5. CAUSATIVES AND UNACCUSATIVES

After having considered the two non-relational categories, nouns and adjectives, it is now time to turn to verbal relationality. The relevant claim is that a concept must be associated with at least two feature clusters (=arguments) in order to be syntactically categorized as a verb. The purpose of this and the following two chapters is to substantiate this claim. The argument will proceed along two different lines. On the one hand, it needs to be shown that one-place verbs, unaccusatives and unergatives, are not basic: the former will be dealt with in this chapter, discussion of unergatives is postponed until chapter 7. On the other hand, the relational view of verbs has implications for the notion of Case which can only be defined for relational categories. Indeed, as shown in the previous chapter, even though adjectives are also predicative, they do not assign thematic case because they only take one argument. The issue of Case is considered in chapter 6.

Chapter 5 is structured as follows. We start with causative/unaccusative alternations for which a TS-based reduction analysis is defended. In section 5.2 verb-based derivation is considered. Section 5.3 offers an analysis of causativization in Sakha. Section 5.4 argues against the view that the external argument is not present underlyingly but rather introduced syntactically.

5.1. Causative/unaccusative alternations

Take a look at the examples in (1). (1a) is the transitive version and (1b) – unaccusative. A sample list of unaccusative verbs and their transitive alternates is given in appendix 4. Causative/unaccusative pairs pass the diagnostics described in 5.1.1.3.

(1) a. Min oloppoh-u aldjat-ty-m.
I chair-acc break-past-1sg
'I broke the chair.'

b. Oloppos aldjan-na.
Chair break-past.3
'The chair broke.'

Alternations like these have received a considerable amount of attention in the literature resulting in a variety of analyses. In this chapter we only consider two, arguing in favor of the TS-account presented in this section over the DM-account to be considered in 5.4: for a comprehensive overview of pre-TS accounts see Reinhart 2000. In particular, Reinhart argues that unaccusativity cannot be defined in terms of aspect, nor in terms of the notion 'external causation' (Levin & Rappaport Hovav 1995). She also provides arguments against Pesetsky's (1995) treatment of unaccusatives as basic underlying forms from which transitive alternates are derived by causativization. Instead, within the TS-framework transitive alternates are basic and unaccusatives are derived. The class of unaccusatives is characterized by having a transitive alternate selecting a [+c] argument which will realize as Cause, Agent or

Instrument. The unaccusative verb is derived from the transitive alternate by reducing the external [+c] role. Thus, unaccusative *open* as in *The door opened* is derived from transitive *open* as in *The wind opened the door* by reducing the causer role. Similarly for (1) where (1b) should be analyzed as derived from (1a). The reduction in question is expletivization: it eliminates the external argument altogether resulting in a one place verb. Formal representation of the operation is given in (2) (repeated from (80) in chapter 1). Since unaccusative reduction manipulates the θ-grid of a predicate, it must apply uniformly in the lexicon and therefore falls outside the scope of the Lex-Syn parameter (see (83) in chapter 1 and the discussion in 1.4.3).

(2) **Reduction of an external [+c] role (Expletivization)**:

a.	$V_{acc}\ (\theta_{1[+c]}, \theta_2)$	$\rightarrow$	$\underline{R_e(V)}\ (\theta_2)$	
b.	$\underline{R_e(V)}(\theta_2)$	=	$V(\theta_2)$	(Reinhart 2003, (15))

The analysis predicts the existence of an unaccusative alternate for each [+c] transitive verb and of a [+c] transitive alternate for each unaccusative verb. As Reinhart 2003 points out, there are very few exceptions to these correspondences which can be treated as language-specific lexical gaps. On the one hand, some verbs which select a [+c] argument do not have unaccusative entries: e.g. *hit* and *destroy* are only available as transitive verbs in English whereas in Hebrew and French *destroy* does display an unaccusative alternate. In Sakha both *hit* and *destroy* have unaccusative versions as shown in the appendix. On the other hand, in a given language some verbs can be frozen in their unaccusative forms and lack transitive entries. The missing transitive alternate may be available in some other language.

