1 INTRODUCTION

In Finnish, a passive sentence is formed with the affixes –ta-an and –ti-in (present and past tense respectively) or with the auxiliary olla ‘be’ followed by the passive past participle of the lexical verb (present perfect and past perfect tense; see 1b-2b below):

<table>
<thead>
<tr>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. (Minä) ole-n avan-nut ove-n. (nom) be-pres.1sg open-act.pcp door-acc 'I have opened the door'</td>
<td>Ovi o-n ava-ttu. door.nom be-pres.3sg open-pass.pcp 'The door has been opened'</td>
</tr>
<tr>
<td>2a. (Minä) ol-i-n avan-nut ove-n. (nom) be-past.1sg open-act.pcp door-acc 'I had opened the door'</td>
<td>Ovi ol-i ava-ttu. door.nom be-past.3sg open-pass.pcp 'The door had been opened'</td>
</tr>
</tbody>
</table>

These are the only types of passive sentences recognized in most Finnish grammar books, including Setälä (1922), Penttilä (1963), Siro (1964), Hakulinen & Karlsson (1979) and Vilkuna (1996). Besides prototypical agent-patient predicates, these passives can be formed of even most intransitive and copular verbs. The preverbal position can remain empty, or it can be filled by various types of elements, including adverbials. This, together with the fact that the finite verb shows default agreement for third person singular and the verb is morphologically marked, in opposition to active verb forms, can be taken as evidence for an impersonal (i.e. non-agreeing) passive status of data like (1b)-(2b). For discussion about impersonal passives, see e.g. Siewierska (1984, 2005), Keenan (1985) and Shibatani (1985). For discussion about Finnish impersonal passives, see e.g. Manninen & Nelson (2004) and Helasvuo & Vilkuna (2008).

However, if (1b), (2b) and (3) are examples of a Finnish impersonal passive, a question arises about the status of sentences like (4) where the finite verb shows person and number agreement with the preverbal DP and the lexical verb is in the passive past participle form:

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1 We are grateful to Eva Klingvall for valuable comments on previous versions of this paper, and to Joost van de Weijer for the statistical analyses. The work is funded by the Swedish Research Council, grant number 2008-2081.
3. Talot o-n maala-ttu.
   houses.nom be-pres.3sg paint-pass.pcp
   ‘The houses have been painted’
4. Talot o-vat maala-ttu.
   houses.nom be-pres.3pl paint-pass.pcp

Although examples like (4) can be found in historical, dialectal and present-day sources, they are ignored in most literature on Finnish. The few sources that recognize their existence judge them prescriptively to be

- “transfer” from other languages (especially from Latin and Swedish; e.g. Häkkinen 1994, Löflund 1998, and the references cited therein)
- “mistakes” or “hypercorrect forms” when the writer has intended to use an impersonal passive (such as that in (3) above; e.g. Saarimaa 1947, 145f., Vilkuna p.c)
- “mistakes” or “hypercorrect forms” when the writer has intended to use a copular sentence with nominative case (such as that in (5) below; e.g. Saarimaa 1947, 145f., Setälä & Nieminen 1957, 170, Ikola 2001, 149)

In Finnish copular sentences, the copula olla ‘be’ shows person and number agreement with the preverbal DP. It is followed by an adjectival phrase, which can be formed of a passive participle. The difference between the agreeing passive sentence in (4) and the copular sentence in (5) is that the participle in (5) shows number agreement with the preverbal DP and inflects for case (for nominative, partitive or essive, when the copula is olla ‘be’):

5. Talot ovat maala-tu-t / sinise-t
   houses.nom be-pres.3pl paint-pass.pcp-nom.pl / blue-nom.pl
   ‘The houses are painted / blue’

The aim of this paper is to shed some light on agreeing passive sentences like (4). Although we can find examples of such sentences in different sources, there currently exists no description or analysis of the data. We do not know, for example, if examples like (4) really are “mistaken” or “hypercorrect” forms of either (3) or (5), or if we are instead dealing with variation (i.e. if (4) is an alternative form to either (3) or (5)). It is also possible that (4) is separate from (3) and (5) altogether, in which case we could be dealing with a new form (a “true” agreeing passive, perhaps). The paper is intended as a starting point for a description and analysis of data like (4). To be able to address questions such as those listed above, a first goal must be to gather information about how such sentences relate to both impersonal passives and copular sentences in native speakers’ minds.
2 OUTLINE OF A PILOT EXPERIMENT

