A semantic comparison of Finnish taas and uudestaan 'again'

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1 Introduction

The present work¹ is an investigation of two Finnish adverbials, *taas* and *uudestaan*, which both correspond roughly to English *again*. I analyze novel data to show that these adverbials differ from each other in meaning and usage, particularly in the types of eventualities that they can take and in the way that the participant arguments of propositions that they modify are interpreted. I propose, adapting Chung and Ladusaw's (2004) analysis of Māori indefinites, that arguments in propositions modified by *taas* may be composed via the operation Restrict rather than via a choice function when they are not marked with overt determiners. This accounts for the fact that in sentences with *taas*, the same individuals need not be involved in both eventualities described, whereas *uudestaan* requires all individuals to be the same.

This paper is organized as follows: The remainder of this section provides information on the motivation for the present study and background on the two adverbials under examination. Section 2 presents a descriptive summary of my findings, based entirely on original consultation with native speakers of Finnish during the Spring and Summer of 2013. Section 3 reviews some of the literature on the semantics of *again* in other languages, and lays out a formal analysis of Finnish *uudestaan*. Section 4 presents an analysis of Finnish *taas*, with a particular focus on the interpretation of verbal participant arguments. Section 5 is a conclusion.

1.1 Motivation

It is not uncommon for a language to have more than one adverbial for *again*, nor it is uncommon for those adverbials to differ from each other slightly in meaning. In many cases, one of the adverbials may differ from the others by being more restricted in the number of structural positions it may occupy. Beck (2005:10, fn. 6) notes examples of this from a number of different language families: Hebrew, Serbian/Croatian, Spanish, and Kannada all have more than one ad-

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verbial corresponding to English *again*, and for many of these, one can be translated literally as 'anew'. English, too, has multiple synonyms for *again*, some of which seem to behave differently on closer investigation. Among these are *anew*, *once more*, and the verbal prefix *re*-.

Finnish also has multiple adverbials for *again*, the two most common of which are *taas* and *uudestaan*. While native speakers readily identify their meanings as being non-identical, it is not immediately clear what the difference is. Furthermore, I am not aware of any works in English or Finnish, descriptive or otherwise, which explicitly compare the meanings of these two adverbials. Thus the contribution of this paper is twofold: First, it introduces novel data on Finnish *again*-adverbials, which have thus far remained undescribed. Second, the formal analysis contributes to the semantic literature on *again*, which thus far has focused mainly on the differences between the so-called "repetitive" and "restitutive" readings that such adverbials can convey (see discussion in Section 3 below). This paper brings to light several other meaning differences that can be conveyed by *again* adverbials and proposes an analysis for them.

1.2 Background

The word *uudestaan* very transparently contains the Finnish root *uute-* 'new' (nominative *uusi*) plus the elative suffix *-stA* and an additional adverbializing suffix. It can thus be translated as 'anew'. Itkonen (2000) equates it directly with the synonym *uudelleen*, which is itself derived from the root for 'new', plus the allative suffix *-lle* and an adverbializing suffix. Finnish speakers seem to identify *uudelleen* as a more formal synonym for *uudestaan*. I set aside *uudelleen* in the present study.

According to Itkonen and Joki (1983), *taas* is derived historically from the root *taka* 'back' and the (no longer synchronically productive) lative suffix *-s*, which is found mostly on adverbials and postpositions. The *-k-* disappears due to a morphophonological process of consonant gradation. They also list an older variant *taasen*, which is not as common, but still observed in Modern Finnish, as far as I can tell only in more formal contexts. Itkonen (2000) lists a synonym *jälleen* as well, which also seems to be restricted to more formal contexts. I set this aside as well, focusing

only on a two-way comparison of *taas* and *uudestaan*.

2 Taas and Uudestaan

I will now provide an overview of the differences in meaning and usage of Finnish *taas* and *uudestaan*. Although both of these correspond roughly to English *again*, they differ from each other in systematic ways. In general, *uudestaan* can be used to describe a subset of the situations that are compatible with *taas*. As will be seen below, this is due to *uudestaan* being allowable in a more restricted grammatical context.

The goal of this section is to establish a pretheoretical comparison of the two adverbials before embarking on a more formal analysis in the following sections.

2.1 Informal meaning differences

There are some differences between *taas* and *uudestaan* which seem to be non-grammatical but are nonetheless accessible by speaker introspection. An event or state modified by *taas* is taken to have occurred or held many times before, and not to have happened or been the case for some significant period of time. Events described by *uudestaan*, on the other hand, tend to be more restricted, in that they need only have occurred once before. Furthermore, the two events described (the previous one and the one happening "again") are understood to occur close to each other chronologically.

Thus, in (1a), it is suggested that the child gets sick often, while (1b) suggests that the child was sick recently, and then became sick again:²

- (1) a. *Lapsi sairastu-i taas* child get.sick-past TAAS 'A/the child got sick yet again'
 - b. *Lapsi sairastu-i uudestaan* child get.sick-past UUDESTAAN

²Glosses in this paper contain the following abbreviations: 1sg='1st person singular', acc='accusative case', ill='illative case', iness='inessive case', part='partitive case', past='past tense', past=participle', pl='plural', TAAS='taas', UUDESTAAN='uudestaan'.

'The child got sick again (but had been better)'

Likewise, in (2a), the speaker has likely been to Toronto a number of times before, whereas in (2b), the speaker need only have been there once before:

- (2) a. Käy-n taas Toronto-ssa visit-1sg TAAS Toronto-iness
 'I'm going to Toronto yet again'
 - Käy-n Toronto-ssa uudestaan
 visit-1sg Toronto-iness UUDESTAAN
 'I'm going to Toronto again'

2.2 Identity effects

One of the key differences between *taas* and *uudestaan* is that the latter involves what I call *identity effects*. This is when arguments of a verb that are not overtly marked for definiteness must refer to the same individual or individuals being involved in both instances of the proposition. Without any overt determiners, the direct object *kärpästä* 'housefly (partitive)' in (3) is ambiguous between being definite or indefinite. Nonetheless, because it is a singular count noun, the sentence must refer to hitting one individual fly.

(3) *Lö-i-n kärpäs-tä* hit-past-1sg housefly-part 'I hit a/the fly'

However, when we consider 'again', we now refer to two instances of hitting. There is some event of hitting that happened, where I hit a fly, but there is also some other event of hitting before that in which I hit a fly. The question is, was the fly that got hit the same fly? Utterances with *taas*, as in (4a), are ambiguous as to whether the flies involved are the same individual.