5.1.1. Unaccusativity diagnostics in Sakha: Causative alternation and others

This phenomenon has not been studied under a heading of its own in descriptive grammars of Sakha, probably due to the fact that it does not have its own morphology but rather shares it with reflexives and passives in addition to being zero-marked. Nevertheless, we can identify a separate class of unaccusatives using a number of various tests discussed in this section. Note that these tests are not genuine unaccusativity diagnostics: they are simply compatible with the unaccusative configuration which lacks an agent and where the sole argument is merged in the internal argument position. The configuration follows from the reduction analysis and the lexicon marking procedures. The latter ensure that not all verbs whose [+c] argument has been reduced will have an unaccusative derivation. In particular, subject experiencer verbs, e.g. *xomoj* 'be(come) sad' in (3), are also derived by [+c]-reduction. However, the remaining Experiencer argument is merged externally by (6a): being [-c+m], it cannot be marked with index 2, in accordance with (5a). Experiencing derivations contrast with unaccusatives shown in (4). Transitive 'break' takes both a [+] and a [-c] feature clusters as its arguments which, by (5), carry indices 1 and 2, respectively. Reduction leaves the argument marked '2' which must merge internally, in accordance with (6b).

(3) *Xomot* 'make sad' ([+c]$_1$, [-c+m]) → *xomoj* 'be(come) sad' ([-c+m]):
  a. Micil$_{[+c+m]}$/Kiine$_{[+c-m]}$ Lookut-u$_{[-c+m]}$ xomot-to.
     Micil/Movie Lookut-acc sadden-past.3
  b. Lookut$_{[-c+m]}$ xomoj-do. / Lookut become.sad-past.3

(4) *Aldjat* 'break' ([+c]$_1$, [-c-m]$_2$) → *aldjan* 'break' ([-c-m]$_2$):
  a. Micil$_{[+c+m]}$/Tyal$_{[+c-m]}$/Taas$_{[+c-m]}$ tünnüg-ü$_{[-c-m]}$ aldjat-ta.
     Micil/Wind/Stone window-acc break-past.3
  b. Tünnük$_{[-c+m]}$ aldjan-na. / Window break-past.3

(5) Lexicon marking: Given an n-place verb-entry, n>1,
  a. Mark a [-] cluster with index 2.
  b. Mark a [+] cluster with index 1.

(6) CS merging instructions:
  a. When nothing rules this out, merge externally.
  b. An argument realizing a cluster marked 2 merges internally; an argument with a cluster marked 1 merges externally.

The possibility of causative alternation which follows from the TS-analysis can be taken as a true diagnostic for unaccusativity as is done in Levin & Rappaport Hovav 1995. Indeed, the causative alternates of unaccusative verbs listed in appendix 4 are all associated, in addition to an internal Theme argument, with a [+c] feature cluster which will realize as either Cause, Agent or Instrument as illustrated in (4).

Apart from causative alternation, unaccusatives can be detected using the following tests which all hinge upon the absence of Agent. As expected, they cannot be passivized (7a) while unergatives can (7b). An instrument role (which is only licensed in the presence of an overt or implicit agent) is disallowed with unaccusatives (8a) but may occur with agentive unergatives (8b).

(7) a. *Buh-ulun-na/ir-ilin-ne/süt-ülün-ne.
     boil-pass-past/melt-pass-past/disappear-pass-past
     'It was boiled/melted/disappeared.'
  b. Ülele-n-ne/ystan-ylyn-na/süür-ülün-ne/sötüöle-n-ne.
     work-pass-past/jump-pass-past/run-pass-past/swim-pass-past
     'It was worked/jumped/run/coughed.'

(8) a. *Oloppos ötüje-nen aldjan-na.
     chair hammer-instr break-past
     'The chair broke with a hammer.'
  b. Kyys kuukula-nan oonnjoo-to.
     girl doll-instr play-past
     'The girl played with a doll.'

Another test concerns agentive nominals marked with the suffix –CI (after consonants: -AAccY) which were discussed in detail in 2.4.3. The test yields the

same results as English *–er* nominalizations which are known to apply only to verbs with an external argument, hence they are possible from transitives and unergatives (9a) but not from unaccusatives (9b).

(9)	a.	aaq-aaccy	üören-eecci	oonnjoo-ccu
		read-er	study-er	play-er
	b.	*üün-eecci	*timir-eecci	*tökünüj-eecci
		grow-er	drown-er	roll-er

Unaccusatives do not allow control into purpose clause, unlike unergatives (10a).

