



Invisible arguments*

Effects of demotion in Estonian and Finnish

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This paper investigates the syntactic, semantic and discourse-level properties of the implicit argument in two constructions in Finnish and Estonian in which the agent is left unspecified: the *impersonal construction* and the *zero person construction*. In light of data from a number of tests, we conclude that the implicit argument is present on the semantic level in both constructions in both Finnish and Estonian, but fails to project a salient discourse entity. On the syntactic level, data show that the implicit argument is syntactically present in the zero person construction in both languages. However, the picture is more complex for the impersonal constructions. We hypothesize that the Estonian impersonal construction removes the highest argument on the discourse level but leaves it at least partially syntactically intact, whereas the Finnish impersonal construction seems to downgrade the agent on the level of syntax as well as on the discourse level.

1. Introduction

In this paper we investigate two constructions in Finnish and Estonian in which the agent is left unspecified, namely the *impersonal construction* and what has been called the *zero person construction*.¹ Although these constructions resemble each other in containing an unspecified agent, the existing literature has noted that they

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1. We are following the literature on Finnish here, which uses the term *nollapersoon* for this construction (e.g. Laitinen 1995; Löflund 1998; Hakulinen et al. 2004). The term 'missing person' has also been used in the Finnish literature (Hakulinen & Karttunen 1973). The con-

differ from each other semantically, syntactically and pragmatically. With the aims of (i) gaining a better understanding of the similarities and differences between the impersonal and zero person constructions and (ii) learning more about the (dis)similarities between two closely related languages, we investigate the syntactic, semantic and discourse-level status of the implicit argument in each of these constructions. We apply a number of tests that are commonly used in the generative linguistics tradition to probe for implicit arguments, with the secondary purpose of gauging whether these tests, primarily designed with Indo-European languages in mind, can be used for typologically different languages.

Based on the results, we conclude that the implicit argument is present on the level of semantics in both languages in both constructions, but does not project a full-fledged discourse entity. The data suggest that the implicit argument is syntactically present in the zero person construction in both languages, but that its status in impersonal constructions is less clear. More specifically, given the data discussed in this paper, we hypothesize that the Estonian impersonal construction demotes the highest argument on the discourse level but leaves it at least partially syntactically intact, whereas the Finnish impersonal construction seems to demote the agent on the level of syntax as well as in the discourse. In this paper, we use the term ‘demotion’ to mean, roughly speaking, the removal or ‘downgrading’ of an argument from the representation of the sentence in a particular linguistic domain (e.g. syntax, semantics, discourse). We leave open for future research the intriguing question of whether demotion is always absolute or whether demotion can be partial, i.e., whether there can exist different degrees of demotion in certain domains (e.g. on the discourse level).

Although further research on Finnic impersonal and zero person constructions is still needed, our findings raise interesting questions regarding the strength of the connections and correlations that hold between different linguistic domains. In particular, they suggest that dissociation between domains is possible, such that an argument can be demoted – that is, at least partially removed from the representation – in one domain while remaining intact in another. In future work we aim to investigate the feasibility and implications of this tentative ‘dissociation hypothesis’ in more detail by means of a formal theoretical analysis. The aims of the present paper are more modest: we focus on presenting data regarding the syntactic, semantic and discourse-level properties of the implicit arguments in zero person and impersonal constructions, with the goal of gaining a better empirical understanding of the nature of the implicit arguments in these two constructions in Finnish and Estonian.

struction has been less studied in Estonian, but the main academic grammar categorises it as a ‘defective clause’ and calls it *üldisikuline* ‘general person’ (Erelt et al. 1993:227); it has also been referred to as a ‘generic apersonal’ construction (Vihman 2004:90).

2. Impersonals in Estonian and Finnish

Finnish and Estonian impersonals use impersonal verbal morphology, distinct from their personal counterparts: the present tense and the simple past are expressed by synthetic verb forms (Finnish *-taan/-tiin*, Estonian *-takse/-ti*), while the perfect tenses are periphrastic. The impersonals of both languages have common historical origins (Laakso 2001; Laanest 1975), and in fact, in many respects Finnish and Estonian impersonals look virtually identical.² In both languages, transitive and intransitive verbs can be impersonalized (as shown in example (1)), as can modals, auxiliaries and even unaccusatives (Löflund 1998; Torn 2002; Blevins 2003). The only general restrictions on which verbs can occur in an impersonal construction are that (i) the verb must have at least one (non-experiencer) argument in its underlying argument structure, and (ii) the impersonal referent must be compatible with a human interpretation. The Finnic impersonals have no direct English counterpart, hence translations in our examples vary between passives (limited in English to transitive verbs), the impersonal *one*, and general terms like ‘people’.

- (1) a. Siellä nukutaan. (Finnish)³
 there sleep.IMP.PRS⁴

2. We refer to the constructions in question as ‘impersonals’. In the present paper, we focus primarily on the status of the implicit argument, and do not directly investigate the syntactic formation of impersonal or zero person constructions, nor the promotion or non-promotion of the arguments. Thus, in the present paper, we remain agnostic on the issue of whether the structure we call ‘impersonal’ represents a form of impersonal passivisation (Manninen & Nelson 2004; Hiietam & Manninen 2005) or true impersonalisation (Blevins 2003).

3. In many dialects of Colloquial Finnish, the first person plural verb, formed with the ending *-mme*, has been replaced with the impersonal form, and is usually used with an overt preverbal pronoun (e.g. *me nukutaan* ‘we are sleeping’). These verbs are clearly not semantically impersonal or passive in any way. This extended usage of impersonal morphology is beyond the scope of this paper, since it is not a form of agent demotion. In the impersonal construction proper, no overt pronoun can be used to refer to the impersonal argument referent and no element other than the impersonal verbal inflection is used to indicate impersonalisation. Note, also, that the 1PL development of the Finnish impersonal verb form does not appear to be quite the same as the colloquial French *Nous on s’en va*, where the 1PL emphatic pronoun seems to identify the scope of the impersonal argument referent, rather than replacing it with a personal referent.

4. The following abbreviations are used in glosses: IMP-impersonal, PRS-present, PST-past, INF-infinitive, QTV-quotative, NEG-negative, SUP-supine, INST-instructive, NOM-nominative, PAR-partitive, GEN-genitive, ACC-accusative, ILL-illative, INE-inessive, ELA-elative, ALL-allative, ADE-adesive, ABL-ablative, ESS-essive, COM-comitative, REF-reflexive, REC-reciprocal, CL-clitic.

- b. Seal magatakse. (Estonian)
 there sleep.IMP.PRS
 ‘People are sleeping there.’
- c. Pekka pidätettiin. (F.)
 Pekka.NOM arrest.IMP.PST
- d. Pekka võeti kinni. (E.)
 Pekka.NOM take.IMP.PST closed
 ‘Pekka was arrested.’

There is no agreement between the internal argument and the impersonal verb in either Finnish or Estonian. Compare examples (1c–d), with singular patient arguments, to (2a–b), where the patient is plural but the verbs (in Finnish, (2a), and Estonian, (2b)) are unchanged from (1).

- (2) a. Kaikki varkaat pidätettiin.⁵ (F.)
 all.NOM burglar.NOM.PL arrest.IMP.PST
 ‘All burglars were arrested.’
- b. Kütusevargad võeti kinni.⁶ (E.)
 fuel-burglar.NOM.PL take.IMP.PST closed
 ‘The gas thieves were arrested.’

The internal argument usually surfaces with nominative or partitive case marking, depending on verbal semantics and aspect. With a telic impersonal verb and perfective clause, a totally affected internal argument takes nominative case (the counterpart of accusative case-marking on the object in the active voice), whereas an atelic verb, imperfective clause or partially affected argument results in partitive case-marking in both the active voice and in the impersonal construction (see e.g. Erelt et al. 1993:51–53, Manninen & Nelson 2004).⁷ Despite (or because of) these case-marking patterns, there is no consensus in the literature regarding the status of the internal argument and the promotional or non-promotional nature of the construction (Blevins 2003; Manninen & Nelson 2004).

The interpretation of the implicit argument involves a human (or at least an animate referent that is personified, see e.g. Vilkuna (1996), Löflund (1998:45) on

5. From the discussion group sfnet.keskustelu.laki, 8.2.2001.

6. From <www.sloleht.ee/index.aspx?d=20.09.03&r=4&id=146223>.

7. Note that nominative case in itself is not necessarily a signal of subject status in Finnish and Estonian. The fully affected internal argument also receives nominative case-marking in imperatives and certain infinitival phrases (see e.g. Erelt et al. 1993:53). On a related note, the reader should also be aware of the existence of a well-known exception in Finnish impersonals: direct object human personal pronouns marked with accusative case in the active voice are also accusative in the impersonal construction. Unlike full nouns, these pronouns do not surface with nominative case in the impersonal.

