

# EVENTS, ARGUMENTS, AND CAUSATIVE PSYCH PREDICATES IN FINNISH

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## Abstract

In this paper the syntactic and semantic properties of psych predicates in Finnish are examined. Causative morphology in Finnish is shown not to trigger *frighten*-class (Object Experiencer) argument linking as expected. Instead, causative affixation derives two distinct classes of verb, one stative and one inchoative. Stative (non-delimited) causatives in Finnish turn out to show properties of unaccusatives similar to the Italian *piacere*-class, while delimited causatives pattern as transitive Object Experiencers. The data are discussed in light of theories of argument linking, particularly those which attribute *fear-frighten* alternations to thematic and aspectual differences between the two classes. The mapping of arguments to the syntax in these predicates is argued to be predictable not by lexical thematic role assignment, but from the interaction of causative morphosyntax with event structure and structurally-assigned aspectual roles.

## 1. Introduction: Linking and Psych Predicates

This paper addresses core issues related to linking, or the mapping of thematic roles to arguments in the syntax.<sup>1</sup> Psychological predicates are important for theories of linking because of well-known alternations like the following:

- (1) a. The queen enjoys chocolates.  
b. Chocolates delight the queen.
  
- c. Miriam loves lively parties.  
d. Dull parties appeal to Miriam.
  
- e. The boy fears horses.  
f. Horses frighten the boy.

In the (a) examples, the subject receives the role of Experiencer and the object is the Theme, while in the (b) examples, the mapping of roles is reversed. Alternations such as these raise interesting questions about the organisation of the grammar: are arguments assigned particular thematic roles linked to particular positions, or is linking achieved by some other mechanism?

Baker's UTAH (1988, 1997) is the strongest formulation of the former position, arguing that the set of thematic roles is linked with argument positions in the syntax in a relatively rigid way:

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<sup>1</sup> I gratefully acknowledge Jan Blom, Satu Manninen and Raija Solatie for ongoing informant help with the Finnish data, and Maria Vilkuna, Mari Siirainen and Urpo Nikanne for comments at the SKY symposium in Helsinki (Sept. 2-4 1999) where a draft of this paper was presented. Special thanks to Jóhannes Gísli Jónsson for interesting discussions during the writing of this manuscript and to Satu Manninen for comments on the final draft. All errors are most certainly my own.

- (2) The Uniformity of Theta Assignment Hypothesis (Baker 1988:46)  
Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

If the UTAH holds as a principle of UG, then the subject Themes in the (b) examples above must be derived transformationally, since all of the psych verbs license the same pair of roles, <Experiencer, Theme>. This is the standard approach taken within the generative tradition since Postal (1970).

However, the picture turns out to be less straightforward. Belletti & Rizzi (1988) identify three classes of psych verbs in Italian, exemplified by *temere* ‘to fear’, *preoccupare* ‘to worry’ and *piacere* ‘to please’:

- (3) Gianni teme questo.  
Gianni(N) fears this(A)
- (4) Questo preoccupa Gianni.  
This(N) worries Gianni(A)
- (5) a. A Gianni piace questo.  
to Gianni(D) pleases this(N)
- b. Questo piace a Gianni.  
this(N) pleases to Gianni(D)

Although their analysis of verbs like Italian *preoccupare* ‘worry’ and English *frighten* as unaccusative has remained controversial in the literature, Belletti & Rizzi present clear evidence for a third class of stative predicates that systematically fail to license an external argument. Nominative Theme subjects of these verbs fail to behave like external arguments in various ways. Cross-linguistically these verbs pass relevant tests for unaccusativity and appear to project Experiencers higher than Themes in the underlying structure (Lutnæs & Áfarli 1999 for Norwegian, Pesetsky 1995 and Grimshaw 1990 for Italian and English). In contrast, verbs in the other two classes appear to license external argument subjects in the usual way:

- (6) Class 1: *fear* / *temere* <Experiencer, Theme>  
Class 2: *frighten* / *preoccupare* <Theme, Experiencer>  
Class 3: *appeal to* / *piacere* <Theme, Experiencer>

The differences between Class 1 and Class 2 verbs (the *fear/frighten* alternation) have been attributed to the presence of causative morphology (Pesetsky 1995), the licensing of an aspectual Causer role (Grimshaw 1990), or differences in affectedness of the object (Dowty 1991, Baker 1997). Previous discussions of Class 3 psych verbs, however, typically assume that the syntactic characteristics of these predicates ultimately derive from idiosyncratic lexical properties. In other words, patterns of linking in these verbs is not seen to be predictable from predicate semantics or morphology.

Psych verbs in Finnish are problematic for these assumptions. Like Japanese and other morphologically rich languages, Finnish derives *frighten*-class verbs from *fear*-class roots (Class 1) with productive causative morphology:

- (7) Pekka häpeä-ä minu-a.  
 Pekka(N) be ashamed-3S me-P  
 ‘Pekka is ashamed of me’
- (8) a. Minu-a häve-tt-i (tämä-n kuvalehde-n ostaminen).  
 me-P be ashamed-CAUS-PAST/3S this-A magazine-A buying(N)  
 ‘I felt ashamed (to buy this magazine)’
- b. Tämä-n kuvalehde-n ostaminen häve-tt-i minu-a.  
 this-A magazine-A buying(N) be ashamed-CAUS-PAST/3S me-P  
 ‘Buying this magazine made me feel ashamed’

However, the psych causatives (henceforth PCs) derived in this way may pattern as Class 2 or Class 3 verbs; PCs may or may not license an external argument. The data from Finnish show that the various classes of psych predicate, including Class 3, cannot be explained by appealing to lexical idiosyncrasy. The same element that according to Pesetsky and Grimshaw should trigger Class 2 patterns, namely, causativity, also triggers the unaccusative syntax characteristic of Class 3 predicates. The aims of this paper are (a) to investigate the morphosyntax, thematic properties, and aspectual properties of the various classes of psych predicate in Finnish and (b) to explain the observed linking alternations. It is shown that linking patterns in psych verbs cannot be captured by appealing to thematic hierarchies, nor to aspect, nor to morphosyntax alone. A solution is proposed in section 5 in which argument linking is shown to be sensitive to event structure, which is in turn affected by causative affixation.

## 2. Psych predicates in Finnish: an overview

This section will introduce data from psychological predicates in Finnish. First, the morphological properties of root and causative psych verbs will be discussed. It will be shown that causative in Finnish is a thematically sensitive process, which suppresses an argument and introduces a Causer role. Then the four classes of psych verbs derived from this process are outlined.

### 2.1 Causative morphology and argument remapping

Finnish behaves like many non-Indo-European languages in that PCs like *frighten* and *annoy* are associated with overt causative morphology. Finnish has a morphological, rather than a periphrastic causative, formed with the affix -TTA. This affix is extremely productive, attaching to most transitive (and many intransitive) verbs:

- (9) a. Hän kirjoitt-i omaelämäkerta-nsa.  
 she write-PAST/3S autobiography(A)-Px3  
 ‘She wrote her autobiography’

- b. Hän kirjoitu-tt-i omaelämäkerta-nsa (kirjailija-lla)  
 she write-CAUS-PAST/3S autobiography(A)-Px3 (writer-ADESS)  
 ‘She had (a writer) write her autobiography’

- (10) a. Mikko kuiva-a pyykki-nsä.  
 Mikko dry-3S laundry(A)-Px3  
 ‘Mikko dries his laundry’

- b. Mikko kuiva-tta-a pyykki-nsä (naapuri-lla-an)  
 Mikko dry-CAUS-3S laundry(A)-Px3 (neighbour-ADESS-Px3)  
 ‘Mikko has (his neighbour) dry his laundry’