(10) a. Micil xarcy ölör-öörü ülel-iir.
Micil money earn-purp work-pres
'Michil works in order to earn money.'
b. *Auditorija lieksije ist-eeri cuumpur-da.
audience lecture listen-purp hush-past.3
'The audience hushed in order to listen to the lecture.'

Only agentive predicates can appear in the comitative voice which requires an agentive predicate. This rules out comitative unaccusatives while allowing comitative unergatives.

(11) a. Erel sajyn ferma-qa ülele-s-te.
Erel summer farm-dat work-comit-past.3
'Erel helped (lit. worked together with others) at the farm during the summer.'
b. *Kihi timir-is-te. / person drown-comit-past.3

5.1.2. Arguments that the transitive alternate is basic

According to the TS-analysis, the causative alternate is the base from which the unaccusative alternate is derived. Various pieces of evidence are available in Sakha to support this point.

5.1.2.1. Irregular causative morphology

The default pattern of causativization consists in the alternation between –t- and –TAr- which is phonologically determined: if a verb ends in a vowel, -t- is chosen, if it ends in a consonant, the suffix is -TAr- as shown in (12).

(12)	**V-vowel**	**V-t**	**V-consonant**	**V-TAr**
	s**ie**	sie**t**	kyry**j**	kyryj**tar**
	eat	*make eat*	*cut*	*make cut*
	saqal**aa**	saqala**t**	bie**r**	bier**der**
	begin	*make begin*	*give*	*make give*

The overwhelming majority of unaccusative verbs listed in appendix 4 do not follow this straightforward pattern of marking their causative alternates. As classified in the appendix, the morphological relationship between causative and unaccusative members comes in several types. The most productive alternation is between the suffixes /–j/ for intransitives and /–t/ for transitives which attach to bound roots and are in complementary distribution. The causative suffix –t- also appears on unaccusatives which end in consonants – in contrast to its regular use only with verbs ending in vowels exemplified in (12). Causative/unaccusative pairs also make use of the suffix –Ar/-YAr which is not a causative suffix but a verbalizer. In addition, there are causative pairs which cannot be organized into any paradigms, e.g. *killer* 'make enter, bring inside' – *kiir* 'enter', *tuur* 'pull out' – *tulun* 'drop, become pulled out'. Furthermore, if we take a look at the causative alternation purely in terms of suffixation as signaling the direction of derivation, no clear results are obtained. This is most clearly seen in cases which involve n-marking. On the one hand, the unaccusative member is marked with –n- attaching to the transitive member which appears as the underived basic form as in e.g. *es* 'destroy; explode' – *eh-in* 'become destroyed; explode'. On the other hand, the transitive member can have considerably more suffixes than the unaccusative one as in *kytaat* 'become hard, tough, sturdy' – *kytaat-yn-nar* 'make hard, tough, sturdy'. The unpredictability of morphological marking in transitive-unaccusative alternations makes it highly unlikely that these are derived syntactically by stacking the relevant roots under v_{unacc} or v_{caus}. The findings, however, are compatible with the TS-reduction analysis which lists both transitive and intransitive members of the alternation in the lexicon. In the next chapter, the question of morphological marking in the unaccusative derivation will be considered in more detail from the viewpoint of the reduction account.

Another causative-related argument comes from t-doubling which is possible with regular t-causatives but impossible with transitive alternates of unaccusatives. Given in (13) is the t-causative derived from the unergative verb *ülelee* 'work'. The causative suffix –t- can be doubled by another causative suffix –TAr- (which attaches to consonants, here –t-), with no ensuing change of meaning[1]. Thus, the second causative suffix is the phonological doublet of the first one and is not associated with an extra causer argument. On the contrary, the –t- morpheme appearing on the unaccusative verb like *baj* 'become rich' cannot have a phonological doublet: the second causative must introduce another causer as shown in (14b). With regular causatives this is also possible (14a), hence *ülelet* is ambiguous between 'make someone work' and 'make someone make someone work'.

(13) a. Aisen Keskil-i ülele-t-te / ülele-t-ter-de.
Aisen Keskil-acc work-caus-past.3 / work-caus-caus-past.3
'Aisen made Keskil work.'

b. Aisen Keskil-i baj-yt-ta / *baj-yt-tar-da.
A. K.-acc become.rich-caus-past.3 / *become.rich-caus-caus-past.3
'Aisen made Keskil rich.'

