesa and (dynamic) patient-affecting predicates, but imposes less rigid constraints on the use of the possessive dative, and rather than grammaticalising its preferences it also allows some less typical options.

4. **The study**

4.1 *Aims and predictions*

While there are some data on the frequency of use of the possessive dative in Serbian, to the best of our knowledge, no studies have looked at how native speakers perceive this construction, and in particular its well-formedness with different types of verbs and possesa.\(^8\) The aim of our study was to conduct a preliminary investigation into this aspect of the possessive dative construction, and to look at how native speakers of Serbian respond to different verb-possessa combinations. Two versions of an acceptability judgement task (AJT) were constructed to this purpose, an offline and an online one. As all combinations of (non-)affecting verbs and (in)alienable possesa are attested in corpus data, we predicted that they would all be judged as acceptable by the native speakers, with the strengths of preferences matching the frequencies of use. On the more exploratory side, we were interested in seeing whether one of the two factors, (in)alienability or (non-)affectedness, is more relevant to the judgements than the other.

4.2 *Participants*

A total of 64 native speakers of Serbian participated in the study, 36 in the offline, and 28 in the online version of the task. At the time of testing all participants were 1\(^{st}\) year students of Serbian or foreign languages at the University of Belgrade and they took part in the study for course credit.\(^9\) The participant data are summarised in Table 2.

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\(^8\) Šipka (2006) looked at processing times for sentences containing the possessive dative, but his study was aimed at comparing different uses of the dative and did not manipulate any of the factors specific to the possessive situation.

\(^9\) Given that the participants were recruited in a mixed option course, several 2\(^{nd}\) and 3\(^{rd}\) year students participated in the study too, but their data were eliminated from the analysis in order to create as linguistically naïve subject groups as possible.
THE POSSESSIVE DATIVE IN SERBIAN AS A VALENCY PHENOMENON: ...

<table>
<thead>
<tr>
<th>Task</th>
<th>Number of participants</th>
<th>Age at testing (years)</th>
<th>Gender</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>Range</td>
</tr>
<tr>
<td>Offline AJT</td>
<td>36</td>
<td>19.19</td>
<td>18-25</td>
</tr>
<tr>
<td>Online AJT</td>
<td>28</td>
<td>19.18</td>
<td>18-23</td>
</tr>
</tbody>
</table>

Table 2. Participants’ biodata

4.3 Materials, design and procedure

The same materials were used in the online and the offline version of the AJT. The participants had to judge a total of 48 pairs of sentences, 24 of which were experimental items, and 24 distractors. The first sentence of each pair provided a context for the second one, which contained the target possessive dative construction (or some other structure in the case of distractors). As the goal was to study the impact of (in)alienability and (non-)affectedness, the other two factors, the animacy of the possessor and the syntactic relation of the possessum, were kept constant: all possessors were human and denoted by 3rd person singular clitic pronouns (half masculine, half feminine), while all possessa functioned as direct objects.

The sentences featuring the possessive dative were created by combining inalienable and alienable possessa with patient-affecting and non-patient-affecting verbs, using the lexical items shown in Table 3.10 The lexical material in each of the four categories was divided into two sets, A and B, to enable all four combinations (inalienable–affecting, inalienable–non-affecting, alienable–affecting, alienable–non-affecting) without repeating the same lexical material. Combining the lexical subsets in four different ways, four lists were created with six items per condition, i.e. each with a total of 24 experimental sentence pairs.11 Sample experimental sentences are shown in (4). The distractors (12 grammatical and 12 ungrammatical sentences) were the same for all lists.

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10 The choice of the possessa was based primarily on the results of Lichtenberk and colleagues. An attempt was made to include possessa entering different types of relations with the possessor. For inalienable possession these relations were: part of body and/or body display, excretion and/or secretion, behavioural and/or emotional state or manner, personal descriptors and/or attributes, while for alienable possession they were: ownership/possession, activities related to manipulation/handling, activity leading to material or aesthetic product (Lichtenberk et al. 2011: 673). The verbs were chosen based on their (non-)patient-affecting properties, but also their lexical semantics and their collocational properties (as they had to be matched to the possessa).