Finnish, Erelt et al. (1993:227) and Torn (2002:95) on Estonian), often agentive,⁸ usually plural referent in both languages (Hakulinen & Karlsson 1988; Shore 1988; Vilkkuna 1996; Nelson 1998; Rajandi 1999; Blevins 2003; Vihman 2004). The restriction regarding the human/highly personified interpretation is shown in (3). As Vilkkuna (1996:140) points out, example (3a) is felt by speakers to be amusing. She notes that it can suggest an image of someone peering into a pot of potatoes and speaking to the potatoes as if they were human. Example (3b) is given by Blevins (2003), who notes that “since non-animate verbs like *aeguma* ‘to expire, elapse’, cannot be assigned a metaphorical interpretation, the impersonal forms. . . are unacceptable” (2003:484).

- (3) a. #No, jokos täällä kiehutaan? (F.)
 Well, already here boil.PRS.IMP
 ‘Well, is there any boiling going on here yet?’
 b. *Aegutakse/Aeguti. (E.)
 expire.IMP.PRS/PST
 ‘One expires/ expired.’

Within the bounds of this basic restriction that the implicit argument must be human, its interpretation can vary depending on factors such as tense, lexical semantics of the verb, and discourse context (Shore 1988; Nelson & Vihman 2004; Löflund 1998). In both Finnish and Estonian, the implicit impersonal argument can be used with a narrow existential interpretation or a general universal reading.

3. The ‘zero person’ construction in Finnish and Estonian

The Finnic impersonal construction, discussed in the preceding section, provides a means of describing an event (or state) without specifying the identity of the referent of the actor (or undergoer). Although the particular identity remains unspecified, the interpretation of the impersonal includes a referent of some sort, and beginning in Section 4 we explore the semantic, syntactic and discourse-level status of this referent. In this section, however, we turn to another means – available in both Finnish and Estonian – of leaving the highest argument unspecified, namely the ‘zero person’ construction. Although anticausative, personal/resultative passive, and ‘zero person’ constructions all exist in some form as agent-demoting devices in both languages (e.g. Vihman, forthcoming, for details on Estonian), the zero person construction bears interesting similarities as well as important dif-

8. It is worth noting that unaccusatives (e.g. *to die*) can also be impersonalised in both languages, as long as the implicit argument is human/highly personified (see e.g. Manninen & Nelson 2004 on Finnish).

ferences to the impersonal. This paper compares only the impersonal and the zero person, leaving the others unexamined.

The zero person employs a (default, non-agreeing) third person singular verb form with no special morphological marking and no overt subject, as shown in example (4). As the zero person construction has been less widely studied than the impersonal, the following discussion is meant to introduce the construction, but not as an exhaustive description. Furthermore, in the present discussion, we focus on the commonalities between the Finnish and Estonian zero person constructions and do not explore in any detail the question of whether there are some fine-grained differences between them. We leave this as a question for future research.

- (4) a. Sunnuntaina voi nukkua pitkään.⁹ (F.)
 Sunday-on can.PRS.3SG sleep.INF long
 b. Pühapäeviti saab sisse magada. (E.)
 on-Sundays can.PRS.3SG in.ILL sleep.INF
 'On Sundays you/one can sleep in.'

This construction lacks an overt nominative subject; if there is an object present, it retains its object case and position, leaving no doubt that the object remains unpromoted. This is in contrast to the impersonal construction, in which full NP internal arguments occurring with accusative-assigning verbs show up with nominative case, and the (non)promotional nature of the construction remains a source of disagreement.

It has been argued that the zero person construction contains a covert argument in subject position, and it is important to note that it is not accurate to describe this construction as being derived by syntactic demotion (see Vainikka & Levy 1999; Holmberg 2004 for more examples and further details). We refer to the null subject of the zero person as an implicit argument, and we use the term 'implicit argument' to refer to the 'non-overt' argument in both the impersonal and zero person constructions. The use of this term is for expository convenience, and should not be regarded as theoretically significant.

The distinguishing semantic features of the zero person include a generic interpretation (Laitinen 1995; Erelt et al. 1993:227) where the "action referred to is (...) generally applicable" (Penttilä 1963:464, cited by Löflund 1998:150), and the referent is interpreted as 'whoever, anyone' (Erelt et al. 1993). These constructions often have a modal interpretation, with the action interpreted as one which 'can be' or 'must be' performed (Hakulinen et al. 2004; Erelt et al. 1993).

The zero person tends to occur with stative verbs, with the implicit argument in an experiencer rather than an agentive role (Löflund 1998:154); this construc-

9. Example from Shore (1988:156).

tion is used mostly in the present tense, either indicative or conditional, with occasional occurrences of imperfect and perfect tenses (Löflund 1998:155; Vihman 2004:92). In Estonian, the zero person allows active verbs mostly by pairing them with modals to give a stative reading. The zero person tends to refer to the state of potential for action rather than a dynamic event. In Finnish, in addition to a preference for appearing with modal verbs, zero person constructions often occur in conditional/hypothetical contexts (Vilkuna 1996; Hakulinen et al. 2004). Use of a conditional *if/then* construction makes agentive verbs possible in Finnish (e.g. Hakulinen & Karttunen 1973; Laitinen 1995; Löflund 1998:155), as shown in example (5a), and (5b–c) show the zero person with a modal verb in both languages. Given that both conditionals and modals have been argued to involve quantification over possible worlds or situations (e.g. Kratzer 1986, see also Stalnaker 1968), the occurrence of the zero person in conditional and modal sentences in Finnish may be related to this kind of quantification.

- (5) a. Jos ei kuuntele eikä tee tehtäviä, ei opi.¹⁰ (F.)
 If NEG listen¹¹ NEG-and do exercises NEG learn
 ‘If one doesn’t listen and do homework, one doesn’t learn.’
- b. Kotona voi myös testata erilaisia täytettyjä pastoja.¹² (F.)
 at-home can also test.INF different.PAR filled.PAR pastas.PAR
 ‘At home one can also test different kinds of filled pasta.’
- c. Oma tööd peab armastama.¹³ (E.)
 self.GEN work.PAR.SG must.PRS.3SG love.INF
 ‘One has to love one’s work/ you have to love your work.’

The referent of the implicit zero person argument patterns as a singular entity, unlike the implicit argument in an impersonal (Vilkuna 1996:141). According to Löflund (1998:156), the Finnish zero person refers distributively to one person at a time, whereas the impersonal can refer collectively to multiple people. The zero person governs only singular agreement (6a), whereas the impersonal can govern either singular or plural agreement (7a). The same holds for Estonian, as illustrated in (6b) and (7b).

10. Example from Vilkuna (1996:140).

11. In negative sentences in the present tense in Finnish and Estonian, the main verb is a bare inflectional stem without an ending. In Finnish, negation is an auxiliary and agrees with the subject in person and number.

12. From <www.soneraplaza.fi/ellit/artikkeli>.

13. Example from Erelt et al. (1993:40).

- (6) a. Jos ei ole tarpeeksi **hieno** (/ *hienoja), ei pääse sisään. (F.)
 if NEG be sufficiently fancy.SG (*fancy.PL), NEG get in
- b. Kui ei ole piisavalt **esinduslik**(/ * -ud), siis ei pääse sisse. (E.)
 if NEG be sufficiently fancy.SG (* PL), then \emptyset NEG get in
 ‘If one isn’t sufficiently well-dressed, one won’t get in.’
- (7) a. Ollaanpas sitä taas **hienoja**(/ **hieno**). (E.)¹⁴
 be.IMP.CL it.PAR¹⁵ again fancy.PAR.PL(/SG)
 ‘Well, aren’t you all (isn’t everyone) well-dressed again.’
- b. Ollakse **rõõmsad**(/ **rõõmus**), kui lapselapsed külla
 be.IMP.PRS joyful.NOM.PL(/SG) when grandchildren visit.ILL
 tulevad.¹⁶ (E.)
 come.3PL
 ‘People are happy when their grandchildren come to visit.’

4. Probing for the implicit argument

In the following sections, we investigate the semantic, syntactic and discourse-level status of the implicit argument in Finnish and Estonian impersonals and zero person constructions. In Sections 5 and 6, we investigate whether the implicit argument is available for different kinds of anaphoric reference, namely (i) cross-sentential definite pronouns, and (ii) intra-sentential referential reflexives, possessives and reciprocals. We then turn, in Section 7, to the classic diagnostic tests for probing the presence or absence of implicit arguments, include “licensing of *by*-phrases, the ability to control, and compatibility with adverbs like ‘deliberately’” (Bhatt & Pancheva 2004: 4).

In this section, before looking at the results of any of the tests, we consider what linguistic domain the tests are probing. Let us start with the tests that investigate the discourse properties of the implicit argument by testing whether it can act as the antecedent for a personal pronoun (Section 5). Here, we follow Koenig (1999) and Koenig & Mauner (2000), who investigate the discourse-level properties of the French impersonal pronoun *on* ‘one’ by testing whether it can be referred back to with a personal pronoun. In addition to investigating inter-sentential pronouns, in Section 6 we probe for the presence of the implicit argument on what we assume to be the syntactic level by testing whether the implicit argument of Finnish and Estonian impersonals and zero person constructions can

14. Examples from Vilkuna (1996: 140).

15. The partitive form of ‘it’ can be regarded as a kind of expletive, see Holmberg & Nikanne (2002).

16. Original (plural) example from <www.kirikuleht.ee>.

serve as the antecedent for reflexives and other anaphoric forms within a sentence (see also Blevins 2003:485, Maling this volume).