As already noted, examples of sentences like (4) can be found in different sources; these include old Finnish texts (e.g. biblical texts from the 17th and 18th centuries, novels, short stories and plays from the 19th century), Finnish dialect archives (e.g. the Muoto-opin arkisto; we thank Mari Siirioinen and Maria Vilkuna for their valuable insights on the dialectal aspects of the data) and the internet (informal discussion forums, personal weblogs). Examples can also be found in many local newspapers and tabloid papers; however, because these sentences are prescriptively judged to be ungrammatical, it is often difficult to find examples in any “serious” newspapers or the existing corpora.

In this paper, we focus entirely on present-day Finnish. Instead of investigating the frequency and uses of agreeing passive sentences like (4) in some specific source of data, our goal is to see how acceptable such sentences are perceived to be in native speakers’ minds, in relation to both impersonal passives (e.g. 3 above) and copular sentences (e.g. 5 above). To reach this goal, we have constructed a pilot experiment using the methodology of Magnitude Estimation (see e.g. Bard et al. 1996). In addition to agreeing passives like (4), impersonal passives like (3) and copular sentences like (5), we have included “incongruent” sentences like (6) in the experiment. In (6), which is an example of a form that is frequently found in informal spoken Finnish, the verb *olla* ‘be’ shows default agreement for third person singular while the passive participle shows number agreement with the preverbal DP and inflects for nominative case. Because both (4) and (6) are prescriptively judged to be “ungrammatical” it is interesting to see if there is a difference in acceptability between these sentence types in native speakers’ minds:

6. *Talot o-n maala-tu-t.*
   houses.nom be.pres.3sg paint-pass.pcp-pl.nom

In section 2.1 we present the methodology of Magnitude Estimation, and in section 2.2 we outline the design of the experiment. In section 2.3 we present the results of the experiment. In sections 3 and 4 we interpret the results, discuss some of the questions that they raise and identify topics for future research.

2.1 What is Magnitude Estimation?
Magnitude Estimation is originally an experimental technique used in psychophysics; it is used to determine how much of a given sensation a person is experiencing of a given stimulus. Participants are first exposed to a standard stimulus (a modulus) which is assigned a fixed value by the experimenter, or to which the participants assign a value themselves. After this, the

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2 An anonymous reviewer suggests that the non-existence of examples like (4) in “serious” newspapers might be a result of such forms getting caught in the spell-check and grammar-check programs. A possible counter-argument is that examples like (4) can still be found in many local newspapers and the tabloids, many of which probably use the same programs.
participants are presented a series of stimuli which vary in intensity, and which they are asked to assess in relation to the modulus. The types of experiments where this methodology has been used include assessments of the brightness of a light source and the loudness of a sound source; both of these are situations where human perception and intensity of the physical stimuli are not linearly correlated. The methodology is also used in cases where it is difficult to measure the stimuli in absolute terms; one example is the participants’ perception of pain.

Since the 1990s, Magnitude Estimation has been used successfully for testing linguistic acceptability (see e.g. Bard et al. 1996; Keller 2000; Featherston 2005; Sorace and Keller 2005). The methodology has several advantages over the traditional dichotomy grammatical-ungrammatical, or the use of a fixed scale such as 1 to 5. First, the participants can make as fine-grained distinctions as they want; this allows the researcher to capture the fact that linguistic constructions are hardly ever just grammatical or ungrammatical and that there is variation even within the two opposite poles. Second, there is no upper limit to the possible values that the participants can assign to the stimuli; the only restriction is that the numbers must be above zero (which usually means that the scale is from 1 to infinity; this is obviously what also enables the fine-grained distinctions). Third, Magnitude Estimation experiments yield results on an interval scale, instead of a nominal or ordinal scale, as is the case with categories or fixed numbers. An interval scale, in turn, allows the researcher to do more sophisticated and reliable statistical calculations.

2.2 The design of the experiment

The experiment was carried out over the internet using the WEBEXP2 free software package developed at the University of Edinburgh (see e.g. Keller et al. 2009). Although there are both advantages and disadvantages with conducting experiments over the internet, our experience is that the advantages by far outweigh the disadvantages; more discussion of this can be found in e.g. Reips (2007).