[1] The doubled verb implies emphasis/intensity.

(14) a. Kesha Aiseŋ-ŋa Keskil-i ülele-t-ter-de.
Kesha Aisen-dat Keskil-acc work-caus-caus-past.3
'Kesha made Aisen make Keskil work.'
b. Kesha Aiseŋ-ŋa Keskil-i baj-yt-tar-da.
Kesha Aisen-dat Keskil-acc become.rich-caus-caus-past.3
'Kesha made Aisen make Keskil rich.'

The doubling data can be accomodated if the –t- suffix is compositional only in regular causatives whereas in transitive alternates of unaccusatives it is part of the verb entry in the lexicon invisible to the phonological component. If unaccusative –t- is treated as part of the verb stem/root, this again betrays the lexical basicness of unaccusative causatives like *baj-yt* 'become.rich-t', as opposed to the derived status of *ülele-t* 'work-caus'.

The following set of data present one more argument that the causative suffix which appears on the transitive variants of unaccusatives is part of the verb root/concept and not added through some morphological process. (15a) shows a basic transitive verb *tal* 'choose' causativized once in (15b) and twice in (15c). As will be discussed in 5.3, two causative suffixes stacked together are the limit, the first one marking the lexical operation of causativization and the second one – syntactic causativization. As expected under the reduction analysis, *sojut* 'make cool', the transitive counterpart of unaccusative *soj* 'become cool', patterns like basic transitive *tal* 'choose' allowing two causative morphemes. Crucially, if *soj* 'become cool' were the basic entry, the presence of three causative suffixes in (16) would be exceptional and remain unexplained.

(15) a. Keskil bu kinige-ni tal-la.
Keskil this book-acc choose-past.3
b. Aisen Keskil-ge bu kinigeni tal-lar-da.
Aisen Keskil-dat this book-acc choose-caus-past.3
'Aisen made Keskil choose this book.'
c. Lena Aisen-ynan Keskil-ge bu kinigeni tal-lar-tar-da.
L. A.-instrum K.-dat this book-acc choose-caus-caus-past.3
'Lena made Aisen make Keskil choose this book.'

(16) a. Keskil miin-i soj-ut-ta.
Keskil soup-acc cool-caus-past.3
b. Aisen Keskil-ge miin-i soj-ut-tar-da.
Aisen Keskil-dat soup-acc cool-caus-caus-past.3
'Aisen made Keskil cool the soup.'
c. Lena Aisen-ynan Keskil-ge miin-i soj-ut-tar-tar-da.
Lena A.-instrum K.-dat soup-acc cool-caus-caus-caus-past.3
'Lena made Aisen make Keskil cool the soup.'

A special status of causative alternates has been noted also in Xaritonov 1963 who argues that the appearance of irregular causative morphology does not mark causative voice but rather verb formation. Thus, a transitive verb like *buhar* 'boil'

(intransitive *bus* 'boil' + irregular -*ar*-) is a verb in the basic (unmarked) voice whereas *aaxtar* 'make read' (*aax* 'read' + regular -*tar*-) is a verb put into the causative voice.

5.1.2.2. Deverbal nouns

In section 2.4.3 we made a distinction between nouns derived from verbs in the lexicon and those derived in the syntax. The latter, in particular, involved external argument saturation and preservation of the remaining argument structure intact. Lexically derived nouns, on the contrary, were not associated with any arguments. It was argued in chapter 2 that lexical nominalization reduces verbal argument structure and effects a meaning change whereas syntactic nominalization preserves the original arguments. As predicted by the reduction analysis under which causative alternates of unaccusative verbs are listed in the lexicon, they should allow not only syntactic nominalizations but also lexical ones. The prediction holds true and will be considered in more detail in section 5.2.1.1 below.