In Section 7, we turn to the three classic tests discussed by Bhatt and Pancheva (2004, see also Maling this volume). As Bhatt & Pancheva point out, it is not clear whether the acceptability of adverbials like ‘deliberately’ requires a syntactically represented argument; it may well be the case that only a semantically realized agent is necessary. (In light of the observation that such adverbs are incompatible with unaccusatives, at least in English, Finnish and Estonian, we assume that they cannot introduce an implicit agent by accommodation.) A similar argument, Bhatt and Pancheva suggest, could be applied to *by*-phrases: perhaps all that is needed is that there be a syntactically unexpressed, semantically present agent.¹⁷ The third well-known test, control – in particular, control of rationale clauses – has also been claimed not to be a conclusive test of a syntactically realized implicit argument (see Williams 1985; Bhatt & Pancheva 2004).

Since one could argue that these three tests are not conclusive in favor of a syntactically realized implicit argument, but given that passives clearly do have an implicit agent in their semantics and pass these tests, we will make the minimal assumption that these tests are sensitive to the presence of an implicit agent at least on the semantic level. In other words, in this paper we will treat adverbials like *deliberately*, *by*-phrases and control as semantic, not syntactic, tests.¹⁸

5. Anaphoric reference: Definite pronouns

Our investigation of the discourse status of the implicit argument is based on work by Koenig (1999) and Koenig & Mauner (2000) regarding the French impersonal pronoun *on* ‘one’. Koenig and Mauner, whose analysis is within the framework of

17. On a related note, Bhatt and Pancheva point out (and many others have also noticed) that middles cannot occur with *by*-phrases (examples from Keyser & Roeper 1984:406).

- a. Bureaucrats were bribed by managers.
- b. *Bureaucrats bribe easily by managers.

Bhatt and Pancheva also cite other tests for agentivity that middles fail (e.g. they cannot occur with rationale clauses or subject-oriented adverbs, Baker, Johnson & Roberts 1989), and note that researchers who argue in favor of middles having an implicit agent need to explain why middles fail these tests that the English passive passes. Moreover, as Rapoport (1999) has noted, other tests that have been used to argue in favor of middles having an implicit agent do not hold for all middles (see also Ackema & Schoorlemmer 1995).

18. These may, in fact, turn out to be syntactic tests in the end. Our choice to treat them as semantic diagnostics simply reflects the current lack of clear evidence in favor of a syntactic approach.

Discourse Representation Theory (DRT), argue that although the French impersonal pronoun *on* ‘one’ is truth-conditionally equivalent to the indefinite pronoun *quelqu’un* ‘someone’, the two forms differ in that *on* does not introduce a ‘discourse marker’ into the discourse structure, while *quelqu’un* does. As a consequence, *on* is not available for certain types of anaphoric reference which are available with the indefinite pronoun. For example, as shown below, the definite pronoun *il* ‘he’ can be used to refer back to *quelqu’un* ‘someone’, but not to the impersonal *on* ‘one’:

- (8) a. #*On*_i a assassiné la présidente. *Il*_i était du Berry, paraît-il.
 ‘One has assassinated the (female) president. He was from.the Berry, it seems.’
 b. *Quelqu’un*_i a assassiné la présidente. *Il*_i était du Berry, paraît-il.
 ‘Someone has assassinated the (female) president. He was from.the Berry, it seems.’

Thus, underlying this test is the idea that if a referent cannot be referred to with a pronoun, it is not saliently realized on the discourse level.

Like French *on*, neither Estonian nor Finnish impersonal constructions permit reference to the implicit argument in the subsequent sentence with a singular or plural definite pronoun (9).¹⁹ While the French examples use gender for disambiguating the pronoun referent, we use number, as neither Estonian nor Finnish encode gender in the pronominal system.

- (9) a. *Presidentti*_i *murhattiin*_j. (F.)
 president.NOM murder.IMP.PST
*Hän*_{i/#j}/*He*_{#i/#j} *on/ovat* *kotoisin* *Helsingistä*.
 3SG/3PL.NOM be.3SG/PL.PRS originally H.-ELA
 ‘The president_i was murdered Ø_j.
 He_{i/#j} is / They_{#i/#j} are from Helsinki.’
 b. *President*_i *tapeti*_j. (E.)
 president.NOM kill.IMP.PST
*Tä*_{i/#j}/*Nad*_{??i/#j} *olevat* *Tallinnast* *pärit*.
 3SG/3PL.NOM be.QTV T.ELA from
 ‘The president_i was killed Ø_j.
 He_{i/#j} is/ They_{??i/#j} are apparently from Tallinn.’

Native speaker judgments indicate that, in both Estonian and Finnish, the plural pronoun in this context is infelicitous, and the singular pronoun can felicitously pick up only the patient (‘the president’) as its antecedent. If it were possible to refer to the implicit argument by a pronominal anaphor, we might expect the plural pronoun to be used rather than the singular, since the impersonal is typically

19. Subscripts on the verb in all examples index the implicit argument.

interpreted as having a plural referent (Shore 1988; Rajandi 1999), and also because the singular pronoun shows such a strong preference for the singular patient. However, native speaker judgments indicate that neither a plural nor a singular pronoun can felicitously pick out the implicit argument (see Vihman 2004 for Estonian judgments).

Likewise, Finnish and Estonian zero person constructions do not allow the implicit argument to be picked up by a singular or plural pronoun, as the examples below illustrate. Given that personal pronouns pick out specific discourse referents, the data in (10) fit in well with the description of the zero person construction as one that does not refer to any specific person but rather to a non-specific, generic human referent.

- (10) a. Jos \emptyset_i murhaa presidentin_j, hän_{j/#i} joutuu/he_{k/#j/#i} joutuvat
 if murders president-ACC, s/he lands/they land
 vankilaan. (F)
 jail.ILL
 'If one_i murders the president_j, s/he_{j/#i} / they_{k/#j/#i} end up in jail.'
- b. Kui \emptyset_i tapab presidenti_j, ta_{j/#i} läheb/nad_{k/#j/#i}
 if murder.PRS.3SG president.GEN 3SG go.PRS.3SG/3PL
 lähevad vangi. (E.)
 go.PRS.3PL jail.ILL
 'If one_i murders the president_j, s/he_{j/#i} / they_{k/#j/#i} go to in jail.'

Koenig and Maurer (2000) use Discourse Representation Theory (DRT) in their analysis to underline the distinction between referential and role-related properties of NPs. They claim that so-called 'a-definites', such as the impersonal pronoun in French, satisfy an argument position (fill a role in the predicate) without introducing a discourse marker. In a similar vein, the data in (9) and (10) above suggest that the Finnish and Estonian impersonal and zero person constructions do not introduce a salient discourse referent, but nevertheless do fill an argument position in the predicate. The implicit argument makes a semantic contribution in that it is interpreted as human and it satisfies the highest argument position, but – as the pronoun data show – it is not as salient, on the discourse level, as an entity that is explicitly mentioned (i.e., in the examples above, 'the president').

6. Anaphoric reference: Possessives, reflexives, reciprocals

In this section we investigate the syntactic properties of the implicit arguments of impersonal and zero person constructions by probing their abilities to act as antecedents for possessives, reflexives and reciprocals in Finnish and Estonian. With the impersonal construction, we will see that the binding abilities of the

implicit argument are more limited in Finnish than in Estonian, but that the evidence regarding syntactic realization or demotion of the implicit argument is not definitive in either language. In contrast, in the zero person construction, the binding data indicate syntactic realization of the implicit argument in both Finnish and Estonian.

6.1 Binding in the impersonal construction

Let us start by considering the impersonal construction, where a detailed look at the data reveals differences in the behavior of the implicit arguments. Even though the implicit argument in the impersonal construction is not salient enough to be picked up by a pronoun in a subsequent sentence, in Estonian it can nevertheless participate in other referential relations. The Estonian implicit argument can bind the (non-person-specific) subject-oriented possessive *oma* (11a), as well as the reflexive (*ise*)*end* ‘self’ (11b) (see also Blevins 2003), and the reciprocal *üksteist* ‘one-another’ (11c), which also tend to be subject-oriented.

- (11) a. Kui sageli pesti_i oma_i (/tema_j) keha üleni?²⁰ (E.)
 how often wash.IMP.PST self/3SG.GEN body.GEN.SG overall
 ‘How often did one_i wash one’s_i (his/her_j) whole body?’
- b. Kord päevas pesti_i end_i üleni külma veega.²¹ (E.)
 once day.INE wash.IMP.PST REF.PAR overall cold.GEN water.COM
 ‘Once a day one washed oneself in cold water.’
- c. Üksteist_i hoiti_i asjade käiguga
 one-another.PAR hold.IMP.PST thing.GEN.PL process.COM
 kursis.²² (E.)
 course.INE
 ‘One/people held one another informed of the course of events.’

In Estonian, the possessive pronoun *oma* (not marked for person) refers to a subject antecedent, in clear contrast to *tema*, which is a genitive third-person pronoun referring to a non-subject referent (see 11a). Only the subject-oriented possessive *oma*, not *tema*, can be used to refer to the impersonal argument. In (11a), with no alternative referent provided, *tema* can only refer to an unmentioned sentence-external referent. Like *oma*, reflexive and reciprocal pronouns are also primarily subject-oriented, but are also sensitive to the agency of the antecedent (e.g. data given in Erelt et al. 1993:201).