The participants in the experiment were 108 students at the University of Tampere and the University of Helsinki. They were contacted via their department mailing lists; the original message was sent to the Departments of Journalism and Mass Communication, Psychology, and Social Psychology in Tampere and the Department of Education in Helsinki, and it reached about 1000 students in total. Participation in the experiment was voluntary and the participants received no payment for their services. Out of the 108 participants, eight were excluded later: two because they were not native speakers of Finnish, and six because they had misunderstood the instructions and used either zero or negative numbers in their answers. 88 out of the 100 remaining participants were in their 20s, 11 in their 30s and one in her 40s. 74% of them were female, which probably reflects the gender division in the targeted departments.

The participants were first given detailed instructions on what they were expected to do. The instructions also contained several examples of estimations of both line lengths and linguistic acceptability. The participants were then asked to provide some personal details, such as their age, sex and if they were native speakers of Finnish. After this, they were asked to complete two short training sessions: one on assessing line lengths, the other one on assessing linguistic acceptability. After the training sessions, the actual experiment started.
The experiment consisted of 50 Finnish sentences which were presented to the participants in different randomized orders; this prevented the preceding sentences from affecting the values of the following sentences in any consistent way (because for each participant, these were different sentences). 40 of the 50 sentences were “real” test sentences, five were well-formed fillers and five were ill-formed fillers. All 50 sentences were assessed in relation to the well-formed modulus, (7), which was pre-assigned a fixed value of 100.

7. Elokuvien ja maiden kuvaohjelmien nykymuotoisesta
    films.gen and other.gen picture.programs.gen current.shaped.elat
    ennakkotarkastuksesta ollaan luopumassa.
    pre-rating.elat be.passive give.up.iness
    ‘They are in the process of getting rid of the existing method of pre-rating films and other picture programs’

The 40 test sentences contained five different passive participles. The participles were formed from the verbs ostaa ‘buy’, syödä ‘eat’, avata ‘open’, sulkea ‘close’ and polttaa ‘burn (down)’. The reason for selecting these participles/verbs was that we found naturally occurring examples from the web of all of them, in all the four constructions. The naturally occurring examples were used as points of comparison when constructing the “real” test sentences. The participants were asked to judge two types of sentences for each participle: in type A, the preverbal position was filled by a plural DP (see 8a below) and in type B, by two coordinated singular DPs (8b):

<table>
<thead>
<tr>
<th>Type A</th>
<th>Type B</th>
</tr>
</thead>
<tbody>
<tr>
<td>8a. talot ‘houses’</td>
<td>b. talo ja lato ‘the house and the barn’</td>
</tr>
</tbody>
</table>

An overview of the constructions is given below. The numbers (1)-(4) correspond to the numbers above the circles in Figure 1, which can be found at the beginning of section 2.3. The letters A and B are explained above, in connection with (8a-b):

<table>
<thead>
<tr>
<th>Label and sentence type</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 copular sentences with nominative case and plural DP (e.g. sentences like 5 above)</td>
<td>agreeing olla ‘be’ followed by passive participle in agreeing plural form</td>
</tr>
<tr>
<td>B1 copular sentences with nominative case and two coordinated singular DPs</td>
<td>same as A1</td>
</tr>
<tr>
<td>A2 agreeing passive sentences with plural DP (e.g. sentences like 4 above)</td>
<td>agreeing olla ‘be’ followed by passive participle in non-agreeing form</td>
</tr>
<tr>
<td>B2 agreeing passive sentences with plural DP</td>
<td>same as A2</td>
</tr>
</tbody>
</table>
A3 impersonal passives with plural DP (e.g. sentences like 3 above) default olla 'be' followed by passive participle in non-agreeing form
B3 impersonal passives with two coordinated singular DPs same as A3
A4 “incongruent” sentences with nominative case and plural DP (e.g. sentences like 6 above) default olla 'be' followed by passive participle in agreeing plural form
B4 “incongruent” sentences with nominative case and two coordinated singular DPs same as A4
5 well-formed filler sentences varying types
6 ill-formed filler sentences varying types