In order to approach an analysis for causative psych predicates, it is necessary at this stage to characterise the causativisation process as illustrated in the examples above. When an ordinary transitive verb undergoes causative affixation, an overt Causer is introduced, while the underlying Agent subject, now Causee, is suppressed, resurfacing as an optional oblique expression in adessive case. The underlying Patient or Theme of the input clause remains unaffected. Because causativisation in transitives involves the addition of a Causer but the suppression of another argument, the total number of arguments remains the same after causativisation. The effects of this process can be seen on the argument structure templates of the verbs *kirjoittaa* ‘to write’ and *kirjoituttaa* ‘to make write’ below:

- (11) kirjoittaa ‘to write’ [x WRITE y]  
 < x = Agent, y = Theme >
- kirjoituttaa ‘to make write’ [x CAUSE [WRITE y] (z)]  
 < x = Causer, y = Theme, z = Causee >

The causative affix may also derive psych verbs from non-psych transitives and unergatives. In these cases, the input Agent resurfaces as an Experiencer in partitive case, and the Causer argument is implicit:

- (12) a. Minä laula-n.  
 I(N) sing-1S  
 ‘I sing’
- b. Minu-a laula-tta-a.  
 I-P sing-CAUS-3S  
 ‘I feel like singing’
- (13) a. Hän kirjoitt-i kirjee-n.  
 s/he write-PAST/3S letter-A  
 ‘S/he wrote a letter’
- b. Hän-tä kirjoitu-tt-i.

s/he-P write-CAUS-PAST/3S

‘S/he felt like writing’

In these cases, the introduction of causative morphology and a Causer role results in a remapping of the underlying Agent to Experiencer with partitive case. The implicit Causer in these predicates has the status of an agentive external argument, as shown by the fact that it can (and must) be suppressed in an impersonal passive:

- (14) Tyttö-jä naura-te-ttiin / itke-te-ttiin.  
 girl-PL/P laugh-CAUS-PASS/PAST / cry-CAUS-PASS/PAST  
 ‘(They) made the girls laugh/cry /  
 #(They) made the girls feel like laughing/crying’
- (15) ??Eilen naura-te-ttiin / itke-te-ttiin  
 yesterday laugh-CAUS-PASS/PAST / cry-CAUS-PASS/PAST  
 ‘Yesterday (people) were made to laugh / to cry’

Interestingly, causative affixation is not confined to predicates with external arguments. Unaccusatives can also take the causative affix to yield transitive verbs:

- (16) syntyä ‘to be born’ > synnyttää ‘to bear, to give birth’  
 kuolla ‘to die’ > kuolettaa, ‘to amortize, to cancel’  
 saapua ‘to arrive’ > saavuttaa ‘to reach, to achieve’.

The fact that causative affixation yields a transitive verb in these cases means that no argument is suppressed as is the case when the input verb is transitive or unergative. One explanation for this is that causative affixation only suppresses external arguments. If no external argument is available, the valency of the input verb should increase by one.

However, it will be shown that this generalisation does not explain the data from psych predicates. Instead, causative affixation is argued to be a thematically sensitive process:

- (17) -TTA introduces Causer role and suppresses underlying Causer (Causee).

This hypothesis predicts that the reason why unaccusatives become transitive with -TTA is not because they lack an external argument; it is because no argument in these predicates can be construed as a *Causer*. Although some Finnish grammarians have analysed -TTA as two homophonous morphological processes, a syntactic process that yields true causatives and a lexical process that yields psych predicates,<sup>2</sup> the working

<sup>2</sup> Hakulinen & Karlsson (1979: 244) and Sulkala & Karjalainen (1992: 294-6) reach this conclusion for several reasons. First of all, not all root psych verbs can host causative morphology. Secondly, PC verbs with the -TTA affix may lack corresponding underived verbs. For example, *harmittaa* ‘to annoy’ patterns like other PC verbs, but lacks a Class 1 root verb which takes an Experiencer subject. Like several other PC verbs, it appears to be derived from a nominal (or adjectival) root:

harmi	n.	‘annoyance’	>	harmittaa	‘to annoy’
nolo	adj.	‘embarrassed’	>	nolottaa	‘to embarrass’

hypothesis of this paper (cf. Siirainen 1997) is that these affixes are one and the same. The evidence suggests that the results of causative affixation on argument structure are systematic and predictable for all classes of predicate, and therefore lend themselves to a unified analysis.

## 2.2 Four classes of psych predicates

Leiwo (1977) first discusses linking alternations in Finnish psych predicates. He characterises ‘flip’ verbs, psych predicates which map Theme to subject, as those verbs which can be conceived of as being externally caused (though he remains agnostic about the causative affix) and presents a transformational analysis which derives this construction. He notes that Class 1 verbs denoting internal emotional states such as *rakastaa* ‘to love’, *himoita* ‘to desire’, *kaivata* ‘to miss’, *kunnioittaa* ‘to honour, respect’ always map the Experiencer to subject<sup>3</sup>. These verbs also fail to accept causative morphology because the emotional states they denote are internally caused: for example, Class 1 verb *rakastaa* ‘to love’ cannot be causativised to *\*rakastuttaa*. This is clearly a semantic constraint on the productivity of the causative affix.

Other Finnish root verbs do accept causative morphology. They fall into two lexical classes, statives and inchoatives,<sup>4</sup> which are Vendlerian states and (punctual) achievements, respectively (Leiwo 1977). Both classes of root verbs may appear with the causative -TTA affix to yield four classes of psych predicate in total:

(18)	<u>Stative</u>	<u>Inchoative</u>
<u>root</u>	pelätä ‘to fear’ surra ‘to grieve (for)’ epäillä ‘to suspect/doubt’	pelästyä ‘to get frightened by’ raivostua ‘to become furious’ suuttua ‘to get angry’
<u>causative</u>	pelottaa ‘to frighten’ surettaa ‘to grieve’ epäilyttää ‘to make suspicious’	pelästyttää ‘to make frightened’ raivostuttaa ‘infuriate’ suututtaa ‘to anger’

Root statives and inchoatives<sup>5</sup> pattern like Class 1 fear-class predicates in other languages, linking Experiencer to subject:

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jännite	n.	‘tension’	>	jännittää	‘to strain, to excite’
ruma	adj.	‘ugly’	>	rumentaa	‘to make ugly’

Causative -TTA can however be seen as an affix which attaches to *predicates* of various categories to yield complex causative predicates. Finally, there are a handful of verbs such as *etoa* ‘to disgust’ which display Class 2 or 3 linking patterns but lack overt causative morphology. These verbs are indeed problematic for the current analysis, but could be seen to host a nonovert causative affix as proposed in Pesetsky (1995) for English.

<sup>3</sup> Interestingly, this class of verbs appears to closely overlap Pesetsky’s class of verbs that assign the role of Target to their internal arguments, discussed in section 3.2.

<sup>4</sup> Inchoatives are associated with the suffix -u/-y in the verbal stem and may be morphologically derived from a stative root as in *pelätä* ‘to fear’ > *pelästyä* ‘to get frightened (by)’.