On the other hand, *uudestaan* shows an identity effect seen in (4b), where it must be the same individual fly that gets hit.

- (4) a. *Lö-i-n kärpäs-tä taas* hit-past-1sg housefly-part TAAS 'I hit the same/a different fly again'
 - b. Lö-i-n kärpäs-tä uudestaan hit-past-1sg housefly-part UUDESTAAN 'I hit the (same) fly again'

The identity effect with *uudestaan* is quite robust. Consider a verb like *tappaa* 'to kill' which, as in English, has a physically irreversible result (i.e., death). Thus the result of (5) is that some fly ends up dead:

(5) *Tapo-i-n kärpäse-n* kill-past-1sg housefly-acc 'I killed a/the fly'

When *taas* is used with 'to kill', essentially the only salient reading is that two different flies were killed. Because of the identity effect of *uudestaan*, then, the sentence in (6b) is generally rejected, since it is not typically possible to kill the same individual twice. However, if a context is given in which an individual was killed, and then brought back to life, only to be killed once again, (6b) becomes perfectly acceptable. A context which lends itself to such "zombie readings" is that of video games, where the same individual is capable of dying numerous times.

- (6) a. Tapo-i-n kärpäse-n taas kill-past-1sg housefly-acc TAAS
 'I killed a fly again (I killed another fly)'
 - b. ? Tapo-i-n kärpäse-n uudestaan kill-past-1sg housefly-acc UUDESTAAN 'I killed the (same) fly again'

The English verbal prefix *re*- seems in this way comparable to *uudestaan*; (7a) most saliently refers to two separate individuals, while (7b) only allows a zombie reading:³

³Using the definite article of course allows only a zombie reading in with both *again* and *re-*, because it picks out the same individual:

i. a. I killed the fly again (= I killed the same fly twice)

b. I rekilled the fly (= I killed the same fly twice)

(7) a. I killed a fly again (= I killed another fly)

b. ? I rekilled a fly (= I killed the same fly twice)

The identity effect with *uudestaan* seems to be a property of the whole proposition, not just of the object, as it affects subjects as well. When a bare nominative case noun appears as the subject of verb, it is ambiguous between a definite and indefinite reading, just as with object position:

(8) Lapsi nauro-i child laugh-past'A/the child laughed'

When used with *taas*, a subject is ambiguous between being the same and different individual in both instances of laughing, as in (9a). Using *uudestaan* as in (9b), shows the identity effect, such that the only reading available is that where the same child laughed twice:

- (9) a. Lapsi nauro-i taas child laugh-past TAAS
 'The same/a different child laughed again'
 - b. *Lapsi nauro-i uudestaan* child laugh-past UUDESTAAN 'The (same) child laughed again'

The identity effect is as robust with intransitive subjects as it is with objects, as can be seen with the verb *kuolla* 'to die'. With *taas* in (10a), the only available reading is one where two different Russians die, whereas *uudestaan* in (10b) allows only a zombie reading:

- (10) a. Venäläinen kuol-i taas
 Russian die-past TAAS
 'A Russian died again (another Russian died)'
 - b. ? Venäläinen kuol-i uudestaan Russian die-past UUDESTAAN 'The (same) Russian died again'

Identity effects can also hold for the subject and object simultaneously, when both are bare nouns. Without 'again', (11) can attribute either definiteness or indefiniteness to the man and the boy involved in the seeing.

(11) Poika näk-i miehe-n boy see-past man-acc
'A/the boy saw a/the man'

Using *taas*, as in (12), does not specify whether it was the same individual boy or the same individual man involved in both instances of seeing, meaning that there are four possible readings available, which are glossed with approximate English paraphrases. When *uudestaan* is used as in (12b), the identity effect requires the same individual boy and man to be involved in both events.

- (12) a. Poika näk-i miehe-n taas boy see-past man-acc TAAS
 'Again, a boy saw a man (two boys, two men)'
 'The boy saw a man again (one boy, two men)'
 'Again, a boy saw the man (two boys, one man)'
 'The boy saw the man again (one boy, one man)'
 - b. Poika näk-i miehe-n uudestaan
 boy see-past man-acc UUDESTAAN
 'The boy saw the man again'

The ambiguity of *taas* and the identity effect of *uudestaan* only apply to singular nouns without any sort of determiners, as it is possible to cancel both explicitly. For example, it is well known that plural marking in Finnish has certain properties with regards to definiteness, at least on objects (see Belletti 1988): the accusative plural gives a definite reading, while the partitive plural gives an indefinite reading. Thus the use of an accusative plural object with both *taas* and *uudestaan* must refer to the same set of individuals:

- (13) a. Laulo-i-n laulu-t taas sing-past-1sg song-acc.pl TAAS 'I sang the songs again'
 - b. Laulo-i-n laulu-t uudestaan sing-past-1sg song-acc.pl UUDESTAAN 'I sang the songs again'

When a partitive plural object is used, the meaning is something like English *some* or a bare plural. This is true with both *taas* and *uudestaan*, as in (14). Neither is specified as to whether the songs that were sung in both instances of singing were members of the same or a different set.

- (14) a. *Laulo-i-n taas laulu-j-a* sing-past-1sg TAAS song-pl-part 'I sang/was singing (some) songs again'
 - b. *Laulo-i-n laulu-t uudestaan* sing-past-1sg song-pl-part UUDESTAAN 'I sang/was singing (some) songs again'

The same definiteness distinctions with the accusative and partitive plural can be seen with subjects, as well. This can be seen in (15), where the nominative plural refers to a definite set and the partitive plural refers to an indefinite set:⁴

- (15) a. Venäläise-t kuol-i-vat Russian-pl die-past-3pl
 'The Russians died'
 - b. *Venäläis-i-ä kuol-i* Russian-part-pl die-past '(Some) Russians died'

A nominative plural subject always refers to the same set in both instances of dying, whether *taas* or *uudestaan* is used. In other words, nominative plural subjects only allow zombie readings (consisting of a plurality of zombies):

- (16) a. Venäläise-t kuol-i-vat taas Russian-pl die-past-3pl TAAS 'The (same) Russians died again'
 - b. Venäläise-t kuol-i UUDESTAAN Russian-pl die-past UUDESTAAN 'The (same) Russians died again'

⁴The nominative and accusative plural take the same form on lexical nouns in Finnish. Note also that partitive plural subjects in Finnish do not show plural agreement with the verb, which I do not take into account here. For a detailed review of the partitive case in Finnish, see Thomas (2003).