2.3 The results
The overall results of the experiment are presented in Figure 1. As already pointed out, the numbers above the circles correspond to the four sentence types under investigation. The first “dot” inside each circle is the A-sentence where the preverbal position is filled by a plural DP (e.g. 8a above) and the second “dot” is the B-sentence where the preverbal position is filled by two coordinated singular DPs (8b). We have done a repeated measures analysis of variance (ANOVA) and found a significant main effect of condition (F (9, 945)=135.651 p=.000); we have also performed pairwise comparisons of all ten sentence types using Sidak correction for multiple comparisons:
One of the first things that we notice is that the form of the preverbal DP does not have any
effect on how acceptable a sentence is experienced to be: there is no statistically significant
difference between e.g. Type A1 (copular sentences with plural DPs) and Type B1 (copular
sentences with two coordinated singular DPs). The same holds for Types 2, 3, and 4. Secondly,
the impersonal passives (Type 3 in Figure 1) are nearly as acceptable as the well-formed control
sentences (Type 5 in Figure 1); there is no statistically significant difference between these two
groups. The impersonal passives (Type 3) are judged to be considerably better than any of the
other test sentences: there is a statistically significant difference between them and each of Type
1 (copular sentences), Type 2 (agreeing passive sentences) and Type 4 (“incongruent” sentences).
There is also a small but significant difference between Type 4 (“incongruent” sentences) on the
one hand and Types 1 (copular sentences) and 2 (agreeing passive sentences) on the other hand.
Interestingly, there is no significant difference between sentences of Type 1 (copular sentences)
and Type 2 (agreeing passive sentences).

3 DISCUSSION

The results of the pilot experiment are encouraging for several reasons, even if they at this stage
seem to be raising more questions than they actually answer. This is, of course, a welcome result
from something that was intended as a starting point for a description and analysis. In this
section, we look at the results of the experiment, in light of what (little) has been said about
agreeing passive sentences like (4) before.

3.1 Are we dealing with a pure “mistake” or “hypercorrect” form?

As pointed out in section 1, Finnish is often seen as a language which has only impersonal
passives. One way to explain the existence of data like (4) would then be to treat them as pure
“mistakes” or “hypercorrect” impersonal passives (i.e. as pure performance errors); this is
indeed the explanation given in a lot of the literature. The reasoning behind this explanation is
that speakers have simply been misled by the occurrence of the plural DP with nominative case
in the preverbal position, as such DPs trigger agreement on the finite verb in Finnish active
sentences. The fact that sentences like (4) are judged to be less acceptable than the impersonal
passives could also be taken to support this line of reasoning: it is, after all, only natural to think
that mistakes should be degraded relative to the forms that they are supposed to be mistakes of
(i.e. that most speakers should be able to identify these sentences as mistakes). Secondly, the fact
that sentences like (4) and (5) turn out to be equally acceptable in native speakers’ minds need
not be anything more than a coincidence. However, if sentences like (4) really are mistaken
impersonal passives, then the question immediately arises why they are not ranked even lower.
Figure 1 shows that such sentences consistently fall within the medium range of acceptability:
they are judged to be less acceptable than the impersonal passives and well-formed fillers, but
they are still significantly better than the “incongruent” sentences and the ill-formed fillers.

The picture becomes even more unclear if we treat examples like (4) as pure “mistaken” or
“hypercorrect” copular sentences with nominative case, which is the viewpoint taken in e.g.
Saarimaa (1947), Setälä & Nieminen (1957) and Ikola (2001). Figure 1 shows that our participants
do not experience any difference in acceptability between these two sentence types; in other words, the mistakes are not degraded at all relative to the forms that they are supposedly mistakes of. This gives rise to (at least) two follow-up questions: first, why is there no difference in acceptability between sentences like (4) and (5) in native speakers’ minds – can it really be just a coincidence? – and second, why do sentences like (5) fall within the medium range of acceptability in present-day Finnish? In view of what most grammar books say, we would have expected them to pattern with the impersonal passives and the well-formed fillers. Some answers to the second question can be found in the recent Iso suomen verkkokielioppi (henceforth VISK; see http://kaino.kotus.fi/visk/). According to VISK, copular sentences with nominative case are becoming less acceptable in sentences where case alternations (between nominative and partitive) are not directly linked to aspectual differences. As for the first question, most grammar books offer no explanation as to why sentences like (4) and (5) are equally acceptable (or equally degraded) in native speakers’ minds. In our view, if sentences like (4) really are mistaken or hypercorrect copular sentences, which are themselves already degraded, then the important question is again why sentences like (4) are not ranked even lower.