<sup>5</sup> Most inchoative root verbs assign locative rather than objective case to their objects. However, some inchoatives such as *pelästyä* ‘get frightened (by)’ do assign objective partitive case, patterning like

- (19) Minä pelkä-si-n / sur-i-n hän-tä.  
 I(N) fear-PAST-1S / grieve-PAST-1S him/her-P  
 ‘I feared / grieved for him/her’
- (20) a. Liisa pelästy-i auto-a.  
 Liisa(N) fear(INCH)-PAST/3S car-P  
 ‘Liisa was frightened by a car’ (from Leiwo 1977:152)
- b. Mikko suuttu-i Peka-lle / Pekka-an.  
 Mikko(N) get angry(INCH)-PAST/3S Pekka-ALL / Pekka-ILL  
 ‘Mikko got angry with Pekka’

Argument linking in the PCs derived from these roots is less straightforward. Inchoative PCs allow the Experiencer to surface in accusative case, signalling that the event is bounded or delimited, or in partitive case, signalling that the event is unbounded, with a typically iterative reading (Kiparsky 1998, discussed in section 3 below). When the Experiencer is in the accusative case, the predicate is fully transitive, appearing like a Class 2 predicate with a nominative Theme as expected:

- (21) Auto pelästy-tt-i Liisa-n.  
 car fear(INCH)-CAUS-PAST/3S Liisa-A  
 ‘A car frightened Liisa’
- (22) Mikko suutu-tt-i Peka-n.  
 Mikko get angry(INCH)-CAUS-PAST/3S Pekka-A  
 ‘Mikko angered Pekka’

However, PCs which are not delimited, either those derived from stative roots or inchoatives with partitive Experiencers, pattern more like Class 3 predicates. These verbs allow either the partitive Experiencer or the nominative Theme to appear in subject position. When the partitive is the “subject”, the Theme is optionally overt:

- (23) a. Koira-ni kuolema sure-tt-i minu-a.  
 dog-Px1s death(N) grieve-CAUS-PAST/3S me-P  
 ‘My dog’s death grieved me’
- b. Minu-a sure-tt-i (koira-ni kuolema).  
 I-P grieve-CAUS-PAST/3S dog-Px1s death(N)  
 ‘I felt grief (for my dog’s death)’
- (24) a. Mies pelästy-ttä-ä Pekka-a.  
 mies(N) fear(INCH)-CAUS-3S Pekka-P

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stative roots. Further research is needed to determine if there is a semantic or aspectual basis for this behaviour in inchoatives.

‘The man frightens Pekka’

- b. Pekka-a pelästy-ttä-ä (nähdä mies).  
 Pekka-P fear(INCH)-CAUS-3S to see man(N)  
 ‘Pekka was frightened (to see the man)’

In the derived PCs illustrated above (23 and 24), the Theme appears in nominative case, and the Experiencer in partitive, but both word orders are acceptable. These verbs therefore resemble those of the *piacere* class in Italian as discussed by Belletti & Rizzi (1988), where Experiencers appear in dative case. Unlike the similar lexical class in Italian, however, these verbs are derived from a productive causativisation process.

The problem for previous approaches to this type of alternation is that causative morphology does not “fix” argument linking to the Theme-V-Exp (Object Experiencer) pattern for all psych verbs as predicted by Pesetsky (1995) and Grimshaw (1990). Instead, linking in causative predicates is sensitive to the aspectual classes of the root and the derived verb.

(25)	Stative	Inchoative
root form	Exp V Theme surra ‘to grieve (for)’	Exp V Theme raivostua ‘to become furious’
causative	Exp V (Theme) ~ Theme V Exp surettaa ‘to grieve’	Exp V (Theme) ~ Theme V Exp raivostuttaa ‘infuriate’

In the next sections, various properties of the four classes of psych predicate will be examined. First, the aspectual classes of the various predicates will be determined. Next, thematic interpretation and animacy hierarchies will be discussed. Next, the syntactic properties of the four classes will be examined. The Class 3 stative verbs like *pelottaa* will be shown to be syntactically unaccusative, in contrast to delimited causatives derived from inchoative roots. It is shown that causativisation changes the event class for root inchoatives, but not for root statives. This, it turns out, derives the observed linking patterns, discussed in section 5.

### 3. Thematic and aspectual properties of psych verbs in Finnish

It has been suggested that a more fine-grained thematic (Pesetsky 1995) or aspectual (Ramchand 1998, Grimshaw 1990) approach to linking yields the correct predictions for various classes of predicate cross-linguistically. In this section, the aspectual and thematic properties of psych predicates in Finnish is examined in light of these hypotheses.

#### 3.1 Aspectual classes and event types

In Finnish, the difference between states and achievements is reflected in the case of the object. Objects of achievements may appear in either partitive or accusative case to

reflect the boundedness of the event (Heinämäki 1984, Kiparsky 1998).<sup>6</sup> States, being inherently unbounded events, require objects in the partitive and disallow them in the accusative. Object case morphology is therefore a useful metric for determining the event class of a given predicate: if an object can only occur in the partitive, then the predicate is not delimited; if it can occur in the accusative, then the event is delimited.<sup>7</sup> Not surprisingly, neither class of stative psych verb (root or causative) can occur with an accusative DP object. Moreover, both classes are fully compatible with the non-delimiting adverbial expression *yhden vuoden ajan*, ‘for a year’, but not with the delimiting expression *yhdessä vuodessa*, ‘in a year’:

- (26) Liisa pelkä-si koira-a yhde-n vuode-n aja-n / ?yhde-ssä vuode-ssa.  
 Liisa fear-PAST/3S dog-P one-A year-A time-A / one-INCESS year-INCESS  
 ‘Liisa feared the dog for a year / in a year’
- (27) Koira pelo-tt-i Liisa-a yhde-n vuode-n aja-n /?yhde-ssä vuode-ssa.  
 dog fear-CAUS-PAST/3S Liisa-P one-A year-A time-A / one-INCESS year-INCESS  
 ‘The dog frightened Liisa / in a year’

Like the stative predicates, inchoative root verbs do not denote delimited events, occurring only with partitive objects and disallowing the delimiting adverbial:

- (28) Liisa pelästy-i koira-a yhde-n vuode-n aja-n / \*yhde-ssä vuode-ssa.  
 Liisa fear(INCH)-PAST/3S dog-P one-A year-A time-A / one-INCESS year-INCESS  
 ‘Liisa feared (inchoative) the dog for a year / in a year’

However, these verbs are not states, but (typically punctual) achievements, shown by the fact that they can accept resultative expressions (29), like inchoative causative (Class 2) accomplishments (30) (Leiwo 1977):

- (29) Liisa pelästy-i koira-a puolikuoliaaksi.  
 Liisa fear(INCH)-PAST/3S dog-P half-to-death  
 ‘The dog scared Liisa half to death’
- (30) Koira pelästy-tt-i Liisa-n puolikuoliaaksi.  
 dog fear(INCH)-CAUS-PAST/3S Liisa-A half-to-death  
 ‘The dog frightened Liisa half to death’

The only class of psych verb which seems to allow fully felicitous delimiting expressions such as *yhdessä vuodessa* ‘in a year’ is the class of causative inchoatives. Like

<sup>6</sup> As Kiparsky shows, the partitive/accusative alternation may also reflect the boundedness of the NP itself, but this is not relevant for the current discussion.

<sup>7</sup> There is however no evidence that the partitive/accusative alternation is associated with any change in structural position (for example, to a higher functional projection of Aspect) (Nelson 1998), posing problems for purely aspectually-based approaches to syntactic structure.

all accomplishments in Finnish, they can be unbounded, with the object in the partitive, or bounded, with the object in accusative.<sup>8</sup>

- (31) a. Koira pelästy-tt-i                                    \*Liisa-n / Liisa-a yhde-n vuode-n aja-n.  
dog fear(INCH)-CAUS-PAST/3S Liisa-A / Liisa-P one-A year-A time-A  
'The dog frightened Liisa for a year' (inchoative)
- b. Koira pelästy-tt-i                                    Liisa-n / Liisa-a yhde-ssä vuode-ssa.  
dog fear(INCH)-CAUS-PAST/3S Liisa-A / Liisa-P one-INESS year-INESS  
'The dog frightened Liisa in a year' (inchoative)

This means that in Finnish, the causative affix changes the event class for achievements, deriving an accomplishment with an event interpretation, but not for states:

(32)	Stative	Inchoative
root	surra 'to grieve (for) [(x CAUSE) [ y <STATE>] (state)	raivostua 'to become furious' [(x CAUSE) [ BECOME [ y <STATE>] (achievement)
causative	surettaa 'to grieve' [x CAUSE [ y <STATE>] (state)	raivostuttaa 'infuriate' [x CAUSE [ BECOME [ y <STATE>] (accomplishment)

These patterns are problematic, because any theory of argument linking that predicts a particular pattern for states must be able to account for both the Class 1 roots and the Class 3 stative causative verbs. Moreover, the causative inchoatives, which denote accomplishments, may also pattern the same way as causative states, as shown in section 4 below. This suggests that linking in these predicates must to some extent be compositionally, rather than lexically, determined.