With the partitive plural, however, a zombie reading is never possible, and instead the subject is always interpreted as referring to non-overlapping sets in the two events:

- (17) a. Venäläis-i-ä kuol-i taas
 Russian-part-pl die-past TAAS
 '(Some) Russians died again'
 - b. Venäläis-i-ä kuol-i uudestaan Russian-part-pl die-past UUDESTAAN '(Some) Russians died again'

Colloquial Finnish also allows the use of the pronoun *se* 'it' as a kind of definite article.⁵ As in English, the introduction of an overt definite article can force readings where the same individual is involved in both instances. This results in unambiguous identity effects with both *taas* and *uudestaan*:

- (18) a. *Laulo-i-n se-n laulu-n taas* sing-past-1sg it-acc song-acc TAAS 'I sang that song again'
 - b. Laulo-i-n se-n laulu-n uudestaan sing-past-1sg it-acc song-acc UUDESTAAN 'I sang that song again'

2.3 Verbal aspect

Another difference between *taas* and *uudestaan* lies in the kinds of eventualities with which they can be used. I take Hallman's (2009) definition for the distinction between states and events: states are true at points in time, whereas events are true over intervals. Given this, both events and states can be used with *taas*, whereas *uudestaan* only seems to be possible with proper events. Therefore, *uudestaan* is not compatible with statives such as 'be happy', leading to the unacceptability of (19b), while recurring states can be described with *taas* as in (19a). However, the verb *olla* 'to be' does become possible with *uudestaan* when an eventive reading is forced explicitly, as in (19c):

⁵The "article" also agrees in case with the noun it modifies. For more on the emergence of a definite article in Finnish, see Laury (1997).

- (19) a. *Ol-i-n taas iloinen* be-past-1sg TAAS happy 'I was happy again'
 - b. *? *Ol-i-n iloinen uudestaan* be-past-1sg happy UUDESTAAN
 - c. *Ol-i-n iloinen uudestaan tarkoitukse-lla* be-past-1sg happy UUDESTAAN meaning-adess 'I was happy again on purpose'

The event-requiring nature of *uudestaan* is robust enough that the choice between adverbials alone can distinguish telicity. Consider (20), which is ambiguous between telic and atelic readings:

(20) Lapsi nauro-i child laugh-past'A/the child was laughing/laughed'

Telicity is disambiguated when an 'again' adverbial is used, however. Using *taas* allows an atelic reading, as in (21a), while using *uudestaan* allows only a telic eventive reading, as in (21b). This is consistent with the observation above that *uudestaan* is only compatible with events:

- (21) a. *Lapsi nauro-i taas* child laugh-past TAAS 'A/the child was laughing again'
 - b. Lapsi nauro-i uudestaan child laugh-past UUDESTAAN
 'The child laughed again/laughed another laugh'

Telicity and the adverbial used also interact with case marking of objects. It is a well-known fact about Finnish that the choice between accusative and partitive marking on objects of some verbs serves to express an aspectual distinction. While the exact nature of that distinction remains a topic of debate, the general consensus is that direct objects marked with accusative case are bounded (telic), while those marked with partitive case are unbounded (atelic).⁶

To illustrate the distinction, consider the sentences in (22):

⁶For an overview of the facts and some possible analyses, see for example Heinämäki (1984) and Kiparsky (1998).

- (22) a. *Rakens-i-n talo-n* build-past-1sg house-acc 'I built a/the house'
 - b. *Rakens-i-n talo-a* build-past-1sg house-part 'I was building a/the house'

The sentence in (22a) is bounded because it describes the interval of the entire building of a house. The sentence in (22b) is unbounded, because it does not describe a completed action, but merely a point in time at which the house is in the process of being built. Because *taas* is compatible with both events and states, it may be used with both accusative and partitive case objects, preserving the associated aspectual qualities:

- (23) a. Rakens-i-n talo-n taas build-past-1sg house-acc TAAS
 'I built a house again (I again completed the action of building a house)'
 - b. Rakens-i-n talo-a taas build-past-1sg house-part TAAS
 'I was building a house again (I again was in the state of building a house)'

This causes a problem when using *uudestaan*. The bounded sentence with accusative case in (24a) is possible, because it refers to the event of completing the building of a house. Note that it is strange, however, because of the identity effect of *uudestaan* discussed in section 2.2 above. The direct object must refer to the same individual house in both instances of building, but it is not physically possible to build the same individual house twice.⁷ With partitive case marking in (24b), however, *uudestaan* is simply implausible, because the verb 'to build' with a partitive object can only refer to being in the state of building, while *uudestaan* only works with events.

(24) a. ? Rakens-i-n talo-n uudestaan build-past-1sg house-acc UUDESTAAN
'I built the (same) house again'

⁷(24a) is thus similar to the zombie readings discussed above. We might refer to such interpretable but physically impossible readings more generally as " $d\acute{e}j\grave{a}$ vu readings".

b. * *Rakens-i-n talo-a uudestaan* build-past-1sg house-part UUDESTAAN

It is thus clear that *uudestaan* is restricted to being used with telic events.

2.4 Scopal flexibility of *taas*

Another observation about *taas* is that it can take high or low scope with respect to negation, while *uudestaan* must scope below negation. This means that a sentence such as (25a) has two readings, while (25b) has only one reading available:⁸

- (25) a. *E-n yski-nyt taas-kaan* neg-1sg cough-past.part TAAS-kaan 'I didn't cough again (but I did before)' 'Again, I didn't cough'
 - b. E-n yski-nyt uudestaan neg-1sg cough-past.part UUDESTAAN
 'I didn't cough again (but I did last time)'

When *taas* used with a temporal adverbial such as *eilen* 'yesterday', the ambiguity still exists at least marginally, as in (26a). The reading in which 'again' takes scope over negation can be paraphrased unambiguously as in (26b), without using *taas* at all. In this case, the *-kaan* morpheme must appear on *eilen*:⁹

- (26) a. ? Eilen e-n yski-nyt taas-kaan yesterday neg.1sg cough-past-part TAAS-kaan
 'I didn't cough again yesterday (but I did before yesterday)'
 'I didn't cough again yesterday (and I hadn't before)'
 - b. *Eilen-kään e-n yski-nyt* yesterday-kaan neg-1sg cough-past.part 'I didn't cough yesterday, either'

⁸Note that, in negative contexts, *taas* must appear with the morpheme *-kaan*. This serves as a kind of negative polarity item, and when used with lexical words has a meaning of 'either, neither', corresponding to non-negative polarity morpheme *-kin* 'also'. I will not address its appearance on the function word *taas* in this paper.