20. From <www.erm.ee/?node=276>.

21. From <www.miksike.ee/lisa/6klass/5kreeka/ateena_ref.htm>.

22. From <files.hex.ee/bors/ajakiri/ee_investor_ettevotja_1_2004.pdf>.

The data in (11) seem to suggest that the implicit impersonal agent patterns with subjects, acting as the antecedent for subject-oriented possessive, reflexive and reciprocal pronouns. However, an implicit impersonal agent is not necessarily a stronger antecedent than an overt patient. In some contexts, the implicit argument can be outranked as anaphor antecedent if the sentence contains a featurally compatible overt argument. As pointed out by Erelt et al. (1993:12) and Hiietam (2003), in sentences like (12a–b) that contain a preverbal patient, the patient can act as the antecedent of the anaphor (see also Hiietam & Manninen 2005).

- (12) a. Laps_i pandi_j laua äärde oma_i koha peale
 child.NOM put.PST.IMP table.GEN at.ILL own.GEN seat.GEN on.ALL
 istuma. (E.)
 sit.SUP
 ‘One sat the child at the table at his/her own seat.’
- b. Laps_i pandi_j rääkima iseendast_i. (E.)
 child.NOM put.PST.IMP talk.INF self.GEN
 ‘One made the child talk about his/herself.’

In the examples in (12), the implicit argument ‘loses out’ to an overtly realized preverbal argument. The implicit argument here appears to be a weaker binder than an overt, full-fledged constituent.²³

However, the picture is further complicated by the observation that the overt patient is not always a stronger binder than the implicit argument. Although the possessive pronoun *oma* is unambiguously used in active sentences to refer to the subject, in certain impersonal constructions the pronoun *oma* is actually ambiguous between the implicit actor argument (13a) and the overt patient argument (13b).

- (13) a. Relvad_i võeti_j oma_i elude hinnaga
 weapons.NOM take.IMP.PST own life.GEN.PL price.COM
 vaenlaselt.²⁴ (E)
 enemy.ABL
 ‘Weapons were taken from the enemy at the cost of one’s own life.’
- b. Pallid_i pannakse_j oma_i algasetusse tagasi.²⁵ (E)
 ball.NOM.PL put.IMP.PRS own.GEN start-position.ILL back
 ‘The balls are put back into their (‘own’) starting position.’

23. More research is needed in order to fully understand the interaction of word order and binding. In this paper, we aim to – at least partially – control the effects of word order by focusing mostly on examples where the anaphor occurs towards the end of the sentence.

24. From <kultuur.elu.ee/ke471_kus_on_eesti_iseseisvus.htm>.

25. From <www.piljard.ee/reegliid.php>.

In (13a), the possessive pronoun *oma* refers to the implicit actor (the people taking weapons) despite the compatible overt preverbal patient *relvad* ‘weapons’, whereas in (13b), *oma* refers to the overt patient *pallid* ‘balls’. The observation that subject-oriented *oma* can be used to refer to the nominative preverbal argument in some cases and to the implicit agent in other cases, combined with the data in (11), highlights the syntactically unclear status of the implicit agent. Even though the implicit argument can act as the antecedent for canonically subject-oriented possessives, reflexives and reciprocals, and can override an overt nominative patient as referent for the subject-oriented pronoun, it does not always do so. In fact, the subsequent discussion suggests that one could regard the implicit argument as being more syntactically active in Estonian than in Finnish, but even the Estonian implicit agent is not comparable to an overt argument.

Before turning to the Finnish data, it is worth noting that, whereas Estonian has independent lexical items for possessives, reflexives and reciprocals, Finnish relies on a system of possessive suffixes that attach to (i) the possessed noun, in the case of possessive constructions, (ii) the reflexive stem *itse* ‘self’ in the case of reflexives, and (iii) the reciprocal stem *toinen* ‘other’ in the case of reciprocals.

In third person possessive constructions (e.g. ‘her book’), the possessive suffix ([–nsA] or [–An], capitalization indicates that the vowel surfaces as *a* or *ä*, depending on vowel harmony) is present on the possessed noun. If the possessor is the subject of the sentence, an overt possessive pronoun is normally not present (Vilkuna 1996: 228–230; Nelson 1998: 13). When an overt possessive pronoun (*hänen* s/he.GEN) is present, the possessor is normally interpreted to be someone other than the subject (Nelson 1998: 13). In light of these kinds of data, Vainikka (1989), Nelson (1998) and Trosterud (1993) claim that third person possessive suffixes are anaphors which must be locally bound by the subject of the sentence or by a third person possessive pronoun (e.g. Nelson 1998: 187–188). It is important to note, however, that some exceptions exist. In certain cases, it is possible for a non-subject to be the antecedent for a possessive suffix, especially if pragmatic factors provide a bias towards such an interpretation (e.g. Vilkuna 1996: 232).

In reflexive constructions, the possessive suffix attaches to the reflexive stem *itse* ‘self’. Given what we already know about the possessive suffix, it is not surprising that the third-person reflexive *itsensä* is basically subject-oriented (Hakulinen & Karlsson 1988; Trosterud 1993).²⁶ The morphology of reciprocals is somewhat more complex, and we discuss it in more detail below.

In Finnish, as examples (14a, b) show, possessives and reflexives cannot be bound by the implicit argument (Manninen & Nelson 2004, see also Hakulinen &

26. In both Finnish and Estonian, embedded infinitivals often lead to ambiguity, providing two potential antecedents (see e.g. Vilkuna 1996: 233 on Finnish; Erelt et al. 1993: 200–201 on Estonian).

Karlsson 1988; Vainikka 1989).²⁷ Importantly, adding the possessive pronoun *hänen* (s/he.GEN) to (14a) has the effect of inducing a reading where *hänen* refers to a sentence-external third person referent, but not to the implicit argument. Given that *hänen noun+Px* constructions are known to allow reference to non-subject constituents in Finnish, this indicates that the implicit argument does not have the syntactic status of a (sentence-internal) non-subject constituent either. This suggests that, for purposes of providing an antecedent for a possessive construction, the implicit argument does not pattern like overt constituents.

- (14) a. *Suihkussa pestiin_i hiuksia_i. (F.)
 shower.INE wash.IMP.PST hair.PAR.3-POSS
 ‘In the shower one washed one’s hair.’ (intended meaning)
- b. *Suihkussa pestiin_i itseään_i. (F.)
 shower.INE wash.IMP.PST self.PAR.3-POSS
 ‘One washed oneself in the shower.’ (intended meaning)

The situation is somewhat more complex for reciprocals. The basic Finnish reciprocal form is *toinen* ‘other’, which is either (i) used alone, in the plural form with a possessive suffix (see (15a)), or (ii) ‘doubled’ (15b), with the first occurrence being indeclinable and the second in the singular (sometimes plural) with a possessive suffix (examples from Sulkala & Karjalainen 1992: 146).

- (15) a. Tytöt katsoivat toisiaan. (F.) ‘single form’
 Girls.NOM looked other.PL.PAR.3-POSS
 ‘The girls looked at each other.’
- b. Lapset tuijottivat toinen toistaan. (F.) ‘double’
 Children.NOM stared other other.PAR.3-POSS
 ‘The children stared at each other.’

The binding possibilities for reciprocals appear to differ from those of reflexives and possessives. Hakulinen et al. (2004: 1264) provide examples of the ‘doubled’ form being bound by the implicit agent in the impersonal construction. This is also illustrated in (16). The ‘non-doubled’ form, however, seems to sound more

27. In their extensive corpus study, Hakulinen et al. (2004) did find some occurrences of reflexives and possessives bound by the implicit argument of an impersonal construction. However, they comment on the markedness of such examples and emphasize that they are unusual. In fact, they describe the impersonal as a structure that does not fit together with (subject-bound) reflexives and possessives, which matches the negative reactions of native speakers that we have observed in response to impersonal sentences with reflexives/possessives. Furthermore, Hakulinen et al. point out that the impersonal differs from the zero person in that the implicit argument of the zero person can indeed bind reflexives and possessives without any problems (see also example (17) below).

marked to native speakers – for some speakers almost verging on ungrammatical – in such contexts.

- (16) Minun mielestäni ystävyys on sitä,
 my.GEN mind.ELA.1-POSS friendship.NOM is it.PAR
 että tuetaan toinen toistaan
 that support.IMP other other.PAR.3-POSS
 ja molempien asiat ovat yhtä tärkeitä.²⁸ (F.)
 and both.PL.GEN things are equally important.PAR.PL
 ‘In my opinion friendship means that you support each other and that both
 people’s concerns are equally important.’

The contrast between the ‘non-doubled’ and the ‘doubled’ forms is not surprising if the structure of constructions like *toinen toistaan* is such that *toinen* can act as the binder for the suffix on *toistaan*. (As mentioned above, it is often assumed for Finnish that the possessive suffix itself – not the stem to which it attaches – is the anaphor.) In other words, in examples like (16), we may be dealing with ‘internal’ binding within the doubled reciprocal form (see also Trosterud 1993 on Finnish possessive suffixes being bound DP-internally by an overt pronoun within the same DP).²⁹ If this is the case, i.e. if the relevant binding is happening DP-internally, then the doubled reciprocal cannot tell us about the syntactic status of the implicit agent. In order to see if this ‘internal binding’ explanation is correct, further work needs to be done on the internal structure of reciprocal forms like *toinen toistaan*.