5.1.2.3. Negation scope

Causative alternates of unaccusative verbs contrast with regular causatives in disallowing narrow negation scope. (18) shows a regular causative derived from the verb *ülelee* 'work' with the regular (i.e. used regularly, in a phonologically predictable context) causative morpheme followed by the negation marker –BA[2]. (17) is an example of a transitive alternate of unaccusative *baj* 'become rich': the causative morpheme –t here is used irregularly, i.e. its occurrence is not predicted by any rules. In (18) negation can scope either over the whole causative verb deriving the first reading or only over the verb embedded under the causative marker. In the first case the causal force of Kesha is denied: the sentence is understood as if Kesha did nothing, he did not cause Aisen to work; Aisen may have not worked or may have worked but his working was not caused by Kesha. The second reading represents a situation in which Aisen is trying to work but Kesha puts all his effort to prevent Aisen from working. So, whereas in the first case Kesha does nothing, in the second case he does something. On the contrary, in (17) negation cannot have narrow scope over the unaccusative verb. These facts follow naturally if only regular causatives are derived by the lexicon-internal operation of causativization and hence embed a verb concept (*ülelee* 'work' in (18)) to which the negation can refer. In contrast, causative alternates of unaccusative verbs are underived and therefore cannot be treated by negation as if consisting of two separate components. The operation of causativization will be discussed in section 5.3.

(17) Kesha Aisen-y baj-yp-pa-ta.
Kesha Aisen-acc become.rich-caus-neg-past.3
i. 'Kesha did not make Aisen become rich.'
ii. *'Kesha made Aisen not become rich.'

[2] Causative -t becomes –p under assimilation by –BA.

(18) Kesha Aisen-y ülele-p-pe-te.
Kesha Aisen-acc work-caus-neg-past.3
i. 'Kesha did not make Aisen work (Kesha did nothing).'
ii. 'Kesha makes Aisen not work.'

5.1.2.4. Adverbial scope

The same considerations carry over to examples where the causative predicate is modified by adverbs. Here too, regular causatives behave as if they consisted of two separate components which can be modified by adverbs independently of each other. In (20) 'slowly' refers to the causative component while 'quickly' – to the embedded verb. In (19) there is only one undecomposable verb modified simultaneously by the two antonymous adverbs resulting in a contradiction.

(19) *Kesha bytaannyk Aisen-y türgennik baj-yt-ta.
Kesha slowly Aisen-acc quickly become.rich-caus-past.3
'Kesha slowly made Aisen quickly become rich.'

(20) Kesha bytaannyk Aisen-y türgennik ülele-t-te.
Kesha slowly Aisen-acc quickly work-caus-past.3
'Kesha slowly made Aisen work quickly.'

5.1.2.5. Levin & Rappaport Hovav's (1995) arguments

Levin & Rappaport Hovav 1995 (LRH'95) also argue that the causative alternate is the basic one from which the unaccusative is derived by suppressing the external cause role (through lexical binding). They present three pieces of evidence to support the analysis two of which can be replicated for Sakha as well. The first argument involves selectional restrictions. On the one hand, "the subject of the intransitive use of the verb bears the same semantic relation to the verb as the object of the transitive use. … the set of possible objects of transitive *break* and the set of of possible subjects of intransitive *break* do indeed coincide" (ibid. pp. 85-6). On the other hand, they show that the set of possible subjects for the intransitive use of a verb appears to be a subset of the set of possible subjects for the transitive use of the same verb. Thus, whereas *He broke the window* corresponds to *The window broke*, the transitive *He broke his promise/the contract/the world record* has no unaccusative counterparts. Selectional restrictions also hold in Sakha, in the same way as they do in English. For instance, it is possible to say *itii-te killer* 'warm up by drinking/eating something hot (lit. heat-partitive bring.inside)' or *eqerde tiert* 'send greetings (lit. greeting make.reach)' but it is impossible to use these collocations intransitively: **itii kiir-de* 'heat enter-past.3', **eqerde tiij-de* 'greeting reach-past.3'. One more example is given in (21) representing the pair *saaj* 'hit someone/something' – *saalyn* 'bump into'. Whereas with transitive *saaj* 'hit' both animate Aisen and inanimate *tohoqo* 'nail' are allowed as objects, the unaccusative *saalyn* 'bump into' admits only the former: a nail cannot bump into anything. However, if someone throws a book which unexpectedly hits a pole, (21b) with *kinige* 'book' instead of *tohoqo* would be grammatical. (21c) shows the passive of

saaj. The example is important because both unaccusative *saalyn* 'bump into' and passive *saaj-ylyn* 'be hit' are marked with the passive morpheme –LYn which, in the unaccusative case, attaches to a bound root replacing the suffix –j- and, in the passive case, to an independent verb stem.