⁹The vowels in *-kaan* change due to a phonological process of vowel harmony, which is not relevant to this discussion here.

The inability of *uudestaan* to take scope over negation can be further illustrated by (27). Using *taas* is acceptable whether or not the speaker has ever been to Toronto, but (27b) is not felicitous if the speaker has never been to Toronto before.

- (27) a. E-n tul-lut Toronto-on taas-kaan neg-1sg come-past.part Toronto-ill TAAS-kaan
 'I didn't come to Toronto again (but I've been there before)'
 'Again I didn't come to Toronto'
 - b. *E-n tul-lut Toronto-on uudestaan*neg-1sg come-past.part Toronto-ill UUDESTAAN
 'I didn't come to Toronto again (but I've been there before)'

It is even possible to use *taas* more on a discourse-based level: it can correspond to English expressions such as *whereas*, *then again*, and *on the other hand*, as well as in other ways. Consider (28), where *taas* is used to convey a kind of contrast about who died and who survived:

(28) Venäläinen taas kuol-i
Russian TAAS die-past
'(The Finn survived,) whereas the Russian died'

Examples such as this lie outside the scope the current study, but their existence serves as further evidence that *taas* is far more diverse than *uudestaan* in terms of its flexibility in the grammar.

2.5 Syntactic order and identity with *taas*

While I have thus far presented *taas* as being fully unspecified or ambiguous with respect to identity effects, at least one speaker gets readings in terms of whether certain arguments must be the same or different individuals, depending on where *taas* appears overtly in the syntax. (29a) must refer to hitting the same fly, while (29b) must refer to hitting a different fly. In other words, having *taas* at the end of the utterance is equivalent to using *uudestaan* for the purpose of identity effects, because the same individual fly must be involved:

- (29) a. *Lö-i-n kärpäs-tä taas* hit-past-1sg housefly-part TAAS 'I hit the (same) fly again'
 - b. *Lö-i-n taas kärpäs-tä* hit-past-1sg TAAS housefly-part 'I hit a (different) fly again'

The same speaker finds final placement of *taas* to create *uudestaan*-like identity effects in clauses with two determinerless nouns as well, as seen in (30a). In (30b), the noun following *taas* is a different individual, while the one preceding *taas* is the same. When *taas* comes before the verb, we get a "whereas" reading, as seen in (28) above.¹⁰

Finally, when *taas* appears initially as in (30d), again the same individuals are involved, barring some special context and intonation. At any rate, initial placement of *taas* in (30) is highly marked.

- (30) a. Poika näk-i miehe-n taas boy see-past man-acc TAAS
 'The (same) boy saw the (same) man again'
 - b. Poika näk-i taas miehe-n boy see-past TAAS man-acc
 'The (same) boy saw a (different) man again'
 - c. *Poika taas näk-i miehe-n* boy TAAS see-past man-acc ("whereas" reading)
 - d. *Taas poika näk-i miehe-n* TAAS boy see-past man-acc (same individuals, barring special context)

- (i) a. *Taas hän on sairas* 'He/she is sick again'
 - b. *Hän taas on sairas* 'He/she, on the other hand, is sick'

¹⁰Ahlman (1933:153) identifies this use as a being somewhere between modal adverbs (*modaaliset adverbit*) and conjunctions (*konjunktiot*). He even recognizes (1933:157) that this use depends on word order; (ia), with the initial adverbial, is about material (*materiaalista*), while (ib), with the adverbial between the pronoun and the copula, is a modal adverbial use (glosses my own):

2.6 Summary

In this section I have described a number of differences in meaning between the Finnish 'again' adverbials *taas* and *uudestaan*. The differences range from simply suggesting the frequency or typicality of the occurrence to fully formal restrictions on the kinds of eventualities with which the adverbial can be used. These differences are summarized in Table 1.

3 Towards a formal account

In this section, I will propose a formal analysis for *uudestaan*. I take as a starting point some of the assumptions that have been applied by previous authors working on 'again' in other languages, most notably in work by Fabricius-Hansen (2001, and earlier work) and von Stechow (1995, 1996). I then make clear the exact assumptions needed in order to account for *uudestaan* in Finnish, and demonstrate how the observed meanings can be derived.

3.1 Denoting again

Much work on the semantics of *again* has focused on the so-called repetitive–restitutive ambiguity found with resultatives when used with at least the English *again* and the German equivalent *wieder*.¹¹ This refers to the two different readings of a sentence like (31):

(31) Sally opened the door again

This can be paraphrased as in (32). (32a) is known as the "repetitive" reading, because the whole action is being repeated, while (32b) is known as the "restitutive" reading, because the state is being restored Beck (2005:10):

- (32) a. Sally opened the door, and that had happened before.
 - b. Sally opened the door, and the door had been open before.

¹¹For a review of von Stechow's and Fabricius-Hansen's approaches covering roughly the same ground I cover here, see Beck (2005, Section 2).

	taas	uudestaan
Typicality	• Suggests that the proposition hap- pened many times before	• Suggests only that the proposition happened once before
Identity	• Same or different individuals may be associated with the two instances of the proposition if not specified with overt determiners/quantifiers	• The same individuals must be as- sociated with both instances of the proposition whenever no overt de- terminers/quantifiers are used
Eventualities	 Compatible with both events and states Compatible with both telic and atelic predicates 	 Compatible only with events Compatible only with telic predicates
Syntax/Scope	 May take scope above or below negation May appear in different positions in the overt syntax Has discourse uses ('whereas', 'then again', etc.) 	• Must take scope directly above the main predicate, below negation

Table 1: Summary of differences between taas and uudestaan

One oft-cited analysis of this ambiguity is the structural account proposed by von Stechow (1995, 1996), and explored further by e.g., Beck and Johnson (2004), Beck (2005), and Nissenbaum (2006). For von Stechow (1996:95), there is a single lexical entry for *again*, with the semantics in (33). This is approximated as (34) by Beck (2005:9):¹²

(33) Let P be a property of eventualities and let e be an eventuality.

[again](P)(e) is defined only if $\exists e' [[MAX](P)(e') = 1 \& e' < e].$

Where defined, [again](P)(e) = 1 iff P(e) = 1.

(34) **[[again]**($P_{<s,t>}$)(e) = 1 iff P(e) & $\exists e'[e' < e \& P(e')]$ = 0 iff $\neg P(e) \& \exists e'[e' < e \& P(e')]$ undefined otherwise.