It seems to us that neither of these pure “mistake” or “hypercorrect form” explanations can be on the right track. If agreeing passives like (4) were nothing more than mistakes or hypercorrect forms, we would have expected our participants – who are all relatively well-educated university students – to react consistently more strongly to such sentences, and to assign them lower values. This is, after all, what they have done with “incongruent” sentences like (6), or Type 4 in Figure 1 above, which are also prescriptively judged to be “mistakes” in most grammar books. The bottom line is that, while it is possible that the (medium range of) acceptability of data like (4) might be the result of a “mistake” or “hypercorrection” for some of the participants, it is unlikely to be the result of a “mistake” or “hypercorrection” for most of them. We therefore feel that the real answers to our questions lie elsewhere.

3.2 Are we dealing with variation?

An alternative account of data like (4) and of the results presented in Figure 1 would be to say that we are dealing with variation; in other words, instead of pure “mistakes” data like (4) are simply variants, in the sense of alternative forms, of “normal” impersonal passives or copular sentences, and they are assigned “normal” impersonal passive or copular readings. Under this line of reasoning, the next step should obviously be to determine what kind of variation we are dealing with; this would mean looking at both historical and dialectal data, and at the age-aspects of the phenomenon (as many older speakers we have discussed the data with have reported a strong dislike of sentences like (4)).

In our view, the line of reasoning pursued above is partially on the right track. The reason is that even copular sentences (e.g. 5) can actually be ambiguous between two different readings: a copular reading, which is stative, and a passive reading, which is eventive; see e.g. VISK (§1331-1333, §1336, §1432) for such claims. Crucially, according to VISK, the passive interpretations of
data like (5) are not the same as the passive interpretations of data like (3). The examples, with the relevant interpretations, are repeated below for convenience:

5. *Talot o-vat maala-tu-t.*
   - houses.nom be-pres.3pl paint-pass.pcp-nom.pl
   - ‘The houses are painted’ (i.e. They are in a painted state)
   - ‘The houses are painted’ (i.e. They are in a painted state as a result of someone having painted them’)

3. *Talot o-n maala-ttu.*
   - houses.nom be-pres.3sg paint-pass.pcp
   - ‘The houses have been painted’ (i.e. Someone has painted the houses)

If we accept that sentences like (5) can be ambiguous between two different readings, then for sentences like (4) we have three different possibilities. These sentences could be variants, or alternative forms, of:

- “normal” impersonal passives like (3): they receive “normal” impersonal passive interpretations
- “normal” copular sentences like (5): they receive “normal” copular sentence interpretations
- passive readings of sentences like (5): they also receive the same kinds of passive interpretations

Below, we look briefly at the third possibility, which to us is the most interesting, and possibly also the most fruitful, alternative: sentences like (4) and (5) are examples of a “true” agreeing passive in Finnish, and this passive is separate from the “normal” impersonal passive (e.g. 3). At least at first sight, sentences like (4) and (5) meet (on their passive readings) the standard criteria attributed to agreeing (or, personal) passives cross-linguistically (see e.g. Siewierska 1984, 28ff., 2005, Keenan 1985, Shibatani 1985, and VISK §1331, 1332, 1336). First, they can have an active counterpart, such as that in (9) below:

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3 The idea that Finnish has two different passive constructions could be motivated both on historical grounds, and in view of the fact that the closely related language Estonian has two different passive constructions. Estonian agreeing passives are formed with the auxiliary *olema* ‘be’ followed by the non-agreeing passive past participle of the lexical verb; in other words, the sentences look similar in form to the Finnish sentence in (4). The status of Estonian agreeing passives is subject to debate, however. Rajandi (1967) treats them as examples of a passive, while Erelt et al (1993) classify them as copular sentences, consisting of a copular verb and a deverbal adjective.
   painter.nom be.pres.3sg paint-act.pcp houses-acc
   ‘The painter has painted the houses’