(21) a. Kesha Aisen-y/tohoqo-nu baqana-qa saaj-da.
Kesha Aisen-acc/nail-acc wooden.pole-dat hit-past.3
'Kesha hit Aisen/the nail against/into a wooden pole.'
b. Aisen/*tohoqo baqana-qa saalyn-na.
Aisen/*nail wooden.pole-dat bump-past.3
'Aisen/*the nail bumped into a wooden pole.'
c. Tohoqo baqana-qa saaj-ylyn-na.
Nail wooden.pole-dat hit-pass-past.3
'The nail was hit into a wooden pole.'

LRH account for the fact that the set of objects of causative alternates is wider than the set of unaccusative subjects as follows. They assume that it is the basic use of the verb which imposes less stringent restrictions on its arguments. Therefore, since transitive *break* has looser selectional restrictions than intransitive *break*, it is transitive *break* which is basic.

Another argument cited by LRH for the 'causative is basic' view which is also applicable in Sakha involves interpretation. Since unaccusative verbs are analyzed as containing a cause argument at some level of representation, an adverbial modifier can be inserted referring to this cause[3]. The adverbial modifier in question is *by itself* which in English has two readings: 'without outside help' and 'alone' (LRH'95, p. 88). The reading relevant for unaccusative verbs is 'without outside help' which is indeed available in (22a). On the contrary, with unergative verbs as in (22b) the most natural reading of *by itself* is 'alone' rather than 'without outside help'[4].

(22) a. The plate broke by itself.
b. Molly laughed by herself.

Similar considerations apply to Sakha *beje-ϕ* 'self-AGR' which also has the above two readings associated with English *by itself* (in addition to the presently irrelevant emphatic/intensifier reading). However, instead of using the label 'without outside help' which is difficult to distinguish from the 'alone' reading, we will use the label 'spontaneously/for no objective reasons' which seems better suited for *beje-ϕ*. As illustrated in (23a), both readings are possible with an unaccusative but with an unergative in (23b) the spontaneous reading is highly implausible. The facts in (23) can be explained along the lines in LRH and Reinhart 2000. The underlying verb concept includes a cause role not realized in (23a). Inserting *bejete* with the reading

[3] The same point is made in Reinhart (2000:26), cf. "when the concept includes a cause argument, as with *break*, but not *glow*, we can refer to it, even if we selected a lexical representation which does not realize it".
[4] The examples are from LRH'95, pp. 88-89.

'spontaneously, for no objective reason' has the effect of denying the presence of the external cause in the underlying verb concept.

(23) a. Lena beje-te tönün-ne. / Lena self-3 return-past.3
'Lena returned alone/for no objective reason.'
b. Lena beje-te oonnjoo-to. / Lena self-3 play-past.3
'Lena played alone/#for no objective reason.'

5.2. Verb-based derivation

In this section we would like to consider one topic left over from chapter 2: deriving adjectives from verbs (section 2.5.3). In addition, we will consider lexical V→N derivation. This regression is necessary at least for two reasons. First, chapter 2 discussed derivation mainly from a morphological point of view without elaborating on the particular argument structures involved. Here we will discuss derivation from a different angle, namely, in terms of how verbs, two-place predicates with various feature clusters give rise to nouns linked with no feature cluster and to adjectives linked with one feature cluster. Second, both unaccusatives and adjectives are one-place predicates, the former being derived and the latter underlyingly so. Given a triplet like *incet* 'make wet' – *incej* 'become wet' – *inceqej* 'wet', a question arises as to how the three should be related to each other.

5.2.1. Lexical V→N derivation: M-reduction of argument structure

In section 2.4.3 syntactic nominalization which must preserve the original argument structure of the base verb was opposed to lexical nominalization which deletes all argument structure. The resulting noun has no open positions that must be satisfied. As all underived nouns, it can occur with at most one possessor which, as argued in chapter 3, is syntactically introduced. The possessor can have a range of contextually determined interpretations. However, it cannot correspond to the internal argument of the underlying base verb. This is clearly demonstrated by the examples in (24) and (25). *Djahal* 'management' is a noun lexically derived from the transitive verb *djahaj* 'to manage, govern' by replacing the verbal suffix –j- with the nominalizing suffix –l- (see appendix 3, section 2, #26). When it appears with a possessor as in (24a), the latter cannot be interpreted as the thing managed: (24a) can only refer to a particular management policy conducted by the company. In order to get the meaning in which it is the company which is managed (i.e. the meaning which closely corresponds to the underlying verb, with 'company' as the verb's complement), a syntactic action/process –YY/-hYn nominalization must be resorted to as in (24b).