The common thread in structural analyses of the repetitive–restitutive ambiguity is that resultatives need to be broken down into separate CAUSE and BECOME elements in logical form, as schematized in (35), so that **[again]** has different constituents over which to take scope:¹³

(35) a. **Repetitive:** [again [Sally [CAUSE [BECOME [the_door_open]]]]]

b. Restitutive: [Sally [CAUSE [BECOME [again [the_door_open]]]]]

For the repetitive reading in (35a), **[again]** takes scope over the entire proposition of Sally opening the door, while for the restitutive reading in (35b), **[again]** takes scope only over the state of the door being open.

The alternative to such a structural account is that of polysemy, as defended by Fabricius-Hansen (2001). Fabricius-Hansen proposes two different lexical representations for *again*. One expresses repetition in essentially the same way as von Stechow's high reading, while the other

¹²MAX ensures that e is a maximal P-event, which von Stechow (1996:96) defines as in (i):

⁽i) MAX is a symbol of type $\langle <s,t \rangle$, $\langle s,t \rangle \rangle$. [[MAX]](P)(e) = 1 iff P(e) and there is no e' such that e is a proper part of e' and P(e') = 1.

I have changed the type for eventualities from i (used by Beck) to s (used by von Stechow) in (34) and later adapted examples.

¹³The exact details of how all of the pieces fit together differs depending on the analysis, but the principles remain the same.

provides a reading of "counterdirectionality". Counterdirectionality reflects the difference between buy(x,y) and sell(x,y), or between be-opened(y) and be-closed(y). The advantage of incorporating counterdirectionality into the analysis is that it allows for a more straightforward account of sentences such (36) Beck (2005:15):

(36) (The temperature was falling all morning.) Now it is rising again.

These are summarized by Beck (2005:15) as a case of lexical ambiguity in (37). The result state of counterdirectionality and the prestate of the causation of counterdirectionality are represented by $\mathbf{res}_{P_c}(\mathbf{e}')$ and $\mathbf{pre}_{P}(\mathbf{e})$ respectively.

(37) a. **[[again1]**(
$$P_{}$$
)(e) = 1 iff P(e) & $\exists e'[e' < e \& P(e')]$
= 0 iff $\neg P(e) \& \exists e'[e' < e \& P(e')]$
undefined otherwise.

b. **[[again2]]**(
$$P_{}$$
)(e) = 1 iff P(e) & $\exists e'[e' < e \& P_c(e') \& res_{P_c}(e') = pre_P(e)]$
= 0 iff $\neg P(e) \& \exists e'[e' < e \& P_c(e') \& res_{P_c}(e') = pre_P(e)]$
undefined otherwise.

While the precise details of von Stechow's and Fabricius-Hansen's analyses are not relevant to the present study, two things can be observed about *again* based on their common assumptions. First, in the many kinds of readings possible with *again*, there exists some kind of meaning which Klein (2001:268) calls AND THIS IS NOT FOR THE FIRST TIME, where the "this" may have variable reference. In other words, as seen in the denotations used above, *again* always presupposes that some kind of prior eventuality exists.

Second, it is possible for more than one item corresponding to *again* to be present in the lexicon. Regardless of whether the ambiguity of a given item such as German *wieder* or English *again* is derived structurally or lexically, it is possible for the lexicon to have synonyms which function in similar but non-identical ways: von Stechow (1996:113) points out that several synonyms for *wieder*, such as *erneut*, *noch einmal*, and *ein weiteres Mal*, allow only the repetitive (high) reading. He suggests further that the distinction may be even more fine-grained than this. Klein (2001:267–268) notes that in French, the repetitive is expressed with the adverb *de nouveau*, while the restitutive is expressed with the verbal prefix *re*-.

Thus, it is possible in some languages for one lexical item to allow structural ambiguity, while another lexical item can lack structural ambiguity and at the same time have an entirely different denotation. This is precisely the situation I will argue for in Finnish: *uudestaan* may appear in only one structural position, and is limited to taking only an event argument, whereas *taas* can appear in several structural positions and trigger different kinds of compositional operations within its scope. As we will see below, by limiting the position in which *uudestaan* can appear, a straightforward account of the identity effect can be had.

3.2 A lexical entry for *uudestaan*

Let us begin by assuming that *uudestaan* has an denotation like that posited by von Stechow (1996) or Fabricius-Hansen (2001); it is of type <st,st>, and presupposes a preceding eventuality (represented by e') in which P held true:

(38) Lexical entry for *uudestaan* (tentative)

$$[[uudestaan]](P_{})(e) = 1 \text{ iff } P(e) \& \exists e'[e' < e \& P(e')] \\= 0 \text{ iff } \neg P(e) \& \exists e'[e' < e \& P(e')] \\undefined otherwise.$$

Recall the identity effect discussed in Section 2.2 above. When a proposition is modified by *uudestaan*, all singular nouns lacking overt determiners are interpreted as being the same individual in both the asserted event and the presupposed preceding event. Thus the string *Boy saw man uudestaan* can only be interpreted as the same individual boy seeing the same individual man (at least) twice. This effect is robust enough that it forces "zombie readings" in sentences like *I killed housefly uudestaan*, where the only possible meaning is that the same fly was killed twice.

Given that bare nouns can be interpreted as individuals at all, it is a possibility that Finnish has phonologically null determiners which can yield elements of type e from nouns of type $\langle e,t \rangle$.¹⁴ I set aside the issue of definiteness versus indefiniteness, as all that is important for identity effects is that the noun in question is interpreted as one particular entity. Once singular nouns are interpreted as individuals, definiteness effects follow, as seen in (39). Any individual(s) involved in the proposition modified by *uudestaan* are associated with both the asserted and the presupposed eventuality, because they are both referred to within the variable P:

(39) **[[uudestaan]**(I_killed_x)(e) = 1 iff I_killed_x(e) &
$$\exists e'[e' < e \& I_killed_x(e')]$$

= 0 iff I_didn't_kill_x(e) & $\exists e'[e' < e \& I_killed_x(e')]$
undefined otherwise.