Moreover, it has been suggested that the grammaticality of some of the reciprocal forms may be connected to the fact that reciprocals require plural antecedents, and the implicit argument in Finnish impersonals tends to be interpreted as referring to a plural entity (Hakulinen et al. 2004: 1263). However, it is not clear how such a plurality account fits in with the fact that a possessive construction containing an overt plural genitive pronoun does not seem to be able to refer to the implicit argument.

Clearly, more research is needed in this area in order to better understand the differences between the Finnish possessive suffixes and the Estonian anaphors and how they relate to the observation that in Finnish, the binding abilities of the implicit argument are even more reduced than in Estonian. Given the morphological differences between Finnish and Estonian, it could be the case that the differences in the binding patterns (in particular, the inability of the implicit argument in the Finnish impersonal to act as an antecedent) have something to do with the suffixal

28. From <www.iltasanomat.fi/arkisto> (keskustelu), 5.4.2004.

29. As a reviewer notes, this doubling might be somewhat similar to the English construction *each... the other*.

nature of the Finnish system. However, it is important to note that the suffixes *can* be bound by overt arguments that are present in the syntax, and thus it is not clear why a syntactically present but covert argument should not be able to do so (see also ex. (17) below). In other words, if the implicit argument in the impersonal were syntactically present, we would expect it to be able to act as an antecedent, at least for the possessive constructions with genitive possessive pronouns (which can have non-subject antecedents). The fact that it cannot do so suggests that, when it comes to these kinds of anaphoric relations, the implicit argument in the Finnish impersonal does not have the same syntactic status as overt (subject or non-subject) arguments.

Overall, we conclude that when it comes to anaphor binding, the implicit argument of impersonals is not directly comparable to a 'regular' overt argument in either Finnish or Estonian. In other words, we do not have clear evidence in favor of the claim that the implicit argument is fully realized on the syntactic level in either language.

6.2 Binding in the zero person construction

Turning now to the zero person construction in Finnish and Estonian, we see a new set of binding possibilities. In Finnish, in zero person constructions, the implicit argument can bind both possessives and reflexives (e.g. Vainikka 1989; Holmberg 2004; Hakulinen et al. 2004).

- (17) a. ... jos pesee vaatteitaan matkalla.³⁰ (F.)
 if wash.PRS.3SG clothes.PAR.3 trip.ADE
 '...if one washes one's clothes while traveling.'
- b. ... jos pesee itsensä suihkussa jollain
 if wash.PRS.3SG self.ACC.3 shower.INE some.ADE
 hierontakintaalla.³¹ (F.)
 exfoliating-mitten.ADE
 '...if one washes oneself in the shower using a kind of exfoliating glove.'

Not surprisingly, if the overt genitive possessive pronoun *hänen* (s/he.GEN) is added to the examples above, the implicit argument cannot bind the possessive anymore. This shows that the implicit argument in the zero person construction patterns like a syntactic subject in Finnish.

Similarly, in Estonian zero person constructions, both possessives and reflexives can be bound by the implicit argument, as shown below. As with the

30. From <www.vr.fi/heo/lansi/vinkit.htm>.

31. From <www.keskustelu.suomi24.fi>, posted 11.6.2004.

impersonal construction, replacing the subject-oriented possessive *oma* with the non-subject-oriented *tema* results in a different reading with sentence-external reference. In other words, the implicit argument in Estonian zero person constructions patterns with syntactic subjects, as in Finnish.

- (18) a. Võib isennast süüdistada. (E.)
 can.PRS.3SG REF.PAR blame.INF
 ‘One can blame oneself.’
- b. Kanuumatkale võib oma lemmiklooma kaasa
 canoe-trip.ALL can.PRS.3SG self.GEN pet.PAR.SG along
 võtta.³² (E.)
 take.INF
 ‘One can take one’s pet along on the canoe trip.’

In both languages, the implicit argument can act as the binder even if another featurally compatible referent is present in the sentence. This is illustrated for Finnish possessives and reflexives in (19a) and (19b) respectively, and for Estonian reflexives in (19c). This is in contrast to the Estonian data in (12) above.

- (19) a. Jos panee lapsen sänkyynsä... (F.)
 if puts child.ACC bed.ILL.3-POSS
 ‘If one puts the child into one’s bed...’
- b. Jos puhuu naapurille itsestään... (F.)
 If speaks neighbor.ALL self.ELA.3-POSS
 ‘If one speaks to a neighbor about oneself...’
- c. Räägib naabrile iseendast. (E.)
 talk.PRS.3SG neighbor.ALL self.ELA
 ‘One talks (could talk) to the neighbor about oneself.’

Having considered possessives and reflexives, let us now turn to reciprocals in zero person constructions. In Estonian, the implicit argument of the zero person construction can act as the antecedent of a reciprocal, as shown in (20a). In contrast, the implicit argument is not available for reference with a (plural) reciprocal pronoun in Finnish (20b).

- (20) a. Võib teineteist süüdistada. (E.)
 can.PRS.3SG REC.PAR blame.INF
 ‘People (‘one’) can blame each other.’
- b. *Jos auttaa toisiaan... (F.)
 if help other.PAR.PL.3-POSS
 ‘If you help each other...’

32. From <www.soomaa.com>.

The explanation for the compatibility of the zero person with the reciprocal pronoun in Estonian (20a) is unclear. It appears that, while the Estonian zero person can only take singular adjective agreement, it can nevertheless have a distributive reading, as shown with the reciprocal pronoun (cf. Löflund's comment (1998: 156) that the zero person functions distributively).

In light of the plural marking on the Finnish reciprocal, and the fact that the null subject of the zero person construction is syntactically singular (e.g. ex. (6)), the ungrammaticality in Finnish is not surprising (Hakulinen et al. 2004: 1286, see also Heim, Lasnik, & May 1991 on plurality and reciprocals). However, the basic word *toista* (other-PART) – with no plural marking and no possessive suffix – can be used in zero person constructions (see Hakulinen et al. 2004). In such uses, though, it is not clear whether, in the absence of a possessive suffix, this form can still be treated as a reciprocal or whether it is simply the word meaning 'other (person)'.

In sum, in this section we investigated the binding abilities of the implicit argument in impersonal and zero person constructions in Finnish and Estonian. We saw that, in the impersonal construction, the binding abilities of the implicit argument are more reduced in Finnish than in Estonian, but the implicit argument of impersonals is not directly comparable to a 'regular' overt argument in either language. In contrast, the implicit argument in the zero person construction acts as a binder in both Finnish and Estonian, much like an overt subject would. So, while we do not have clear evidence that the implicit argument is fully realized on the syntactic level in the impersonal in either language, binding data show that it is syntactically realized in the zero person construction (see also Holmberg 2004).³³

7. Semantic tests

In this section, we investigate the semantic status of the implicit argument in impersonals and zero person constructions in Finnish and Estonian. A range of different tests indicate that the implicit argument is present on the semantic level in both constructions in both Finnish and Estonian.

33. A reviewer mentions a possible semantic account of the binding data, namely that the agent of the impersonal construction is not sufficiently individuated (because it tends to be interpreted as plural) to be picked up as an antecedent, whereas the agent of the zero person construction is referentially stronger (singular, more individuated) and can thus function as an antecedent. Although this is an interesting idea, we do not discuss it in the present paper for reasons of brevity. Furthermore, it is worth noting that in both Finnish and Estonian, the impersonal construction can also be used on contexts where the agent is a particular, known individual (see e.g. Löflund 1998:84 on Finnish). This observation does not seem compatible with the idea that it is low individuation that prevents the impersonal implicit agent from acting as an antecedent.

7.1 Adverbials

Agent-oriented adverbials such as ‘intentionally’ or ‘on purpose’ can be used to test for the semantic presence of a volitional agent. These are felicitous with impersonalized agentive verbs (21)–(22) as well as zero person constructions (23)–(24) in both Finnish and Estonian. In all the examples below, the agentive adverbial is interpreted as referring to the implicit argument.

- (21) Kolmihen kisen perheen päälle ajettiin **tahallaan**
 three-person.GEN family.GEN over drive.IMP.PST **on-purpose**
 keskiviikkona klo 14.40 Helsingin Malmilla.³⁴ (F.)
 Wednesday.ESS o'clock 14:40 Helsinki.GEN Malmi.ALL
 ‘Someone intentionally/on purpose drove over a three-person family at 14:40 in the Malmi region of Helsinki.’
- (22) Suur osa kirjavigadest tehakse vist
 large part.NOM spelling-errors.ELA make.IMP.PRS apparently
meelega.³⁵ (E.)
on-purpose
 ‘A large portion of the spelling errors seem to be made on purpose.’
- (23) Eri asia on jos **tahallaan** kävelee suoraan
 Different.NOM thing.NOM is if **on-purpose** walks directly
 latu-urien päällä.³⁶ (F.)
 skiing-tracks.GEN on-top
 ‘It’s a different matter if one walks directly on top of the skiing tracks on purpose.’
- (24) Võib osta meelega liiga palju õlut. (E.)
 can.PRS.3SG buy.INF on-purpose too much beer.PAR.SG
 ‘One could buy too much beer on purpose.’