### 3.2 Thematic interpretation, role hierarchies and animacy

One of the major problems for "coarse-grained" thematic approaches to linking in psych predicates is that the same role (Theme) seems to share properties of both Agent and Patient, allowing this argument to be linked to positions high and low in the thematic hierarchy. Pesetsky (1995) observes that Theme represents not one but several thematic roles, which interact in different ways with the emotion felt by the Experiencer:

- (33) a. Bill was angry at the article (Target of Emotion).  
The article angered Bill. (Causer of Emotion)
- b. John worried about the t.v. (Subject Matter of Emotion)  
The t.v. worried John. (Causer of Emotion)

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<sup>8</sup> Rosen (1999) outlines a proposal from forthcoming work in which the Finnish accusative is syntactically associated with delimited predicates.

Pesetsky notes that the Themes in subject positions are always interpreted as the direct Causer of Emotion, while Theme objects may be interpreted as Targets of Emotion, arguments evaluated positively or negatively by the Experiencer, or Subject Matter of Emotion, arguments which provoke an emotional response but do not necessarily cause the emotion directly. By decomposing Theme into three distinct thematic roles, he accounts for argument mapping according to the following hierarchy:

(34) Causer > Experiencer > T/SM

The highest argument on the hierarchy is mapped onto the external argument position.<sup>9</sup> The presence of a Causer role is associated with causative morphology, according to Pesetsky. If Themes in Finnish also get similar contrasts in interpretation, then Pesetsky's account may be able to predict the data successfully.

As predicted by Pesetsky and as pointed out by Leiwo (1977), the Themes in the Class 3 PC examples below have different interpretations, depending on whether they surface pre- or post-verbally:

- (35) a. Hän-tä mielly-tt-i                      vaimo-nsa näkeminen.  
 him-P please-CAUS-PAST/3S wife-Px3 seeing  
 'He was pleased to see his wife'
- b. Vaimo-nsa näkeminen mielly-tt-i                      hän-tä.  
 wife-Px3 seeing please-CAUS-PAST/3S him-P  
 'Seeing his wife pleased him'

In the (a) example, the Themes are interpreted as Subject Matter, while in the (b) example it is interpreted as the direct Causer of the emotion of the Experiencer. This minimal pair also differ in factivity: (35b) entails that he has actually seen his wife, but (35a) does not. This is exactly the type of contrast predicted by Pesetsky's thematic hierarchy, given in (34); Themes which are more like Causers are linked to a higher position than Experiencer, i.e. external argument or subject, while Themes which are less Causal are linked to a lower position.<sup>10</sup>

Positing this hierarchy appears to solve one problem but immediately raises several others. First of all, these alternations are found within a *single* lexical class, namely the Class

<sup>9</sup> Baker (1997) describes this type of linking rule as a "relativized UTAH" or RUTAH, since roles are linked relative to a hierarchy rather than to particular positions.

<sup>10</sup> This is also essentially the line taken in Dowty (1991). Dowty explains *fear/frighten* alternations by virtue of the fact that in *frighten*-class verbs, each argument has a "weak but equal" claim to subjecthood because both have properties of proto-AGENTS; however, since Experiencers may be interpreted as undergoing a change of state (inchoative), they end up being mapped to object. Baker (1997) incorporates proto-roles into a revised version of the UTAH. Both proposals give the desired result for Class 2 *frighten*-type predicates, but have little to say about Class 3, the stative transitives. Baker (1997: fn 43) describes explaining linking in these verbs as "the hard part".

3 stative causatives. In other words, a single verb like *miellyttää*, ‘to please’ seems to select either <Experiencer, Subject Matter> or <Experiencer, Causer>; causative morphology does not force the Theme to be interpreted as Causer as Pesetsky’s analysis predicts. Secondly, the different thematic interpretations of these arguments correlate with surface structural position (or relation to Experiencer on the thematic hierarchy), but are not associated with any change of case in the argument: Experiencers always receive objective case (partitive) and Themes nominative, regardless of their surface position. Finally, as discussed in the following sections, these verbs display properties characteristic of unaccusative predicates, which means that the arguments in subject position (linked to Experiencer or Causer) are actually derived, originating as internal arguments. But if this is the case, how are these roles linked with arguments? If Causer is the highest role on the thematic hierarchy, then it should never be linked with an internal argument.

Moreover, the linking patterns observed above do not yield a straightforward prediction for linking in root psych predicates. For stative roots, the Theme object has an interpretation that is ambiguous between Subject Matter and Causer (Leiwo 1977:151):

- (36) Pekka pelkä-ä sota-a / Liisa-a.  
 Pekka fear-PAST/3S war-P / Liisa-P  
 ‘Pekka fears war/ Liisa’

In this example, Liisa and war could be interpreted as that which causes fear in Pekka. Alternately, the Themes could be Subject Matter: Pekka could fear that there will be a war, or fear that some harm might come to Liisa, without directly causing the emotion. The data here seem to pose serious problems for the UTAH in its various incarnations, and by extension, for Pesetsky’s hierarchy.

However, as noted by several authors (Leiwo 1977: 149), Siirainen (1996, 1997) there are also strong animacy effects at work in these predicates that seem to reflect some important syntactic and semantic features. For example, for root psych verbs like *sääliä*, ‘to pity’ and *inhota* ‘to disgust’, there is a restriction that the Theme object be [+human]. The same restriction, however, does not apply to the Causer of the causative verb derived from these roots:

- (37) a. Eläinkokeet sääli-tt-ivät Pekka-a.  
 animal experiements pity-CAUS-PAST/3P Pekka-P  
 ‘Animal experiments aroused pity in Pekka’  
 b. \*Pekka sääli eläinkokei-ta.  
 Pekka pity-PAST/3S animal experiements-P  
 ‘Pekka pitied animal experiments’

In general, there is a strong tendency to construe the Theme in most psych causatives as inanimate or non-human (Siirainen 1997). However, causative inchoatives also allow human agents as Themes:

- (38) a. Asia suutu-tt-i Anna-a.  
 matter(N) get angry(INCH)-CAUS-PAST/3S Anna-P

‘The matter made Anna angry’

- b. Mies suutu-tt-i Anna-n tarkoituksella.  
 man(N) get angry(INCH)-CAUS-PAST/3S Anna-A on purpose  
 ‘The man made Anna angry on purpose’

It is important for the current analysis to note that the presence of an animate, human Theme in (38b) is also associated with a syntactic change. While causatives with inanimate or nonovert Themes are generally interpreted as non-delimited predicates with partitive Experiencers (38a), those with animate, agentive subjects may also be interpreted as delimited events that license an accusative Experiencer (38b). Siirainen suggests that verbs like *suuttuttaa* ‘to make angry’ may pattern like a stative or a delimited predicate, although it is derived from an inchoative root. This is predicted if they are accomplishments. As expected, verbs derived from stative roots like *pelottaa* ‘to frighten’ and *surettaa* ‘to make grieve’ disallow accusative Experiencers altogether:

- (39) Kuolema sure-tt-i minu-a / \*minu-t.  
 death(N) grieve-CAUS-PAST/3S me-P / me-A  
 ‘The death grieved me’

In the next section, the syntactic properties of PCs are examined in detail. It is shown that non-delimited PCs pattern as Class 3 (unaccusative) predicates, while delimited PCs do license an external argument like Class 2 predicates.