(24) a. terilte djahal-a // company management-3
'company's management (i.e. company = the manager)'
*'management of the company (i.e. company = the managed object)'

b. terilte-ni djahaj-yy // company-acc manage-nom
'management of the company (i.e. company = the managed object)'
*'company's management (i.e. company = the manager)'

Another particularly telling example is given in (25) which shows that the purely grammatical constraint "possessor ≠ internal argument of the base verb" cannot be overridden by pragmatics. Pragmatically, people are usually the ones who get oppressed but this reading is absent in (25b) which presents people as the unfair oppressor.

(25) a. Yraaxtaaqy noruot-u batt-yyr.
Czar people-acc oppress-aor
'The czar oppresses the people.'
b. noruot battal-a // people oppression-3
'people's oppression (people = the oppressor/*oppressed)'

How can we account for the fact that a 2-place verb has its both arguments reduced when it undergoes a lexical nominalization? A comprehensive theory of deverbal noun derivation has been developed in Grimshaw 1990. Grimshaw distinguishes three classes of deverbal nouns: complex event nominals, simple event nominals and result nominals. Of these, only the first have obligatory argument structure inherited from the base verb. Result and simple event nominals do not have a thematic a-structure of the type that complex event nominals possess. However, all nouns have a non-thematic external argument: Ev for complex event nominals and R for the rest. When result or simple event nominals are derived from verbs, one of the arguments of the base verb provides the external R argument for the derived noun. Grimshaw argues that "which argument it is identified with is a function of the affix that is added, so the affix must specify which kind of argument it binds. Roughly, the affix *–ee* binds a patient argument, *-er* binds an external argument … and *–ion* binds something like a theme in cases like *observation*. The affix *–ness* presumably binds a degree argument in the lcs of the head (the same argument that licenses adverbials like *completely* with a degree interpretation)" (66-7)[5]. This can be represented as in (26) (ibid. p. 67).

(26) a. detain(x (y)) detainee(R=x) such that y detains x
b. teach(x (y)) teacher(R=x) such that x teaches y
c. observe(x (y)) observation(R=x) such that y observes x
d. fond (x (y)) fondness(R=x) such that y is fond to degree x

When a noun is used predicatively, the external argument is satisfied by predication as in *John is a teacher*. In non-predicative contexts it is satisfied by reference as in Williams 1981 and di Sciullo and Williams 1987. Alternatively, the R argument can be satisfied by a determiner as in Higginbotham 1985.

[5] Lcs = lexical conceptual structure.

The idea that nouns have a non-thematic R argument stems from the view that they are intransitive predicates (see the discussion in chapter 3). We argued against this view in chapter 3. As for the Ev argument, we provided ample evidence in chapter 4 that nouns are not associated with an event variable. This concerns not only simplex nouns but also nouns derived from verbs, either lexically or syntactically. Since the event variable is associated with a VP and not with a V, lexical nominalizations are unproblematic: at the point of their derivation there is no mention yet of the event variable. With respect to syntactic nominalizations, the issue is more complex. As shown in chapter 2 (section 2.4.3), syntactic nominalizations inherit the VP and the argument structure associated with this VP. Nevertheless, they are not associated with an event variable seen from the fact that they do require the copula, just like simplex nouns and pattern exactly like the latter in all the relevant contexts considered in chapter 4. These findings are contrary to Grimshaw's (1990) and Schoorlemmer's (1995) assumption that the presence of an event argument in complex event nominals is conditioned by the fact that they preserve the original argument structure of the underlying verbal predicate. For Schoorlemmer eventivity can be expressed by nouns only if they contain a VP (p. 308). For Grimshaw eventivity stems the properties of the suffixes. A suffix like –ing is specified as introducing the external argument Ev whereas the suffix –ee introduces the external argument R with R binding the patient argument of the base verb. In addition, there are suffixes which are ambiguous in having two entries: one specified for Ev and the other specified for R. The original argument structure of the verb is only preserved when the verb combines with a suffix introducing Ev: in this case the argument structure of the suffix is combined with the argument structure of the verb. As one can see, in Grimshaw's analysis Ev is a property of the suffix, not a property of the VP. Therefore this analysis does not present a problem for current concerns. Schoorlemmer's account, on the contrary, assumes that an event argument is inherited along with the VP. Since, according to the analysis in chapter 2, syntactic nominalizations inherit a VP, they must also inherit the event variable. Empirical facts contradict this: syntactic nominalizations do not contain an event variable, according to the tests in chapter 4. The problem can be circumvented in the following way. The account in 2.4.3 assumed that the external argument is saturated and this saturation is marked by the morphemes –YY/-hYn or –CI/-AAccY. At this point this account must be modified by forcing the simultaneous saturation/suppression of the event variable along with the external argument. Suppression of the event variable explains the absence of any tense marking (either in Infl or in Part) not only in lower VP-nominalizations derived with –CI/-AAccY but also in higher IP-nominalizations derived with –YY/-hYn. The presence of a tense marker would betray the presence of a tense operator and, as argued in chapter 4, a tense operator must be licensed by binding an event variable. If there is no event variable for the tense operator to bind, the latter cannot be licensed and the structure would be ruled out. Hence, the impossibility of both participial and tense markers in all kinds of syntactic nominalizations is explained.