We interpret the fact that agent-oriented adverbials in both Finnish and Estonian can refer to the implicit argument as evidence of its semantic presence in both of these constructions (see also Bhatt & Pancheva 2004).³⁷

34. From <www.samikarjalainen.fi/hullu_maailma.html> (an excerpt appeared in *Helsingin Sanomat*, 8.12.01).

35. From the discussion forum <http://forum.planet.ee>.

36. From <www.jyvaskyla.fi/kysy/kysymys.php/2267>.

37. Finnish and Estonian also possess some infinitival (F.) and gerundive (E.) constructions that might shed light on the status of the implicit argument. However, these constructions have not received much attention in the existing literature and as a result their basic syntactic and semantic properties are not fully understood. Thus, they are not (yet) well-suited for probing

7.2 Control structures

Finnish and Estonian both have subject control constructions (25a), (26a), and in both languages, the implicit argument of the impersonal can control PRO in this construction, as shown in (25b) and (26b). The implicit argument of the zero person construction is also capable of control (27) and (28).

- (25) a. Matti yritti oppia järjestyä. (F.)
 Matti.NOM tried PRO learn orderliness
 ‘Matti tried to learn orderliness.’ (to be orderly)
- b. Siellä yritettiin oppia järjestyä.³⁸ (F.)
 there try.IMP learn orderliness.PRT
 ‘One tried to learn orderliness there.’
- (26) a. Jaan lubas ära minna. (E.)
 Jaan.NOM promised PRO away go
 ‘John promised to leave.’
- b. Lubati ära minna. (E.)
 promised.IMP away go
 ‘They/ people promised to leave.’
- (27) Tämä saattaa tuntua ärsyttävältä, jos yrittää oppia hollantia... (F.)
 This.NOM might feel annoying, if tries learn Dutch.PAR
 ‘This [the fact that everyone speaks English] might feel annoying if one is trying to learn Dutch...’³⁹
- (28) Proovib rääkida kogu õhtu ainult inglise keeles. (E.)
 try.PRS.3SG talk.INF all evening only English.INE
 ‘Let’s try to speak only in English all evening.’

We interpret these data as corroborating the adverbial test, showing that the implicit arguments of impersonals and zero person constructions are represented at least on the semantic level. We follow Williams (1985) (see also Bhatt & Pancheva 2004) in not taking control to be a fully conclusive test for a syntactically present implicit argument.

7.3 By-phrases

It is a well-known observation that in English, passives allow for *by*-phrases, whereas middles and unaccusatives do not (e.g. Roeper 1987). This has been taken

the status of the implicit argument. Hopefully future research will further our understanding of these structures.

38. From Vilkuna (1996:275).

39. From <www.uta.fi/opiskelu/kv-asiat/tarinat/slk2000_haag.html>.

to indicate that passives have implicit agents that have been demoted but that can be re-established by means of a *by*-phrase, whereas middles and unaccusatives have no implicit agents and are thus incompatible with *by*-phrases.

- (29) a. The ship was sunk by Bill.⁴⁰
 b. *The ship sank by Bill.

English ‘one’-constructions, similar in some respects to the Finnish and Estonian zero person construction, do not allow *by*-phrases, presumably because the agent is already overtly expressed in the sentence:

- (30) **One would think** (*by computer users) that Windows was enough of a bad example that nobody would ever try that layout again.⁴¹

If we apply the *by*-phrase test to Finnish and Estonian impersonals, the results are less clear than with English. Although Estonian allows the identity of the implicit argument to be established in an oblique phrase, there are restrictions on its acceptability. An adverbial phrase identifying the agent referent is acceptable, especially if the semantics of the agent are compatible with the semantics associated with the impersonal: generalised, unspecific groups tend to be considered grammatical (e.g. ‘by the county council’ in (31a)), but specific, identifiable individuals (‘by us’ in (31a)) are not. Specific names or pronouns used in agentive oblique phrases are generally deemed awkward.

In present-day Estonian however, this distinction can be blurred to a certain degree: it is becoming more common to find examples such as that in (31b), where the agentive adverbial refers to a specific, singular individual. However, the singular referent of the agentive phrase in example (31b) has institutional relevance, and could be argued to be acceptable here only through the symbolic level of the mayor representing the town or the local government.

- (31) a. Komisjon kinnitatakse vallavolikogu (/ *meie)
 commission.NOM confirm.IMP.PRS county-council.GEN (/ we.GEN)
 poolt.⁴² (E)
 by
 ‘The commission is confirmed by the county council (*by us).’
 b. Diplom, mis kirjutatakse alla linnaeape poolt...⁴³ (E)
 diploma.NOM.SG what.NOM write.IMP.PRS under mayor.GEN by
 ‘The diploma, which is signed by the mayor...’

40. Examples in (29) are from Roeper (1987).

41. Modified from a comment posted 7.1.2005 at comp.os.linux.advocacy.

42. From <<https://www.riigiteataja.ee/ert/act.jsp?id=134013>>.

43. From <<https://www.riigiteataja.ee/ert/act.jsp?id=71165>>.

Although judgments on *by*-phrases such as that in (31b) in Estonian impersonals vary, the fact that names and pronouns are still generally found to be awkward shows that the specific/nonspecific distinction has not been entirely blurred. The varying judgments are not surprising if we keep in mind that the use of *by*-phrases with impersonals is something that was ‘imported’ into Estonian from Indo-European. Nemvalts (1998) notes that ‘*poolt*-phrases’ represent an Indo-European influence in Estonian (1998:63), and Blevins (2003:485–486) lists authors who point to the *by*-phrases as gaining acceptability but feel that the agentive *by*-phrase is somehow ‘intrusive’ when used in an impersonal (including Torn 2002 and Tuldava 1994).

In Finnish, the situation is even less clear. Adverbial clauses formed with *NP-GEN toimesta* ‘by NP’ do occur in Finnish, but they are often regarded by native speakers, linguists and prescriptive grammarians alike as sounding awkward, part of a ‘legalese’-type official register, and not directly comparable to English-style *by*-phrases (Länsimäki 1999; Vilkuna 1996: 147 *inter alia*). Semantically, as Hakulinen et al. (2004) point out, they often refer to institutions or collectives that are interpreted not as the actual direct agent of an action but as the entity that initiated or ordered an action to be carried out, as shown in (32), (see also Löflund 1998:28). We will refer to these as ‘indirect agents’. This generalization may also be relevant for Estonian, given that collective, institutional entities like the ‘county council’ can be used in *poolt*-phrases, but actual individual entities sound much more marked for many speakers.

- (32) Vääräuskoiset hugenotit murhataan kuninkaan
 Heretic huguenot.NOM.PL murder.IMP.PRS king.GEN
 toimesta.⁴⁴ (F.)
 by
 #‘The heretic huguenots are murdered by the king.’
 ok‘The king has the heretic huguenots murdered.’

Example (32) is most naturally interpreted as meaning that the murders were carried out under the king’s orders, but the king was not the actual agent of murder (see also Länsimäki 1999). These structures are thus reminiscent of English *had*-constructions such as ‘The king had the heretics murdered.’

The claim that *toimesta*-phrases are not directly comparable to English-style *by*-phrases is also supported by the fact that *toimesta*-phrases can surface in active sentences with overt agents, as shown in (33). It is clear that in this example, the

44. From <www.leffa-arviot.com/arvostelut> (in a review of D. W. Griffith’s movie “Intolerance”).

two men mentioned in the *toimesta*-phrase are not the agents of the change: the actual agent is the government of the theater school.

- (33) Jouko Turkan ja Jussi Parviaisen toimesta teatterikoulun
 Jouko Turkka.GEN and Jussi Parvianen.GEN by theater-school.GEN
 hallitus muutti keväistä
 board-of-directors.NOM changed spring-time
 rangaistuspäätöstään.⁴⁵ (F.)
 punishment-decision.PAR.3-POSS
 ‘As a result of the actions of Jouko Turkka and Jussi Parvianen, the board of directors of the theater school changed the decision it had made in the spring regarding punishment.’

However, there do exist in Finnish naturally-occurring examples of *toimesta*-structures being used to refer to direct agents, as shown in (34). It seems that variation exists in native speaker judgments, with some speakers only accepting *toimesta*-adverbials for indirect agents/initiators and others extending their use to direct agents as well.

- (34) Seurannut kulmapotku annettiin Mikan toimesta
 subsequent corner-kick.NOM give.IMP.PST Mika.GEN by
 vasemmalta puolelta.⁴⁶ (F.)
 left.ABL side.ABL
 ‘The next corner kick was given by Mika, from the left side.’