Second, their input verbs are two-place predicates (i.e. not intransitive or copular verbs, as in the case of impersonal passives; see e.g. VISK §1331, §1332, §1336). The logical subject is either demoted to an oblique phrase, or it disappears altogether (the more usual option, see e.g. 10-11 below). The logical object is promoted to passive subject; it controls agreement on the finite verb and undergoes alternation from accusative to nominative case. Finally, the verb is morphologically marked, in opposition to the corresponding active verb form:

10. *Talot* o-vat *maal-a-tu-t* (maalarin toimesta).
    Houses.nom be-pres.3pl paint-pass.pcp-nom.pl (painter.gen by)
    ‘The houses are painted (by a painter)’ (i.e. the houses are in a painted state because a painter has painted them)

11. *Talot* o-vat *maal-a-ttu* (maalarin toimesta).
    Houses.nom be-pres.3pl paint-pass.pcp (painter.gen by)
    ‘The houses are painted (by a painter)’ (i.e. the houses are in a painted state because a painter has painted them)

Of course, many of the criteria listed above also apply to Finnish impersonal passives: they can also have an active counterpart and show case alternation, and they are also morphologically marked, in opposition to active verb forms. Unless we can link the proposed agreeing passive vs. impersonal passive distinction to something more substantial, we risk classifying (4)-(5) as agreeing passives simply because their finite verb shows agreement with the preverbal DP. One key difference between the two types of passives is the interpretation assigned to the sentences: agreeing passive sentences seem to describe a state that results of or is brought about by a preceding event, whereas impersonal passives describe just the event itself; more discussion of the interpretive differences can be found in e.g. VISK (§1335-1339). Another difference seems (to us) to be the identity of the demoted/deleted agent. In “normal” impersonal passives like (3), the implied agent (logical subject) is typically interpreted as an unknown or generic human entity (see e.g. Manninen & Nelson 2004, Helasvuo & Vilkuna 2008). In agreeing passives like (4)-(5), on the other hand, both “specific” and “generic” human readings seem to be available. This is, at this stage, a topic that needs to be investigated more thoroughly, however.

### 3.3 A closer look at the interpretation: a mini-experiment

A property of passives cross-linguistically is that they are assigned eventive readings, while copular sentences are assigned stative readings; see e.g. Siewierska (1984). Under the variation view, an important goal should therefore be to examine if sentences like (4)-(5) are assigned eventive or stative readings by native speakers, or if they are ambiguous between these
readings. Furthermore, if they are assigned eventive readings, then are these readings the same as the ones assigned to impersonal passives like (3)?

As a first small step within the variation view, we have constructed a mini-experiment, to see which direction the data point. In this experiment, the participants were asked to judge the acceptability of agreeing passive sentences like (4) and copular sentences like (5) in contexts which were designed to favour either the stative (i.e. prototypical adjectival) or eventive (i.e. prototypical passive) reading. (12) is an example of a former type of context, (13) of a latter type of context:

12. Millaisia talot ovat?
    ‘What are the houses like’
    
    Talot ovat _______ (maalattu / maalatut)

    ‘The villagers have painted the houses’
    
    Talot ovat _______ (maalattu / maalatut)

In both types of contexts, the participants reported that both sentence types could be used. However, many of them also indicated that in (12), they would have preferred the passive participle to have partitive case (i.e. maalattuja, instead of either maalattu or maalatut) while in (13) they would have preferred to use the impersonal passive (i.e. ovat maalattu, instead of either ovat maalattu or ovat maalatut). The number of participants and test sentences were too small to allow any statistical calculations or a proper analysis, but the results at least give an indication of what the future questions should be.

4 FUTURE TOPICS

The results from the pilot experiment described in section 2 and the mini-experiment described in section 3.3 suggest that data like (4) and (5) share the same interpretations; they can both have stative readings, and they can both have eventive readings in present-day Finnish. One factor that needs to be investigated in relation to this is the type of eventive reading. Another factor is the extent to which the judgments are dependent on the meanings of the passive participles/verbs; neither of our experiments showed any evidence of that, but the question is nevertheless worth exploring. Third, we need to investigate how much the choice of auxiliary and the context influence the participants’ judgments of the sentences. The results of these investigations must also be complemented by a thorough investigation of both historical and dialectal data, to fully understand what is going on.

REFERENCES