#### 4. Syntactic properties of psych predicates: Transitivity and unaccusativity

Previous accounts of linking in psych predicates associate causative morphology or semantics with the licensing of the Causer as an external argument (Pesetsky 1995)<sup>11</sup> or a syntactic subject (Grimshaw 1990). The facts discussed below from Finnish show that causative morphology does not derive the predicted effects; causative psychological predicates may show all the relevant properties of unaccusative Class 3 verbs.

##### 4.1 Surface subject properties of Themes

Pesetsky (1995: 50-53) observes that the Italian *piacere* class (Class 3) displays many properties of unaccusatives lacking in their *preoccupare* class (Class 2) counterparts. Unlike the *preoccupare* class, *piacere* class verbs select the unaccusative auxiliary *essere*; they are always stative; and their nominative Themes can undergo *ne*-cliticisation like other internal arguments. Several pieces of evidence suggest that stative PCs in Finnish are also unaccusative, despite the fact that Themes in these sentences show superficial properties of subjects.

It is a general property of Finnish grammar that preverbal nominative arguments always trigger rich subject agreement on the finite verb. Subject to discourse constraints,

<sup>11</sup> In fact, Pesetsky (1995: 60) explicitly dissociates causative morphology from Class 3 unaccusative psych predicates in English (including *appeal to*, *elude* and *escape*), stating “there is nothing causal about any of the unaccusative Object Experiencer predicates described...” While this may be true for the handful of verbs that pattern this way in English, this is clearly the wrong generalisation to make for all languages.

class 3 PCs allow Experiencers and Themes to appear in either preverbal or postverbal position, with the nominative Theme in subject position as unmarked word order. However, as expected, preverbal nominative Themes trigger agreement morphology, while partitive ‘subjects’ do not:

- (40) Minä epäily-tä-n hän-tä.  
I(N) suspect-CAUS-1S him/her-P  
‘I make him/her suspicious’
- (41) Minu-a sure-tt-i (koira-ni kuolema).  
I-P grieve-CAUS-PAST/3S dog-Px1S death(N)  
‘I grieved (over my dog’s death)’
- (42) Koirie-ni kuolemat sure-tti-vat minu-a.  
dogs-PX1S deaths(N) grieve-CAUS-3P me-P  
‘My dogs’ deaths grieved me’

This is not, however, evidence that the nominative Themes are base-generated as subjects in these sentences. Finnish does allow derived nominative subjects in other constructions, most notably raising predicates (assumed to be unaccusative following Chomsky 1981):

- (43) a. Sinä näy-t ole-van väsynyt.  
you(N) seem-2S be-PCP tired(SG)  
‘You seem to be tired’
- b. Te näy-tte ole-van väsyne-i-tä.  
you(PL)(N) seem-2P be-PCP tired-PL-P  
‘You (pl) seem to be tired’

In (43), the surface subject appears to have raised from the lower clause, given the agreement between the surface subject and the adjectival predicate (Manninen, personal communication). As expected within a raising analysis, the raised argument also triggers verbal agreement. Agreement morphology, then, is not necessarily evidence in Finnish that a preverbal argument has been base-generated as a surface subject.

Another superficial subject property displayed by nominative Themes in these sentences is that they are outside the scope of partitive case under negation. In Finnish, sentential negation triggers partitive case on internal arguments of a transitive verb only; negation does not affect the case of external arguments.<sup>12</sup> When a Class 3 PC verb is negated, the Experiencer remains in the partitive case, while the Theme remains in nominative case, regardless of its surface position:

- (44) Minä e-n epäily-tä hän-tä.  
I(N) NEG-1S suspect-CAUS him/her-P

---

<sup>12</sup> Several authors (Heinämäki 1984, Vainikka 1989) associate this phenomenon with the aspectual role of the partitive to signal that the event is [-BOUNDED] or [-COMPLETED].

‘I don’t make him/her suspicious’

- (45) Minu-a e-i sure-ta koira-ni kuolema / \*kuolema-a  
 I-P NEG-3S grieve-CAUS dog-Px1s death(N) / death-P  
 ‘I didn’t grieve over my dog’s death’

The fact that the Experiencer remains in partitive case is strong evidence that it is an internal argument. However, the fact that the Theme remains in nominative case does not rule out that it is also an internal argument. Similar patterns emerge in predicates with delimiting adverbials, which behave like internal arguments in Finnish with respect to case (Maling 1993). In environments which license “nominative objects” (discussed in section 4.4), adverbials may retain nominative case marking under negation (46b):

- (46) a. Sanakirja-a lue-ttiin koko ilta.  
 newspaper-P read-PASS/PAST whole evening(N)  
 ‘The newspaper was read for a whole evening’
- b. Sanakirja-a e-i lue-ttu koko ilta / ilta-a.  
 newspaper-P NEG-3S read-PASS whole evening(N) / evening-P  
 ‘The newspaper wasn’t read for a whole evening’

This suggests that nominative Themes in Class 3 PCs may still be internal arguments, despite the fact that they seem to be outside the scope of “partitive of negation”.

## 4.2 Binding

Evidence from binding has played an important role in the literature on psych predicates. One of the most interesting cross-linguistic features of Object Experiencer predicates is that they allow ‘backward binding’ into the object constituent:

- (47) Stories about each other frightened/annoyed/appealed to Miriam and George.  
 \*Stories about each other feared./liked Miriam and George.  
 \*Stories about each other told/whispered Miriam and George.

Both classes of PC predicate in Finnish, statives (48) and inchoatives (49), display the familiar ‘backward binding’ effects observed in other languages:<sup>13</sup>

- (48) Itse-nsä näkeminen häve-tt-i / pelo-tti hän-tä.  
 self-3Px seeing be ashamed-CAUS-PAST/3S / fear-CAUS-PAST/3S her-P  
 ‘Seeing herself shamed/frightened him/her’ (stative)

<sup>13</sup> Van Steenberg (1990) employs a number of tests to show convincingly that Finnish is a configurational language that displays standard subject-object asymmetries including those related to Binding Principles A&B, WCO and SCO. In this paper, anaphoric binding tests will involve the third person possessive affix *-Vn/-nsa/-nsä* (or 3Px). This pronominal affix may attach to the reflexive pronoun *itse* and non-finite clauses as well as to other categories. In these cases it is an anaphor subject to Principle A within IP (Vainikka 1989).

- (49) Itse-nsä näkeminen raivostu-tt-i / pelästy-tt-i häne-t.  
 self-3Px seeing infuriate-CAUS-PAST/3S / fear-CAUS-PAST/3S him/her-A  
 ‘Seeing herself infuriated / frightened him/her’ (inchoative)

Belletti & Rizzi (1988) use facts like these to argue that Experiencers always project higher than Themes, which entails that Theme subjects in PCs must be derived from an underlying unaccusative structure. However, as pointed out by Pesetsky (1995) for English and by Cançado & Franchi (1999) for Brazilian Portuguese, a variety of verbs cross-linguistically (typically causatives, but not always) also allow backward binding. Since some of these other verbs are uncontroversially transitive and license external arguments, the issue remains murky.