The description in Section 2 observed that, in addition to the identity effect, *uudestaan* is restricted to being used with eventualities which are proper events. This appears to be a formal restriction because the use of *uudestaan* with statives is judged ungrammatical, only occurring with e.g., 'to be' in order to force an eventive reading. The restriction must thus be encoded in the denotation for *uudestaan*. This can be done by adding a function event(e) to the presupposition, which requires the eventuality represented by e to be a proper event, not a state. If e is not an event, then [[uudestaan](P)(e) is undefined:

(40) Lexical entry for *uudestaan* (final)

$$\llbracket uudestaan \rrbracket(P_{\langle s,t \rangle})(e) = 1 \text{ iff } P(e) \& \exists e'[e' < e \& P(e') \& event(e)]$$
$$= 0 \text{ iff } \neg P(e) \& \exists e'[e' < e \& P(e') \& event(e)]$$
undefined otherwise.

By incorporating event(e) into the presupposition, we preclude a low reading of *uudestaan* taking scope only over a resultant state as well as its use with statives by themselves.

¹⁴This could alternatively be handled by some other operation which allows the interpretation properties of type $\langle e,t \rangle$ as individuals of type e, such as a choice function (see Winter 1997, Section 3 for an overview). I will assume this below in Section 4.

The requirement of taking events is one of the key things that sets *uudestaan* apart from *taas*. We might thus assume that the denotation for *taas* is identical to that of *uudestaan*, except without the event(e) restriction:

(41) Lexical entry for *taas* (hypothetical)

$$[[taas]](P_{})(e) = 1 \text{ iff } P(e) \& \exists e'[e' < e \& P(e')] \\= 0 \text{ iff } \neg P(e) \& \exists e'[e' < e \& P(e')] \\$$
undefined otherwise.

This works fine for sentences like (42), repeated from (18a) above, in which the pronoun *se* acts as an overt determiner picking out some individual; the only reading available is one in which the same individual song is sung (at least) twice:

(42) Laulo-i-n se-n laulu-n taas sing-past-1sg it-acc song-acc TAAS'I sang that song again'

The determiner picks out some individual x such that x is a song, and that individual x is involved in both the asserted and presupposed eventuality, just as individuals interpreted under the scope of *uudestaan*:

(43)
$$\llbracket taas \rrbracket (I_sang_x)(e) = 1 \text{ iff } I_sang_x(e) \& \exists e'[e' < e \& I_sang_x(e')] \\= 0 \text{ iff } I_didn't_sing_x(e) \& \exists e'[e' < e \& I_sang_x(e')] \\$$
undefined otherwise.

The behaviour of nouns without overt determiners, however, cannot be captured with the denotation of *taas* in (41), because such nouns, unlike with *uudestaan* are not necessarily interpreted as individuals. In the next section, I address this by proposing an analysis in which *taas* does not require individuals under its scope, but rather allows direct incorporation of nominal properties into the predicate using the semantic operation Restrict, proposed by Chung and Ladusaw (2004).

4 Non-identity and *taas*

In this section, I offer an account of the lack of identity effects with determinerless singular nouns under the scope of *taas*. Rather than positing null determiners which pick out individuals, I propose that the properties of the participant arguments are incorporated into the predicate via Chung and Ladusaw's (2004) operation Restrict. I begin with a review of Restrict and a demonstration of how it applies to the Finnish data. I then suggest an explanation for the role that the surface order of *taas* plays in categorical identity judgements for some speakers and some situations.

4.1 The operation Restrict

Standard assumptions about semantic composition by way of saturation involve an operation known as functional application (FA), whereby a predicate takes one argument at a time, saturating a position represented by a lambda prefix. For example, the two-place predicate *feed* takes two arguments, which can be represented as in (44) (Chung and Ladusaw 2004:2). With each operation of FA, one of the argument positions becomes filled, meaning that a predicate of type $\langle e \langle e, t \rangle \rangle$ such as *feed* can take only two entities, in this case *Fido* and *John*:

- (44) a. John fed Fido
 - b. $\lambda y \lambda x [feed'(y)(x)](f)(j)$

Chung and Ladusaw (2004:3) notate FA explicitly as in (45), where it is an operation which takes two arguments, and has one saturate the first argument position of the other. Thus, "[t]he boldface portion of [(45)] represents the first function application, whose value is a function of type $\langle e,t \rangle$ ":

(45) FA (**FA** ($\lambda y \lambda x$ [feed'(y)(x)], f), j)

Composition may also occur by the unary operation existential closure (EC), notated as \exists , which saturates an argument by introducing an individual. EC can alternatively be represented as in (46), in which the bold portion, much like (45), undergoes a change from type $\langle e \langle e, t \rangle \rangle$ to type $\langle e, t \rangle$:

(46) EC (EC ($\lambda y \lambda x [feed'(y)(x)]$))

Both FA and EC can be used together to saturate different arguments of the same predicate. Consider (47), now requiring a Davidsonian event argument as well, whose first two arguments are saturated by FA (Chung and Ladusaw 2004:4):

(47) $\lambda y \lambda x \lambda e [feed'(y)(x)(e)](f)(j)$

After the first two instances of FA, EC can apply, which introduces an existential quantifier \exists saturating the outermost lambda expression:

(48) EC(λe [feed'(f)(j)(e)])

 $= \exists e [feed'(f)(j)(e)]$

Chung and Ladusaw (2004) introduce an additional composition operation called *predicate restriction*, or simply *Restrict*. Restrict is a binary operation which takes a predicate and an element of type $\langle e,t \rangle$, and incorporates the property element into the predicate. Crucially, Restrict does this without saturating the argument position, leaving the lambda expression intact (Chung and Ladusaw 2004:5):¹⁵

(49) Restrict $(\lambda y \lambda x [feed'(y)(x)], dog')$

 $= \lambda y \lambda x$ [feed'(y)(x) & dog'(y)]

The first argument position can then be saturated by existential closure rather than by functional application:

(50) EC (Restrict
$$(\lambda y \lambda x [feed'(y)(x)], dog'))$$

 $= \lambda x \exists y [feed'(y)(x) \& dog'(y)]$

¹⁵I have replaced the logical *and* symbol " \wedge " used by Chung and Ladusaw (2004) with the symbol "&" to keep the notation consistent throughout this paper.

This leaves a one-place predicate which can be saturated by an entity, the subject, via functional application. Putting the three of these operations together, first incorporating an element of type $\langle e,t \rangle$, saturating the first argument position by existential closure, and finally saturating the second position with functional application, we arrive at what Chung and Ladusaw (2004:5) illustrate in (51). This gives the meaning of 'John fed a dog', "though no interpreted constituent corresponds to an existential quantifier over dogs":

(51) FA (EC (Restrict $(\lambda y \lambda x [feed'(y)(x)], dog')), j)$

$$= \exists y [feed'(y)(j) \& dog'(y)]$$

The final principle bearing on the operation Restrict is that in (52), as stated by Chung and Ladusaw (2004:11):

(52) Predicates must have their participant arguments (semantically) saturated at the event level.