It may well be that the Finnish system is currently in a state of transition. What is clear, however, is that in general, *toimesta*-adverbials are perceived to be more marked than and functionally different from *by*-phrases in languages like English and German. As with Estonian, given that the use of *toimesta*-adverbials with impersonals has been ‘imported’ into Finnish from Indo-European (e.g. Häkkinen 1994), it is not surprising that it patterns differently from English-style *by*-phrases. In fact, it seems that the importation process has progressed less in Finnish than in Estonian, since Estonian seems more flexible than Finnish in its use of *poolt*-adverbials, but even Estonian does not accept oblique phrases expressing the agent to the same extent that English passives do.

In our opinion, the non-Finnic origin of the Finnish and Estonian *by*-phrases, combined with the resulting semantic restrictions, means that these structures cannot be directly compared to English-style *by*-phrases. In other words, since neither Finnish nor Estonian has a ‘native’ way of expressing the agent in impersonal

45. From Vilkuna (1996:147).

46. From <personal.inet.fi/koti/petteri.parssinen/pp70-92/Valipaivasel-03.html>.

structures, and since the imported versions are subject to semantic restrictions regarding the degree of direct agentivity (vs. mere ‘initiatorship’) they are able to express, we conclude that this is a test that cannot be extended from Indo-European to Finnic: in our view, *toimesta*- and *poolt*-phrases cannot be reliably used to probe for the presence of a demoted implicit agent in Finnish and Estonian impersonals. Fortunately, there are other tests that can be used to investigate whether the implicit agent is present in the semantics of Finnish and Estonian impersonals, such as agentive adverbials and control structures.

Interestingly, if we turn to the zero person construction in Finnish and Estonian, the data are much clearer. Neither language allows *by*-phrases with this construction, as shown below. This result does not seem to depend on the semantics of the *by*-phrase. For example, a universal reading does not make the *by*-phrase more grammatical in the zero person construction.

- (35) a. Täältä näkee koko kaupungin (*turistien /jokaisen toimesta). (F.)
 here.ABL see whole city.ACC (tourists.GEN/everyone.GEN by)
 ‘One can see the whole city from here (*by the tourists/everyone).’
 b. Siit näeb tervet linna (*turistide/kõigi poolt). (E.)
 here.ELA see.PRS.3SG whole.PAR city.PAR (tourists/everyone.GEN by)
 ‘You can see the whole city from here (*by the tourists/everyone).’

Given the generic interpretation of the zero person, these data are not surprising: it is not possible to spell out the agent of a generic person, since reference to a generic person is by definition a generalization, not an episodic event with a specific agent. To put it differently, if one of the functions of the zero person construction is avoidance of mentioning an agent (any agent), then it is not unexpected that a *by*-phrase spelling out the agent (even a universal one) is incompatible with this construction.⁴⁷ Even if we assume that *toimesta*- and *poolt*-phrases spell out only an initiator of the action, this too conflicts with the generic nature of this construction. Because of this semantic conflict, the *by*-phrase test cannot be used to probe for the semantic (or syntactic) presence of the implicit argument in the zero person.

8. Bringing the data back home

In the discussion so far, we have attempted to locate the implicit argument in both impersonals and zero person constructions with various tests and uncovered quite

47. The question of how the generic/episodic distinction relates to the universal/existential distinction is interesting, but beyond the scope of this paper. See Condoravdi (1989) and Alonso-Ovalle (2000) for evidence that these two distinctions do not coincide.

Table 1. Summary of tests probing the status of the implicit argument

	Impersonal		Zero person	
	Finnish	Estonian	Finnish	Estonian
Definite pronouns	*	*	*	*
Binding – reflexives	*	✓	✓	✓
Binding – possessives	*	✓	✓	✓
Binding – reciprocals	*?	✓	✓	✓
Agentive adverbials	✓	✓	✓	✓
Subject control	✓	✓	✓	✓
<i>By</i> -phrases	*?	(✓)	*	*

a diverse set of results. As we have looked at two different constructions across two different languages, let us pause to pull the data together into a concise summary (see Table 1), before examining what these results tell us about the status of the implicit argument in each of the contexts examined.

As Table 1 shows, intersentential definite pronouns cannot refer to the implicit argument in any of the four contexts. The intrasentential binding data distinguishes the Finnish impersonal from both the Estonian impersonal as well as the zero person in both languages. In future research, we hope to address the possibility that this result could be derived from the morphosyntactic differences that distinguish the Finnish and Estonian anaphor systems, rather than the status of the impersonal argument.

Although the data from adverbials and control indicate that the implicit argument is present in the semantics of both constructions in both languages, the data from agentive *by*-phrases reveal a difference between the Finnish and Estonian impersonal. Although Estonian has not traditionally supported *by*-phrases, the impersonal seems to have drifted to a certain degree (presumably under a strong Indo-European influence), now accepting *by*-phrases more readily than the Finnish impersonal. Here, we have a clear delineation between the zero person, which is ungrammatical with *by*-phrases, and the impersonals, which have varying results depending on the agentivity and the language in question.

9. Conclusions

Given the agentive adverbial and control tests discussed in the preceding sections, we conclude that the implicit argument is present in the semantic representation of the impersonal and zero person constructions in both Finnish and Estonian. However, as the pronoun data show, the implicit argument is not available for definite pronominal reference with either the impersonal or the zero person constructions. From this we conclude that it does not project a salient discourse entity. In other

words, we interpret the data as indicating that although the implicit argument is present on the level of semantics in both languages in both constructions, it is not fully realized on the discourse level – at least not ‘strongly’ enough to be picked up by a pronoun in a subsequent utterance.

What about the syntactic level: is the implicit argument realized on the syntactic level in Finnish and Estonian impersonal and zero person constructions? Given the binding data, we conclude that the implicit argument is syntactically realized (as a non-overt subject) in the zero person construction in both languages (see also Holmberg 2004 for further evidence regarding Finnish zero persons). This conclusion is also supported by the fact that the object in zero person constructions consistently maintains its object case, in contrast to impersonal constructions. In addition, the incompatibility of *by*-phrases with the zero person construction may support our view that the implicit argument in this construction is syntactically present but semantically underspecified, in the sense that it does not pick out a particular referent. However, we also noted complications that arise in using the *by*-phrase as a test for syntactic presence of the agent. The *by*-phrase test cannot be imported wholesale to non-Indo-European languages without a critical analysis of what information this test actually gives us, and it appears that the data and judgments on agent-specifying phrases in Finnish and Estonian should be viewed with some skepticism.

Turning now to the impersonal, what can we say about the syntactic status of the implicit argument? We do not have clear evidence for either full realization or full demotion of the implicit argument in either Finnish or Estonian impersonal constructions. In Finnish impersonals, the implicit argument cannot act as an antecedent for reflexives or possessives, and it seems that in the case of ‘doubled’ reciprocals, we may be dealing with a case of internal binding licensed by the presence of a doubled form. On the whole, it seems that the implicit argument is not fully present on the syntactic level in Finnish, at least not on a footing comparable to overt constituents. In Estonian, even though the implicit argument can act as the antecedent for reflexives, possessives and reciprocals, it can nevertheless be trumped by an overt nominative constituent. This is shown by examples such as (13), where the implicit argument is outranked by an overtly realized preverbal argument, and (14), which shows that the implicit argument and the overt argument can both provide an antecedent for the possessive pronoun *oma*. Thus, even though one could regard the implicit argument as being more syntactically active in Estonian than in Finnish, it is not comparable to an overt argument.

In fact, the binding data, combined with the other diagnostics, seem to suggest that (i) the Estonian impersonal demotes the highest argument on the discourse level but leaves it at least partially intact on the syntactic level (i.e. the impersonalised argument slot is satisfied in the argument structure but referentially unspecified), and that (ii) the Finnish impersonal construction demotes the agent

both on the syntactic level (at least from the perspective of anaphor binding) and on the discourse level (at least from the perspective of pronominal reference).

This analysis is also compatible with the disagreement in the literature regarding the internal argument in Estonian and Finnish impersonals. On one hand, the patient looks like a promoted subject, often taking a preverbal position⁴⁸ and sometimes nominative case, but it also shows indications of not being fully promoted. Conditions such as negation and low telicity induce partitive case, and the binding data is open to various interpretations. In Estonian, the ambiguous status of the internal argument may be related to the ambiguous status of the partially demoted argument. In Finnish, the internal argument behaves slightly more like a promoted constituent, which may be related to the more clearly demotional nature of the impersonal. The status of the internal argument needs further investigation.

In sum, the idea that demotion is not a monolithic phenomenon that applies equally on all linguistic levels seems to provide a good fit for the data presented here: more specifically, we hypothesize that Estonian impersonals demote the highest argument on the discourse level but leave it largely syntactically intact, although unspecified, whereas the Finnish impersonal constructions demote the agent syntactically as well as on the discourse level. This leads to a surprising and rather intriguing finding: these two constructions – the Finnish impersonal and the Estonian impersonal – that seem so similar, both historically and synchronically, are nevertheless subtly different with respect to what is arguably their most central function, namely the demotion of the agent.

We hope to investigate the validity of this preliminary hypothesis more in future work, and also to look more closely at the potential effects of the anaphoric systems of Finnish and Estonian on the binding possibilities to see whether they could in fact be responsible for triggering the differences that arise for impersonal constructions in the two languages.