However, other binding facts from Finnish point to an unaccusative structure for stative PCs, with Experiencers projecting higher than Themes. For all classes of psych verb in Finnish, except the Class 3 verbs, the nominative subject can bind a reflexive anaphor (Leiwo 1977). Subjects of inchoative roots can bind a reflexive either as a locative case marked oblique (50) or as a direct object (51):

- (50) Hän raivostu-i / suuttu-i itse-e-nsä  
 s/he(N) get furious(INCH)-PAST/3S / get angry(INCH)-PAST/3S self-ILL-Px3  
 ‘She became furious / angry with herself’
- (51) Hän pelästy-i itse-ä-än  
 s/he(N) fear(INCH)-PAST/3S self-P-Px3  
 ‘She scared herself’

Subjects of stative roots can also bind a reflexive:

- (52) Pekka<sub>i</sub> epäile-e / häpeä-ä itse-ä-än<sub>i</sub>.  
 Pekka(N) doubt-3S / be ashamed-3S self-P-Px3  
 ‘Pekka doubts/ is ashamed of himself’

However, the causatives show a clear contrast in terms of binding. Those derived from inchoatives allow an anaphor to be bound by the nominative subject Theme (53), while those derived from states do not (54):

- (53) Aili<sub>i</sub> raivostu-tt-i / suutu-tt-i itse-nsä<sub>i</sub>.  
 Aili get furious-CAUS-PAST/3S / get angry-CAUS-PAST/3S self(A)-Px3  
 ‘Aili infuriated / entertained herself’ (inchoative)
- (54) \*Pekka<sub>i</sub> epäily-ttä-ä / häve-ttä-ä itse-ä-än<sub>i</sub>  
 Pekka suspect-CAUS-3S / be ashamed-CAUS-3S self-P-Px3  
 ‘Pekka suspects/ shames himself’ (stative)

This pattern indicates that binding relations for causative predicates fall into two classes, one for delimited inchoatives and one for statives. The anaphoric pronoun *itseään* may be bound by either an Experiencer (52) or a Causer (53), so long as it is c-commanded

by an antecedent. At whatever point in the derivation Binding Principle A holds for Finnish,<sup>14</sup> it appears that the nominative Causer in (54) does not c-command the anaphor. These patterns are predicted if stative PCs, but not the other classes, fail to project an external argument.

If stative PCs are unaccusative, the question remains as to the relative ordering of internal arguments. Belletti & Rizzi (1988) present binding data to show that in Italian, Experiencers project higher than Themes in unaccusatives. There is evidence that this is also the case for Finnish. Vilkuna (1989: 153) notes that partitive Experiencers may directly bind an anaphoric Theme:

- (55) Mikko-a häve-tt-i eilinen käytökse-nsä  
 Mikko-P be ashamed-CAUS-PAST/3S yesterday behaviour-Px3  
 ‘Mikko was ashamed of the way he behaved yesterday’

It is also the case that the partitive Experiencer, but not the nominative Theme, can control the reflexive pronoun *oma* as a local binder:

- (56) Pekka-a<sub>i</sub> inho-tta-a /häve-ttä-ä oma<sub>i</sub> itse-nsä<sub>i</sub>  
 Pekka-P loathe-CAUS-3S/ be ashamed-CAUS-3S own self-Px3  
 ‘Pekka loathes/feels ashamed of himself’
- (57) \*Pekka<sub>i</sub> epäily-ttä-ä / häve-ttä-ä oma-a itse-ä-än<sub>i</sub>  
 Pekka(N) suspect-CAUS-3S / be ashamed-CAUS-3S own-P self-P-Px3

These facts indicate that although causative statives fail to license an external argument, Experiencers project higher than Themes in the underlying structure.

### 4.3 Passives

Both Belletti & Rizzi (1988) and Grimshaw (1990) use the ability of a given verb to form verbal passives as a diagnostic for the presence of an external argument; verbs that fail to passivise, they argue, are those which lack external arguments. The problem with using this test for psych predicates in Finnish is that Finnish lacks Indo-European type passives. Impersonal passives can be formed with verbs from essentially all lexical classes, including copulae and unaccusatives:

- (58) Kaupungi-ssa ol-tiin ilois-ia.  
 city-in be-PASS/PAST happy-PL/P  
 ‘In the city (people) were happy’
- (59) Maa-lla synny-ttiin.  
 country-in born-PASS/PAST  
 ‘In the country (people) were born’

<sup>14</sup> This question will be left open for the purposes of the current discussion. The important point here is that nominative “subjects” of Class 3 PCs cannot locally bind anaphors, in contrast to subjects of other psych predicates.

- (60) Asema-lle saavu-ttiin.  
station-to arrive-PASS/PAST  
'To the station (people) arrived'

Shore (1988) points out that the main feature of impersonal passives (or 'indefinites') in Finnish is that the implicit argument must be interpreted as human and plural; any predicate can be 'passivised' so long as it involves human participation.<sup>15</sup> Given that unaccusatives may be passivised, there does not seem to be a requirement that passivisation suppress external arguments only (contra Grimshaw 1990). For Finnish, the rule for impersonal passivisation may be expressed as follows:

- (61) Suppress one [+human/plural] argument; target external argument first, if any.

Therefore if a verb only licenses a single argument, it must be suppressed:

- (62) a. \*Ihmisi-ä synny-ttiin.  
people-P born-PASS/PAST.  
  
b. \*Juna saavu-ttiin.  
train(N) arrive-PASS/PAST

Root psych verbs like *pelätä* 'to fear' and *surra* 'to grieve/worry' allow suppression of the Theme, leaving an overt partitive Experiencer. This is predicted if the human Experiencer argument is projected externally:

- (63) Moni-a asioi-ta sur-raan suotta.  
many-P things-P worry-PASS needlessly  
'Many things are worried about needlessly'
- (64) Lentämis-tä pelä-tään.  
flying-P fear-pass  
'(People) fear flying'

With stative PC predicates, on the other hand, it is not possible to suppress the Theme and leave an overt Experiencer:

- (65) \*Pekka-a häve-te-ttiin / pelo-te-ttiin / epäily-te-ttiin  
P.-P be ashamed-CAUS-PASS/PAST / fear-CAUS-PASS / suspect-CAUS-PASS  
'(People) made Pekka ashamed / frightened / suspicious'

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<sup>15</sup> Other differences between Finnish impersonal passives and Indo-European passives include the lack of productive agreement morphology on the impersonal verb (and therefore the derived 'subject' does not agree with it), and that fact that derived 'subjects' of passivised transitives may remain in situ in object

This again suggests that the Theme of a stative PC is not an external argument, despite having superficial subject properties.

In contrast, inchoative PCs do allow suppression of the Theme in an impersonal passive, most felicitously when the event is delimited by an accusative Experiencer:<sup>16</sup>

- (66) Häne-t raivostu-te-ttiin / pelästy-te-ttiin / suutu-te-ttiin.  
 s/he-A get furious-CAUS-PASS/PAST /fear-CAUS-PASS /get angry-CAUS-PASS  
 ‘(They) infuriated / frightened / angered him/her’ (inchoative)

This shows that the contrast between (65) and (66) is not a thematic restriction, since in both cases, the Experiencer remains overt while the Causer is suppressed. Instead, these syntactic effects appear to derive from the different event types of the derived PCs: statives do not license an external argument available for suppression, while inchoatives do.

#### 4.4 Case

Another source of evidence that nominative Causers are not subjects comes from case in embedded infinitival clauses. In Finnish, full DP internal arguments may appear as ‘nominative objects’ in syntactic environments which lack external arguments that agree with the verb, for example impersonal passives, existential constructions, imperatives, and some modal constructions (Vainikka 1989, Reime 1993, Mitchell 1991, Nelson 1998). In apparent violation of Burzio’s Generalization, however, these nominative internal arguments alternate with accusative personal pronouns:

- (67) Pekka / häne-t näh-tiin.  
 Pekka(N) / s/he-A see-PASS/PAST  
 ‘Pekka / she was seen’

In these environments, infinitive verbs appear to be ‘transparent’ to the case assignment properties of the matrix verb, suggesting that they undergo full predicate merger with the matrix verb. If the matrix verb licenses a nominative subject that agrees with the verb, as with the verb *haluta* ‘to want’, the internal argument of the lower infinitival appears in accusative case for both full DPs and pronouns:

- (68) Sinä halua-t ostaa olue-n / nähdä minu-t.  
 you(N) want-2S to buy beer-A / to see me-A  
 ‘You want to buy a beer / to see me’

However, if the matrix predicate fails to license a nominative syntactic subject, as in the case of the modal verb *täytyä* ‘must’, then the object of the embedded infinitive verb