That is, by the time the event argument is saturated by existential closure, the rest of the positions must also be saturated. If composition has occurred by functional application or a choice function, then this will already have happened at the time of that operation. However, since Restrict does not cause saturation, (52) ensures that the predicate is semantically complete by the time it receives its event argument by compelling existential closure of the participant arguments by this point. Chung and Ladusaw do not preclude existential closure from occurring earlier in composition, but merely require that it have occurred by the event level.

4.2 Applying Restrict

One of the phenomena to which Chung and Ladusaw (2004, Chapter 2) apply Restrict is Māori indefinites. Māori has two different indefinite articles, *he* and *tētahi*, and Chung and Ladusaw claim that the choice between these serves as a morphological reflection of what operation is used to compose the article with the noun it modifies. When Restrict is used, the article must be *he*,

and when an operation they call Specify is used (a choice function followed by normal functional application), the article *tētahi* is used.

I propose that the choice between Finnish *taas* and *uudestaan* in part signals a similar distinction: singular nouns without overt determiners under the scope of *uudestaan* are necessarily composed via Specify (or alternatively, by the insertion of a null determiner), while those under the scope of *taas* may optionally be composed via Restrict. This accounts for the lack of identity effects with *taas*, because the participants of a predicate modified by *taas* need not be specific individuals, but merely holders of the properties denoted by the nouns which are incorporated. To illustrate this, consider the following sentence:

(53) Lapsi nauroi taas child laughed TAAS

The determinerless noun of type $\langle e,t \rangle$ composes with the predicate 'laugh' by means of Restrict, which is an option due to the use of *taas*:

(54) Restrict $(\lambda x \lambda e[laugh'(x)(e)], child')$

 $= \lambda x \lambda e[\text{laugh}'(x)(e) \& \text{child}'(x)]$

The argument position represented by the outermost lambda expression is then saturated by means of existential closure:

(55) EC ($\lambda x \lambda e[laugh'(x)(e) \& child'(x)]$)

 $= \lambda e \exists x [laugh'(x)(e) \& child'(x)]$

The adverbial *taas* itself can then combine with the proposition "child laugh" by way of functional application. Filling in the truth conditions arrived at in (55) for the variable P, we can now calculate the truth conditions for Restrict-driven *taas* using the lexical entry from (41) above:

(56) FA ($\lambda P \lambda e[taas'(P)(e)], \lambda e \exists x[laugh'(x)(e) \& child'(x)])$

= 1 iff $\exists x [laugh'(x)(e) \& child'(x)] \& \exists e'[e' < e \& \exists x [laugh'(x)(e') \& child'(x)]$

$$= 0 \text{ iff } \neg \exists x [laugh'(x)(e) \& child'(x)] \& \exists e'[e' < e \& \exists x [laugh'(x)(e') \& child'(x)]$$

undefined otherwise

As seen in (56), allowing the optional use of Restrict in propositions modified by *taas* leads to the right truth conditions, and allows us to capture the lack of identity effects. At this point, we might wonder if there are any limits on when Restrict can be used with *taas*. I next turn to this issue, considering the data discussed in Section 2.5 above, in which syntactic order was able to distinguish between same and different individuals as participants in the two eventualities referred to by *taas*.

4.3 The role of syntactic order

For some speakers, the position of *taas* within an utterance can be used to express a contrast between the same or different individual being a participant in the two eventualities. As proposed above, Chung and Ladusaw's (2004) operation Restrict can be used to produce different individuals as participants in the two different eventualities. I will assume for simplicity that in cases where the only reading available is the same individual, the determinerless noun of type $\langle e,t \rangle$ is composed with the predicate by way of the operation which Chung and Ladusaw call Specify.

Specify is a combination of a choice function, a type-shifting operation which turns a noun of type $\langle e,t \rangle$ into an individual of type e, and an instance of functional application, which composes with the predicate by syntactically and semantically saturating its outermost argument position. Specify is illustrated in (57), where the function russian' saturates the first lambda operator with one individual member of the set of Russians. I notate a single individual with the property russian' as russian_x:

(57) Specify $(\lambda x \lambda e[die'(x)(e)], russian')$

 $= \lambda e[die'(russian_x)(e)]$

When a proposition such as Russian died is modified by taas, and taas appears at the end, the

reading for speakers with the distinction is one in which the same individual was involved in both eventualities (a zombie reading):

(58) Venäläinen kuoli taas Russian died TAAS

One individual Russian, russian_x, is picked out and composed via Specify. The resulting expression then combines with *taas* via functional application, yielding the following truth conditions:

(59) FA ($\lambda P \lambda e[taas'(P)(e)]$, Specify ($\lambda x \lambda e[die'(x)(e)]$, russian'))

= 1 iff die'(russian_x)(e) & $\exists e'[e' < e \& die'(russian_x)(e')]$

 $= 0 \text{ iff } \neg \text{die'}(\text{russian}_x)(e) \& \exists e'[e' < e \& \text{die'}(\text{russian}_x)(e')]$

undefined otherwise

When scrambling occurs and *taas* is preposed, as in (60), the interpretation is that it was two different Russian that died.

(60) *taas kuoli venäläinen* TAAS died Russian

I propose that the placement of *taas* to the left of the determinerless noun is a way of signaling that composition has occurred via the operation Restrict. This is very similar in spirit to Chung and Ladusaw's (2004) analysis, in which the use of the Māori article *he* is a signal that the noun it appears next to was incorporated via Restrict. First, russian' is incorporated into the predicate die' via Restrict, and the first argument position is saturated by existential closure. The proposition of type $\langle s,t \rangle$ then combines with *taas* via functional application, giving the following truth conditions:

(61) FA ($\lambda P \lambda e[taas'(P)(e)]$, EC (Restrict ($\lambda x \lambda e[die'(x)(e)]$, russian')))

= 1 iff $\exists x[die'(x)(e) \& russian'(x)] \& \exists e'[e' < e \& \exists x[die'(x)(e') \& russian'(x)]]$ = 0 iff $\neg \exists x[die'(x)(e) \& russian'(x)] \& \exists e'[e' < e \& \exists x[die'(x)(e') \& russian'(x)]]$ undefined otherwise For intransitives such as 'die', it seems that scrambling as in (60) must occur in order for the one argument to be composed via Restrict. Two-place predicates such as 'hit', however, can show the distinction simply by placing *taas* to the right or left of the direct object. In (62), the same individual fly is understood as being hit twice:

(62) *Löin kärpästä taas* I.hit fly TAAS

The first argument of the verb 'hit' is in this case composed via the operation Specify, which picks out on individual fly, fly_x. Then the second argument, an individual representing the speaker, here notated "I", composes via simple functional application. Finally, the whole predicate is taken as an argument by *taas* via functional application:

(63) FA (
$$\lambda P \lambda e[taas'(P)(e)]$$
, FA (Specify ($\lambda x \lambda y \lambda e[hit'(x)(y)(e)]$, fly'), I))

= 1 iff hit'(fly_x)(I)(e) &
$$\exists e'[e' < e \& hit'(fly_x)(I)(e')]$$

= 0 iff $\neg hit'(fly_x)(I)(e) \& \exists e'[e' < e \& hit'(fly_x)(I)(e')]$
undefined otherwise

When *taas* appears immediately to the left of the direct object, as in (64), the interpretation is one in which two different individual flies are hit.

(64) *Löin taas kärpästä* I.hit TAAS fly

The noun of type $\langle e,t \rangle$ first incorporates with the predicate hit' by Restrict, and the first argument position of the predicate is saturated by existential closure. Because the subject (the speaker) is still an individual, this can combine with the predicate via functional application. Finally, *taas* takes the predicate as an argument via functional application. This gives the following truth conditions:

(65) FA $(\lambda P \lambda e[taas'(P)(e)], FA$ (EC (Restrict $(\lambda x \lambda y \lambda e[hit'(x)(y)(e)], fly')), I))$ = 1 iff $\exists x[hit'(x)(I)(e) \& fly'(x)] \& \exists e'[e' < e \& \exists x[hit'(x)(I)(e')]]$

$$= 0 \text{ iff } \neg \exists x [hit'(x)(I)(e) \& fly'(x)] \& \exists e'[e' < e \& \exists x [hit'(x)(I)(e')]]$$

undefined otherwise

Unfortunately, this does not provide a perfect analysis of identity effects with *taas*. Let us consider data from predicates with two participant arguments, both of which lack overt determiners, such as those in (66), repeated from (30) above:

- (66) a. Poika näk-i miehe-n taas boy see-past man-acc TAAS
 'The (same) boy saw the (same) man again'
 - b. Poika näk-i taas miehe-n boy see-past TAAS man-acc
 'The (same) boy saw a (different) man again'
 - c. *Poika taas näk-i miehe-n* boy TAAS see-past man-acc ("whereas" reading)
 - d. *Taas poika näk-i miehe-n* TAAS boy see-past man-acc (same individuals, barring special context)

The meanings of the sentences in (66a) and (66b) are predicated by the analysis proposed above; when *taas* appears finally, the individuals must be the same, while when *taas* appears to the left of the object, it can be a different individual.

Things become less clear when *taas* is put in other positions. The "whereas" reading in (66c) seems to involve *taas* serving some kind of larger discourse level. I set such cases aside as beyond the scope of the present study, but it seems obvious that such examples would have a different structure from those proposed for (66a) and (66b). Thus the difference must be greater than simply signaling of the composition operation used.¹⁶

The *taas*-fronting in (66d), on the other hand, may represent a different kind of situation. While *taas* does appear to the left of both participant arguments, the fronting itself may be due to other

¹⁶I also leave aside whether such cases would even use the same lexical entry for *taas* as that proposed here. I must relegate investigation of such issues to future research.

PF processes, indicating focus or the expression of some kind of emotion. In some cases, speakers note that fronting of *taas*, especially along with accent, conveys a kind of negativity towards the repetition, much like English *I have to go to work AGAIN (and I'm not happy about it)*. If this is the case, then perhaps this PF function overrides the ability of *taas* placement to signal the use of Restrict, and thus composition can still occur via Specify.¹⁷

Regardless of the apparently limited ability of *taas* taas placement to indicate the use of Specify, it remains the case that some speakers are able to get readings of sentences like those in (66) in which both of the participant arguments reflect different individuals between the two eventualities. In this case, composition takes place by two operations of Restrict, each followed by an operation of existential closure, as illustrated in (67):

(67) FA
$$(\lambda P \lambda e[taas'(P)(e)], EC$$
 (Restrict (EC (Restrict($\lambda x \lambda y \lambda e[see'(x)(y)(e)], man')), boy'))))= 1 iff $\exists y \exists x[see'(x)(y)(e) \& man'(x) \& boy'(y)] \& \exists e'[e' < e \& \exists y \exists x[see'(x)(y)(e') \& man'(x) \& boy(y)]]$$

 $= 0 \text{ iff } \neg \exists y \exists x [see'(x)(y)(e) \& man'(x) \& boy'(y)] \& \exists e'[e' < e \& \exists y \exists x [see'(x)(y)(e') \& man'(x) \& boy(y)]]$

undefined otherwise

5 Conclusion

In this paper, I have reported novel data on the Finnish adverbials *taas* and *uudestaan*, which differ from each other in a number of ways. I showed that the patterns observed for *uudestaan* follow from a formal account very similar to those seen in previous studies on *again*. In order to account for the lack of identity effects on the participant arguments of predicates modified by *taas*, I have proposed that determinerless nouns may be incorporated via Chung and Ladusaw's (2004) operation Restrict rather than by functional application.

¹⁷It is thus possible that *taas* can convey some expressive content in the sense of e.g., Potts (2007).

The analysis I have put forth above raises a number of questions about how Restrict interacts with the grammar. According to my analysis, *uudestaan* is disallowed when any of the nouns in the proposition it modifies have composed via Restrict. However, both *taas* and *uudestaan* attached syntactically at the top of the tree, rather than lower down where composition occurs. What mechanism, then, allows *uudestaan* to "see" so far back into the derivation and yield ungrammaticality when Restrict has occurred? Are there any locality constraints in play? How do embedded clauses behave?

Questions are also raised about exactly what is meant by individual and identity. What is the relationship between Restrict and the notions of definiteness and specificity? How do these relate to possessives and the pseudo-definite article *se*? How do quantifiers and numerals behave when modified by *taas* and *uudestaan*? Does the choice of adverbial affect the interpretation of negative polarity items?

Future research therefore will focus on more closely examining the role that Restrict plays in Finnish as a whole, both in terms of how it is seen by the syntax and where it might be active in other places besides in propositions modified by *taas*.

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