11 List A: INAL(A)-AFF(A), INAL(B)-NAFF(A), AL(A)-AFF(B), AL(B)-NAFF(B); List B: INAL(A)-AFF(B), INAL(B)-NAFF(B), AL(A)-AFF(A), AL(B)-NAFF(A); List C: INAL(B)-AFF(A), INAL(A)-NAFF(A), AL(B)-AFF(B), AL(A)-NAFF(B); List D: INAL(B)-AFF(B), INAL(A)-NAFF(B), AL(B)-AFF(A), AL(A)-NAFF(A).
**INA LIENABLE POSSESSA**

<table>
<thead>
<tr>
<th>Set A</th>
<th>Set B</th>
<th>Set A</th>
<th>Set B</th>
</tr>
</thead>
<tbody>
<tr>
<td>ruka ‘arm’</td>
<td>noga ‘leg’</td>
<td>slomiti ‘break’</td>
<td>polomiti ‘break’</td>
</tr>
<tr>
<td>kosa ‘hair’</td>
<td>nokti ‘nails’</td>
<td>unišstiti ‘destroy’</td>
<td>upropastiti ‘ruin’</td>
</tr>
<tr>
<td>pokreti ‘motions’</td>
<td>korak ‘step’</td>
<td>usporiti ‘slow down’</td>
<td>ubrzati ‘speed up’</td>
</tr>
<tr>
<td>znoj ‘sweat’</td>
<td>suze ‘tears’</td>
<td>obrisati ‘wipe’</td>
<td>osušiti ‘dry’</td>
</tr>
<tr>
<td>ime ‘name’</td>
<td>prezime ‘lasts name’</td>
<td>promeniti ‘change’</td>
<td>izmeniti ‘modify’</td>
</tr>
<tr>
<td>navike ‘habits’</td>
<td>sklonosti ‘inclinations’</td>
<td>pogaziti ‘step on’</td>
<td>pokositi ‘cut down’</td>
</tr>
</tbody>
</table>

**ALIENABLE POSSESSA**

<table>
<thead>
<tr>
<th>Set A</th>
<th>Set B</th>
<th>Set A</th>
<th>Set B</th>
</tr>
</thead>
<tbody>
<tr>
<td>vaza ‘vase’</td>
<td>tanjir ‘plate’</td>
<td>posmatrati ‘watch’</td>
<td>proučavati ‘study’</td>
</tr>
<tr>
<td>nameštaj ‘furniture’</td>
<td>tapete ‘wallpaper’</td>
<td>videti ‘see’</td>
<td>gledati ‘look at’</td>
</tr>
<tr>
<td>emisija ‘show’</td>
<td>program ‘programme’</td>
<td>znati ‘know’</td>
<td>poznavati ‘know’</td>
</tr>
<tr>
<td>prozori ‘windows’</td>
<td>parket ‘floor’</td>
<td>zapaziti ‘notice’</td>
<td>uočiti ‘spot’</td>
</tr>
<tr>
<td>roman ‘novel’</td>
<td>knjiga ‘book’</td>
<td>zaboraviti ‘forget;</td>
<td>zapamtiti ‘remember’</td>
</tr>
<tr>
<td>ruže ‘roses’</td>
<td>ljubičice ‘violets’</td>
<td>primetiti ‘spot’</td>
<td>prepoznati ‘recognise’</td>
</tr>
</tbody>
</table>

**Table 3. Words used to create the experimental items**

(4) a. **INA LIENABLE POSSESSUM – AFFECTING PREDICATE**

*Ivan je u igri pao na Peđu. Slomio mu je ruku.*

‘While they were playing, Ivan fell over Peđa. He broke his arm.’

b. **INA LIENABLE POSSESSUM – NON-AFFECTING PREDICATE**

*Vladan je rekao Davidu da vežba. Posmatrao mu je nogu.*

‘Vladan told David to exercise. He watched his leg.’

c. **ALIENABLE POSSESSUM – AFFECTING PREDICATE**

*Maša je iznervirala Tanju. Upropastila joj je nameštaj.*

‘Maša upset Tanja. She ruined her furniture.’

d. **ALIENABLE POSSESSUM – NON-AFFECTING PREDICATE**

*Tijana je svratila kod Dušice. Gledala joj je tapete.*

‘Tijana dropped by Dušica’s. She looked at her wallpaper.’