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<sup>16</sup> There is some variation among native speakers on the ability of these verbs to form impersonal passives, especially with the verb *pelottaa* ‘to frighten’. However, all native speakers consulted seemed to agree that impersonal passive inchoatives sound better than their stative counterparts.

mirrors the patterns of case in impersonal passives illustrated in (67). The argument shows up in nominative case if it is a full DP, but in accusative if it is a personal pronoun:

- (69) Minu-n täyty-y ostaa uusi tietokone / nähdä sinu-t  
I-gen must-3S to buy new(N) computer(N) / to-see you-A  
'I must buy a new computer / see you'

This means that the syntactic properties of the matrix verb may affect case assignment in the lower infinitival clause. When stative PCs take an infinitival complement with a partitive Experiencer 'subject', the object in the embedded clause surfaces as a nominative DP, alternating with an accusative pronoun:

- (70) Jarmo-a harmi-tta-a nähdä mies / sinu-t.  
Jarmo-P annoy-CAUS-3S to see man(N) / you-A  
'Jarmo is annoyed to see the man / you'
- (71) Liisa-a mielly-ttä-ä nähdä isoäiti-nsä / häne-t.  
Liisa-P please-CAUS-3S to see grandmother(N)-Px3 / him/her-A  
'Liisa is pleased to see her grandmother / her'

The pattern in the examples above suggests that the matrix verbs, the stative PCs *harmittaa* 'to annoy' and *miellyttää* 'to please' do not license a syntactic subject, similar to the modal *täytyä* 'must' and impersonal passives. This is further evidence that these verbs are unaccusative and lack syntactic subjects.

PCs derived from inchoatives pattern the same way when they are interpreted as non-delimited predicates (with partitive Experiencers), further suggesting that the unaccusative Class 3 is not a lexical, but an aspectual class:

- (72) Pekka-a / \*Peka-n pelästy-ttä-ä nähdä isoäiti-nsä / häne-t.  
Pekka-P / Pekka-A fear-CAUS-3S to see grandmother(N)-Px3 / him/her-A  
'Pekka was frightened to see his grandmother / him/her' (inchoative)

In sum, evidence from binding, passivisation and case in embedded clauses shows that PCs derived from stative roots, as well as inchoative PCs with non-delimited interpretations, fail to license an external argument.

## 5. Deriving Argument Linking in Psych Predicates

In the previous sections, it has been argued that causative morphology, or the introduction of a Causer role, is not responsible for determining patterns of linking in psych predicates in Finnish. Evidence from binding, case, and passivisation shows that causative affixation yields two types of psychological causative (PCs) with very different syntactic properties: delimited Class 2 PCs project their Themes (or Causers) as external arguments, while stative Class 3 PCs are unaccusative. In this section, it will be argued that linking variations in psych predicates is not an idiosyncratic and unpredictable lexical feature of certain verbs, as has been assumed for Indo-European psych predicates in Grimshaw (1990) and Pesetsky (1995). Instead, the observed patterns are argued to fall out of an

interaction between morphosyntax (the causative affix –TTA) and event structure. The “free linking” effects seen in Class 3 predicates are particularly challenging for Baker’s (1988) UTAH, but they turn out to be equally difficult to capture within purely aspectual/compositional approaches to argument linking. An analysis is proposed which distinguishes between two types of role, aspectual and thematic, following Grimshaw (1990).

### 5.1 Event structure

Recently it has been suggested that argument linking may be partially or wholly conditioned by aspect or event structure (Grimshaw 1990, Tenny 1994, Borer 1994, Ramchand 1997, Ritter & Rosen 1998). The intuition behind many of these proposals is that internal arguments are exclusively associated with “measuring out” or delimiting event structure (Tenny 1994) while external arguments are not. Since event-related aspectual properties such as boundedness are usually taken to hold at the sentence level, this approach allows for a *compositional* analysis of argument linking in which lexically specified thematic roles play little or no part in mapping arguments to structural positions. Instead, the thematic interpretation of arguments and their mapping to the syntax is conditioned by structurally assigned *aspectual roles*. The compositional approach explains a range of crosslinguistic phenomena which the lexical-thematic role model fails to account for, such as the relationship between direct object position and the feature [AFFECTEDNESS] in the familiar *spray/load* alternations. However, it runs into serious problems when trying to predict argument linking in transitive statives, which lack event structure altogether and therefore fail to assign aspectual or event roles (Tenny 1994, Grimshaw 1990, Ramchand 1997). Recall that psych predicates in Finnish fall into the following classes:

(73)	Stative	Inchoative
root	surra ‘to grieve (for)’ [(x CAUSE) [ y <STATE>] (state)	raivostua ‘to become furious’ [(x CAUSE) [BECOME [ y <STATE>] (achievement)
causative	surettaa ‘to grieve’ [x CAUSE [ y <STATE>] (state)	raivostuttaa ‘infuriate’ [x CAUSE [ BECOME [ y <STATE>] (accomplishment)

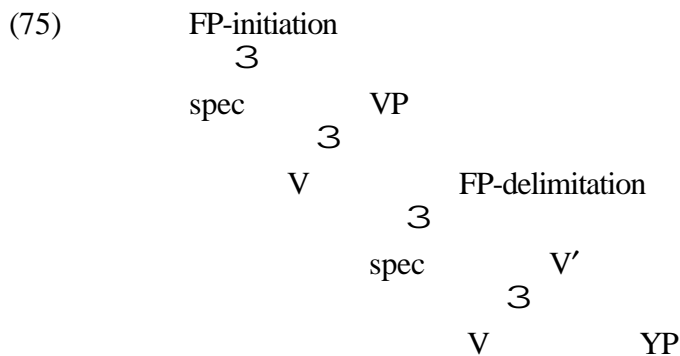
As they stand, aspectually-based models of argument linking also fail to capture the data from Finnish psych predicates. If *fear*-class predicates such as *surra* ‘to grieve for’ map Experiencers to subject because they are stative and lack an event structure (Grimshaw 1990), then *surettaa* ‘to (make) grieve’ should behave the same way. There is therefore no way to distinguish these predicates on the basis of simple event class, since both are stative. Moreover, both classes of Finnish root psych verb link Experiencer to subject, despite falling into different event classes. Event structure seems to have some bearing on the syntactic behaviour of these predicates, but it alone cannot predict the observed linking patterns. This is a problem for aspectual analyses of Class 3 psych predicates cross-linguistically.

### 5.1.1 Argument structure and event structure in causativisation

In order to capture the Finnish data described above, it is necessary to take an approach that incorporates the differences in event structure between stative and inchoative predicates *and* the syntactic effects of causative affixation. It is assumed that the core roles of Experiencer and Theme are lexically assigned in the usual way, and also linked with particular D-structure positions according to the thematic hierarchy. Dominating this role on the hierarchy, however, is *compositionally* assigned aspectual Initiator role (cf Grimshaw 1990), associated with causative morphology and the complex event structure introduced by it.

(74) Initiator > Experiencer > Theme

Ritter & Rosen (1998) based on work by Borer (1994) take a purely syntactic approach to thematic/aspectual role assignment. The event interpretation in a given predicate, they argue, is always compositionally determined by the position of arguments in functional projections associated with event structure, and not by thematic roles assigned in the lexicon. In this model, all event information is syntactically encoded. Arguments originate in the higher and lower VPs, but raise to aspectual functional projections to receive event roles associated with initiation and delimitation of the predicate event (adapted from Ritter & Rosen 1998: 149):



Ritter & Rosen argue that D(elimited)-events are syntactically distinct from other event classes. In particular, they propose that only events interpreted as DELIMITED assign an Initiator role to the external argument in a higher functional projection. Undelimited events, both states and activities, fail to license an Initiator role. Instead, the XP in the higher functional projection receives the (nonevent) role of topic.