Furthermore, it is clear that in order to understand the data presented in this paper more fully, a detailed theoretical analysis is necessary. Thus, the crucial next step will be an attempt to capture the data in a principled way within a theoretical framework. A more formal analysis will (i) enable us to spell out concretely what the data say about the status of the implicit argument in different linguistic domains, and (ii) will allow us to investigate more explicitly the implications – and the theoretical validity – of the ‘dissociation’ hypothesis, i.e. our tentative idea that that dissociation between domains may be possible, in the sense that an argument can be demoted in one domain but not in another.

48. Note, however, that word order has different implications for grammatical roles in Finnish and Estonian: in Finnish word order may be more of a predictive tool than in Estonian.

Taken as a whole, in addition to shedding light on the referential properties of what one might call 'invisible' arguments, the findings presented in this paper have important implications for our understanding of the notion of agent demotion in voice phenomena.

References

- Ackema, Peter, & Maaike Schoorlemmer (1995). Middles and non-movement. *Linguistic Inquiry*, 26(1), 173–197.
- Alonso Ovalle, Luis (2000). Is the 'arbitrary interpretation' a semantic epiphenomenon? *University of Massachusetts Occasional Papers*, 23, 155–183.
- Baker, Mark, Kyle Johnson, & Ian Roberts (1989). Passive arguments raised. *Linguistic Inquiry*, 20(2), 219–252.
- Bhatt, Rajesh, & Roumyana Pancheva (2004). Implicit arguments. Ms., University of Texas, Austin and University of Southern California. URL: www-rcf.usc.edu/~pancheva/lingpapers.html
- Blevins, James P (2003). Passives and impersonals. *Journal of Linguistics*, 39(3), 473–520.
- Condoravdi, Cleo (1989). Indefinite and generic pronouns. In E. Jane Fee & K. Hunt (Eds.), *Proceedings of the Eight West Coast Conference on Formal Linguistics* (pp. 71–85). Stanford, CA: CSLI.
- Erelt, Mati, Reet Kasik, Helle Metslang, Henno Rajandi, Kristiina Ross, Henn Saari, Kaja Tael, & Silvi Vare (1993). *Eesti keele grammatika II: Süntaks* (Estonian Grammar II: Syntax). Tallinn: Eesti Teaduste Akadeemia Keele ja Kirjanduse Instituut.
- Hakulinen, Auli, Maria Vilkkuna, Riitta Korhonen, Vesa Koivisto, Tarja-Riitta Heinonen, & Irja Alho (2004). *Iso suomen kielioppi* (The big grammar of Finnish). Helsinki: Suomalaisen Kirjallisuuden Seura.
- Hakulinen, Auli, & Lauri Karttunen (1973). Kadonneet henkilöt: Suomen kielen geneeristä lauseista (Vanished persons: On generic sentences in Finnish). In Lea Laitinen, Pirkko Nuolijärvi, Marja-Leena Sorjonen, & Maria Vilkkuna (Eds.), *Lukemisto. (Auli Hakulisen) Kirjoituksia kolmelta vuosikymmeneltä* (A reader: Writings by Aulin Hakulinen from three decades) (pp. 13–28). Translated by Maria Vilkkuna. Helsinki: SKS.
- Hakulinen, Auli, & Fred Karlsson (1988). *Nykysuomen lauseoppia* (Modern Finnish grammar). Helsinki: SKS.
- Heim, Irene, Howard Lasnik, & Robert May (1991). Reciprocity and plurality. *Linguistic Inquiry*, 22, 63–101.
- Hiietam, Katrin (2003). Definiteness and Grammatical Relations in Estonian. Ph.D. dissertation, University of Manchester.
- Hiietam, Katrin, & Satu Manninen (2005). Some thoughts on Balto-Finnic passives and impersonals: A reply to Blevins. Ms., University of Liverpool and University of Lund.
- Holmberg, Anders (2004). The empty generic subject pronoun in Finnish. Ms., University of Newcastle.
- Holmberg, Anders, & Urpo Nikanne (2002). Expletives, subjects, and topics in Finnish. In Peter Svenonius (Ed.), *Subjects, Expletives, and the EPP* (pp. 71–106). Oxford: Oxford University Press.

- Häkkinen, Kaisa (1994). *Agricolasta nykykieleen: Suomen kirjakielen historia* (From Agricola to present-day Finnish: The history of standard Finnish). Helsinki: WSOY.
- Keyser, Samuel Jay, & Thomas Roeper (1984). On the middle and ergative construction in English. *Linguistic Inquiry*, 15, 381–416.
- Koenig, Jean-Pierre (1999). On a tué le président! The nature of passives and ultra-indefinites. In B. Fox, D. Jurafsky, & L. Michaelis (Eds.), *Cognition and Function in Language* (pp. 256–272). Stanford, CA: CSLI Publications.
- Koenig, Jean-Pierre, & Gail Mauner (2000). A-definites and the discourse status of implicit arguments. *Journal of Semantics*, 16, 207–236.
- Kratzer, Angela (1986). Conditionals. In *Papers from the Regional Meetings* (pp. 1–15). Chicago, IL: Chicago Linguistic Society.
- Laakso, Johanna (2001). The Finnic languages. In Ö. Dahl & M. Koptjevskaja-Tamm (Eds.), *Circum-Baltic Languages, 1: Past and Present* (pp. 179–212). Amsterdam: John Benjamins.
- Laanest, Arvo (1975). *Sissejuhatus läänemeresoome keeltesse* (An Introduction to Balto-Finnic Languages). Tallinn: Teaduste Akadeemia Keele ja Kirjanduse Instituut.
- Laitinen, Lea (1995). Nollapersoon (Zero person). *Virittäjä*, 3, 337–358.
- Länsimäki, Maija (1999). Poimitaanko marjat mummon toimesta? (Are the berries picked by the grandmother? / Does the grandmother have the berries picked?). An article published in the Finnish newspaper *Helsingin Sanomat*, 27.10.1999
- Löflund, Juhani (1998). *Suomen kirjoitetun yleiskielen passiivi* (The passive in standard written Finnish). Åbo: Åbo Akademis Förlag.
- Manninen, Satu, & Diane Nelson (2004). What is a passive? The case of Finnish. *Studia Linguistica*, 58(3), 212–251.
- Nelson, Diane (1998). *Grammatical Case Assignment in Finnish*. New York, NY: Garland.
- Nelson, Diane, & Virve-Anneli Vihman (2004). The interpretation of implicit arguments in Estonian and Finnish. Paper presented at the Workshop on Passives, 20th Scandinavian Conference of Linguistics. University of Helsinki.
- Nemvalts, Peep (1998). Kas väliseesti keeles on märgata süntaktilist omapära? (Is there any syntactic idiosyncrasy in Estonian abroad?). In *Väliseesti keeles* (Estonian abroad) (pp. 166–178). Tartu: Tartu Ülikooli Kirjastus.
- Penttilä, Aarni (1963). *Suomen kielioppi* (Finnish grammar). Porvoo: WSOY.
- Rajandi, Henno (1999 [1968]). *Eesti impersonaali ja passiivi süntaks* (The syntax of Estonian impersonals and passives). Tallinn: Eesti Keele Instituut.
- Rapoport, Tova R. (1999). The English middle and agentivity. *Linguistic Inquiry*, 30(1), 147–155.
- Roeper, Thomas (1987). Implicit arguments and the head-complement relation. *Linguistic Inquiry*, 18(2), 267–310.
- Shore, Susanna (1988). On the so-called Finnish passive. *Word*, 39, 151–176.
- Siewierska, Anna (1984). *The Passive: A Comparative Linguistic Analysis*. London: Croom Helm.
- Stalnaker, Robert (1968). A theory of conditionals. *Philosophia*, 5, 269–286.
- Sulkala, Helena, & Merja Karjalainen (1992). *Finnish*. London: Routledge.
- Torn, Reeli (2002). The status of the passive in English and Estonian. *RCEAL Working Papers in English and Applied Linguistics*, 7, 81–106.
- Trosterud, Trond (1993). Anaphors and binding domains in Finnish. In Anders Holmberg & Urpo Nikanne (Eds.), *Case and Other Functional Categories in Finnish* (pp. 225–243). Berlin: Mouton de Gruyter.
- Tuldava, Juhan (1994). *Estonian Textbook* [Indiana University Uralic and Altaic Series 159]. Bloomington, IN: Indiana University.

- Vainikka, Anne (1989). Deriving Syntactic Representations in Finnish. Ph.D. dissertation, University of Massachusetts, Amherst.
- Vainikka, Anne, & Levy, D. (1999). Empty subjects in Finnish and Hebrew. *Natural Language and Linguistic Theory*, 17, 613–671.
- Vihman, Virve-Anneli (2004). Valency Reduction in Estonian. Ph.D. dissertation, University of Edinburgh.
- Vihman, Virve-Anneli (Forthcoming). Construction-based interpretation of implicit arguments. In N. Adams, A. Cooper, F. Parrill, & T. Wier (Eds.), *CLS 40, vol. II: The Panels*. Chicago, IL: Chicago Linguistic Society.
- Vilkuna, Maria (1996). *Suomen lauseopin perusteet* (Foundations of Finnish syntax). Helsinki: Edita.
- Williams, Edwin (1985). PRO and the subject of NP. *Natural Language and Linguistic Theory*, 3(3), 297–315.