For the offline version of the task, the sentences in each list were manually randomised in three different ways, so that 3 subjects did each version (leading to a total of 9 subjects per list). In this task, the subjects were asked
to judge the acceptability of each sentence on a Likert scale ranging from -3 to +3. The testing was conducted in small group sessions lasting between 10 and 15 minutes.

The online version was implemented with E-Prime 2.0 Professional and run on a laptop computer with a 14.1” screen. In this version of the task, there were 7 subjects per list and the order of presentation of the experimental items was randomised in a different way for each subject. The testing was organised in individual sessions in which the subjects first read a sentence under self-paced conditions and then had to make a binary judgement and indicate whether the sentence was acceptable or not by pressing either the p (for prihvatljivo ‘acceptable’), or the n (for neprihvatljivo ‘unacceptable’) key. The sentences were presented word by word, in a centre non-cumulative mode, in order to prevent the subjects from spending too much time looking at sentences, which could lead to responses based on explicit analysis rather than intuitions. These sessions also lasted between 10 and 15 minutes.

All subjects also filled in a sociolinguistic questionnaire, which took about 5 minutes to complete.

### 4.4 Results

#### 4.4.1 Pre-processing of data

The analysis of the offline task was based on the participants’ mean ratings for each of the four experimental conditions, while the online task data, initially coded using 1s for ‘acceptable’ and 0s for ‘unacceptable’, was analysed in terms of mean acceptance rates for each condition. The sixth item of the first experimental condition (indefinite possession – affecting predicate) was left out from the analysis of both tasks as an outlier. Due to the experimental design employed in the study, this was a different sentence in each of the four lists; however, a similar pattern emerged in all cases, as the sixth sentence, involving ‘habits’ and ‘inclinations’ as possessa and ‘step on’ and ‘cut down’ as predicates, received significantly lower ratings than the remaining items from the same category (presumably to a low degree of collocativity between the possessum and the verb).
4.4.2 Offline AJT

As can be seen in Figure 1, the results of the offline task confirm that the possessive dative is indeed highly productive in Serbian. Most notably, no combination of possessa and predicates was judged as clearly unacceptable. It might seem, on the other hand, that no combination was judged as completely acceptable either; however, the average marks around 1-1.5 are highly likely to be (at least in part) due to the experimental design that required the same verbs to be used with four different possessa (and vice versa), leading to a number of combinations with a low degree of collocativity, bound to have an impact on the judgements (see also note 14). Moreover, despite the apparent similarity between the acceptability levels of the first three combinations, both of the studied factors were found to influence the judgements.

A two-factorial repeated measures ANOVA with (in)alienability and (non-)affectedness as within-subjects factors was used for statistical analysis and it showed main effects of both factors, (in)alienability $F(1,35)=32.383$, $p<.001$, (non-)affectedness $F(1,35)=39.252$, $p<.001$. Importantly, there also was a significant interaction of these factors $F(1,35)=18.514$, $p<.001$. It can thus be concluded that both the type of the possession relation and the type of predicate do have an effect on the acceptability of the possessive dative constructions in Serbian, and they each influence acceptability to a different extent depending on the other.
4.4.3 Online AJT

The results of the online task (shown in Figure 2) mirror closely those of the offline version. Once again, there are no combinations that are consistently rejected as unacceptable; even the sentences involving alienable possession and a non-affecting verb are judged as acceptable almost half of the time (resembling the overall “can’t decide” judgement of the offline task). The remaining three experimental conditions seem to be accepted to a very similar extent. However, as was the case in the offline task, this does not mean that the studied factors had no effect. Specifically, here too there was a highly significant main effect of (in)alienability, \( F(1,27)=37.321, p<.001 \), and of (non-)affectedness, \( F(1,27)=24.414, p<.001 \), as well as their significant interaction \( F(1,27)=19.243, p<.001 \).