Their analysis provides a neat way to explain the different linking patterns in Finnish PCs. As described in section 3.1, the only class of psych predicate which can denote a delimited event are the inchoative causative predicates. Only these predicates can accept an accusative object and delimiting adverbial expressions. With causative morphology, only these predicates may license an external argument.

The syntactic differences between root statives and PCs derived from them shows that stativity is not in itself enough to explain argument linking in these predicates. Instead, causative morphology must play a crucial role. Recall that root psych predicates may be states or achievements:

- (76) a. Exp V Theme    b. Exp V (Theme)  
 surra ‘to grieve (for)’      raivostua ‘to become furious’  
 [(x CAUSE) [ y <STATE>]      [(x CAUSE) [BECOME [ y <STATE>]]  
 (state)                                  (achievement)

The event structures of these predicates contains Experiencer arguments predicated of the emotional state, and a Theme. In root predicates, these arguments are linked to the VP according to the standard thematic hierarchy:

Experiencer > Theme

Data from binding presented in section 4.2 above suggests that in keeping with Belletti & Rizzi’s analysis of Object Experiencer predicates in Italian, the partitive Experiencer in Finnish psych predicates is base-generated higher than the Theme for root predicates and for stative (Class 3) PCs:

- (77)
- |     |   |    |       |
|-----|---|----|-------|
|     |   | VP |       |
|     | 3 |    |       |
| DP  |   | V  |       |
| ↓   |   | 3  |       |
| Exp | V |    | DP    |
|     |   |    | ↓     |
|     |   |    | Theme |

As discussed in section 5.1, these predicates are not delimited. However, the Theme argument in statives has a special status. For stative roots like *surra* ‘to grieve (for)’ and *pelätä*, ‘to fear’, the internal argument Theme is loosely associated with the semantic CAUSE variable in the underlying predicate. However, unlike objects in non-stative predicates, it fails to introduce a Davidsonian event variable, which renders the argument “aspectually inert” (Ramchand 1997). This has an important effect on causative affixation: according to the causative affixation rule proposed in (17) the Theme is targetted for suppression because it is construed as Causer, but it is not associated with an event variable in the derived causative predicate. It remains aspectually inert in the output predicate, which derives a state from a state:

- (78) Exp V Theme                                  >                  V Exp (Theme)  
 surra ‘to grieve (for)’                                  surettaa ‘to grieve’  
 [(x CAUSE) [ y <STATE>]                                  [(x CAUSE) [ y <STATE>]]  
 (state)    (state)

Inchoative roots like *raivostua* ‘to infuriate’ denote achievements. For these predicates, causative affixation either introduces a new argument to an intransitive root, or suppresses and reintroduces the Theme argument in the case of transitive roots like *pelästyä* ‘to frighten’. In these cases, the output verb is an accomplishment, with the object fully linked with an event variable:

- (79) Exp V (Theme) >  
 raivostua ‘to become furious’  
 [(x CAUSE) [BECOME [ y <STATE>]]  
 (achievement)

Theme V Exp  
 raivostuttaa ‘infuriate’  
 [x CAUSE [ BECOME [ y <STATE>]]  
 (accomplishment)

The way the arguments in these causative predicates get mapped to the syntax is then partly determined by the presence of the causative morphology and partly by event structure. In the current analysis, causative morphology in Finnish licenses a higher VP shell which is equivalent to Ritter & Rosen’s (1998) higher functional projection associated with initiation. The syntactic effect of causative affixation is that it creates a third position for arguments:

- (80) VP (+/- INITIATED)  
           3  
           DP          V’  
                       3  
                       -CAUS          VP (+/- DELIMITED)  
                                   3  
                                   DP          V’  
   3  
   V          XP

Following Ritter & Rosen’s analysis, this higher projection may assign an aspectual Initiator role, but only if the event is interpreted as DELIMITED. In the case of delimited causative inchoatives (i.e. those with accusative Experiencers), Initiators originate as external arguments:

- (81) Aili<sub>i</sub> raivostu-tt-i                                  Peka-n.  
 Aili get furious(INCH)-CAUS-PAST/3S Pekka(A)  
 ‘Aili infuriated Pekka’ (inchoative)

- (82) VP [+ INITIATED]  
           3  
           DP          V’  
           4          3  
           Initiator          V          VP [+DELIMITED]  
           (Theme)          q          3  
                   CAUS          V’          DP  
                           3                  4  
                           V          XP          Exp  
                           q          q

raivostuttaa e

Stative causatives, on the other hand, are not DELIMITED by their internal arguments; therefore, no Initiator role is assigned to the Theme. Because this role is compositionally assigned, this entails that the Theme does not receive an event role as an external argument. Instead, it originates internally:

- (83) Koira-ni kuolema sure-tt-i minu-a.  
 dog-Px1s death(N) grieve-CAUS-PAST/3S me-P  
 ‘My dog’s death grieved me’

- (84) VP [- INITIATED]  
 3  
 DP V'  
 ɰ 3  
 e V VP[-DELIMITED]  
 ɰ 3  
 CAUS DP V'  
 4 3  
 Exp V XP  
 ɰ 4  
 surettaa Theme

Because the specifier of the higher VP shell does not license an external argument, either the partitive Experiencer or the nominative Theme may appear in this position as a superficial subject, a Topic. Nominative Themes in this position trigger agreement with the verb as expected.

The fact that the Theme does not receive an Initiator role in stative PCs has significant syntactic and semantic consequences. Firstly, nominative Themes fail various subjecthood tests discussed in section 4, such as the ability to bind reflexive anaphors and the ability to be suppressed in impersonal passives. Delimited inchoative PCs pass the same tests, because they license an external argument Initiator.

Secondly, this approach explains the animacy effects noted by Siirinen (1997, 1998): Theme “subjects” of stative predicates are normally interpreted as being inanimate and nonhuman, while subjects of inchoatives may also be construed as human agents. If the aspectual role of Initiator is associated with the related semantic features of animacy and volition as suggested by Rosen (1999), among others, then subjects of stative causatives should resist construal as Initiator, as predicted.<sup>17</sup> This effect may in turn be related to the Causer/Subject Matter contrast discussed in 3.2. This also accounts for the differences in acceptability of the two classes of PC in impersonal passives, a process which is known to be subject to animacy constraints.

<sup>17</sup> Interestingly, Class 3 psych predicates in English, which are also stative, show similar animacy effects, in contrast to Class 2:

- i. The idea /??Miriam eludes / appeals to / escapes me.
- ii. The idea / Miriam frightens / annoys / puzzles me.

This analysis predicts that similar patterns should emerge for Class 3 predicates cross-linguistically.

The analysis presented here also has implications for the syntax of Finnish in general. It is shown in section 4 that nominative Themes of stative PCs behave in many ways like “nominative objects” rather than syntactic subjects. Nominative object DPs surface in a number of environments in Finnish, characterised by a lack of an overt external argument that agrees with the verb, while accusative DP objects tend to appear only in the presence of an external argument (Vainikka 1989, Reime 1993, Nelson 1998). Partitive objects, on the other hand, have a much wider distribution. In this paper, accusative objects in delimited psych predicates are shown to trigger the linking of an external argument Initiator. It may be the case that this proposal can be extended to capture the distribution of partitive and accusative case in Finnish, along with related nominative object effects.

## 5.2 Conclusion

The analysis presented here attempts to capture linking patterns in a language which derives certain classes of psych predicate with overt causative morphology. In particular, it attempts to explain the unaccusative properties of Class 3 stative psych predicates as a systematic and predictable effect of causative morphology on event structure, rather than simply attributing them to lexical idiosyncrasy. The data from Finnish also lend support to theories of argument linking which incorporate structural, aspectual roles as well as lexically-assigned thematic ones. Since many similar verbs of this type surface cross-linguistically, more research is needed to determine whether all Class 3 predicates can be subsumed under a similar analysis.

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