![Figure 2. Mean acceptance rates in the online AJT (with standard deviations)](image)

5. DISCUSSION AND CONCLUSION

The two tasks provided converging evidence for the productivity of the possessive dative in Serbian. The results showed that native speakers have indeterminate intuitions about constructions with alienable posses sa and non-affecting predicates, while they readily accept all other combinations of the studied factors (with a slight preference for the contexts involving inalienable possession and an affecting verb). The fact that the least likely combination is possible (the indeterminacy being at least in part due to some less fortuitous lexical combinations) is a particularly important one, as it has significant
implications for the theoretical accounts of the phenomenon. In particular, it re-opens the issue of the ‘extra’ dative argument and the way it should be analysed.

As mentioned in section 1, most accounts of the possessive dative rely on affectedness-based mechanisms of dative argument licensing, which evidently cannot explain the cases in which the possessum is not affected. One possible solution for this problem is to posit two syntactically distinct subtypes of the possessive dative, one that is restricted to affected possessors, and one that is not, as has recently been done for Bulgarian by Cinque and Krapova (2009). Another, discourse-oriented possibility might be to argue that affectedness and inalienability are of secondary importance in Serbian, i.e. that they are significant contributors to the ease of recoverability of the possessive interpretation, but are not required if other (contextual) factors are present that can play a similar role, i.e. if the possessive relation is clear from the context.\(^{16}\) Of course, much more data are needed before such a (tentative) claim can be confirmed; moreover, this view does not offer an immediate answer to the central problem, given by the syntactic status of the dative argument and it would have to be elaborated in that direction too.

Lastly, judging from the patterns, (in)alienability appears to have a somewhat stronger impact than affectedness in Serbian, but the effects are clearest when both factors are considered.

Given that this was a preliminary study, and largely exploratory in nature, the conclusions we reached should be taken with some caution, especially given that our main goal was to draw attention to the problem posed to the analysis of the possessive dative by languages like Serbian; discussing the existing theoretical accounts in more detail, or proposing a more elaborate new account, falls outside the scope of the present paper and is left for future research.

REFERENCES


\(^{16}\) Competition with other uses of the ‘free’ dative needs to be taken into account as well.


Маја Миличевић

ПОСЕСИВНИ ДАТИВ И ВАЛЕНТНОСТ У СРПСКОМ ЈЕЗИКУ: ЕМПИРИЈСКА СТУДИЈА

Резиме

У раду се испитују два фактора од значаја за формирање конструкција са посесивним дативом - семантичке одлике глагола (да ли изражава радњу која погађа пацијенса или не) и природа посесивног односа (отуђива : неотуђива посесивност). У центру пажње је улога ових фактора у српском језику, за који је карактеристична врло слободна употреба посесивног датива. Наводе се резултати емпиријске студије која се састојала од offline задатка процене прихватљивости у коме су испитаници изражавали оцене на седмостепеној Ликертовој скали и online задатка процене прихватљивости у коме су понуђени одговори били „при- хватљиво“ и „неприхватљиво“. Резултати указују на то да степен прихватљивости конструкција са посесивним дативом у српском језику зависи од оба проучавана фактора и да се најбоље може објаснити њиховом интеракцијом. У анализи је потврђен висок степен продуктивности посесивног датива у српском језику, у коме се присвојни однос овим путем може изразити и у случајевима какви су немогући у већини других језика, а у којима се отуђива припадност комбинује са радњом која не погађа посесора. Будући да изостанак погођености посесора представља изазов за синтаксичке анализе у којима се овим фактором објашњава порекло дативског аргумента, у раду се уводи презименарни предлог према коме је у српском језику за могућност формирања посесивног датива најдиректније значајна доступност присвојног тумачења односа између референата.

Кључне речи: српски језик, посесивни датив, погођеност пацијенса, неотуђивост, процена прихватљивости.