As for morphological correspondences between suffixes and particular arguments bound by these suffixes, the situation in Sakha with its suffixal ambiguity is unlike the situation in English where, as shown in detail by Grimshaw 1990, there are significant correlations between the meaning of the derived noun and the affix

used. Although ambiguities are also pervasive in English, they are quite systematic reflecting the distinction between two different types of nominals – complex event and simple event/result. On the contrary, suffixal ambiguities in Sakha are highly irregular signalling not only a difference in the two types of derivation (lexical versus syntactic) but also pervading the entire domain of lexical derivation. For instance, the suffix –k cannot be associated with any particular function because the noun derived with –k can correspond either to the external (*süür* 'run' → *süürük* 'current, flow'), internal (*bier* 'give' → *berik* 'bribe') or instrument (*ytyj* 'whip cream' → *ytyk* 'instrument for whipping cream') arguments associated with the base verb. Also as can be seen from the tables in (27)-(32), one and the same semantic relationship between the base verb and the derived noun can be marked by different suffixes. Therefore, since the semantic classification of lexical V→N derivation does not straightforwardly translate into morphological terms, such classification will have a descriptive value only. Nevertheless, we can exemplify some possibilities as to which of the verbal arguments the derived noun refers to. As the tables shows, the noun can refer to the external argument, the internal argument, the instrument, the event/process denoted by the verb or the result thereof. There are also cases where the semantic relationship between the verb and the noun remains unclear (32): is appetite the result of putting a piece of food in your mouth and is a mentor a person who kicks you or who gets kicked by you?

(27) V→N: N = external argument

V	**Gloss**	**V-nom → N**	**Gloss**
Süür	Run	Süüreen	Current, flow
Toŋsuj	Knock	Toŋsoqoj	Woodpecker
Et	Say	Etiŋ	Thunder
Bocuguraa	Onomatopoeic: produce sounds like 'bocu'	Bocuguras	Ruffed grouse
Xon	Stay overnight	Xonoho	Guest staying overnight
Üün	Grow	Üünüges	Shoot, sprout; puppy

(28) V→N: N = internal argument

V	**Gloss**	**V-nom → N**	**Gloss**
Ytyr	Bite	Ytyrym	A bit
Kepsee	Tell, narrate	Kepseen	Story
Yhaar	Fry, grill	Yhaary	Fried food
Tüm	Sum up, conclude; unite	Tümen	Parliament
Anaa	Appoint	Anal	Destiny
Xat	Twist/weave (a rope)	Xatys	Leather rope

(29) V→N: N = instrument

V	Gloss	V-nom → N	Gloss
Taraa	Comb	Taraax	Comb
Xarbaa	Sweep	Xarbyyr	Broom (participle: sweeping)
Syt	Lie down	Syttyk	Pillow
Bys	Cut	Byhyja	Small knife
Üt	Fry, roast on embers/on a spit	Ütehe	Spit
Ya	Milk	Yaqas	Bucket for milking
Tut	Hold	Tutaax	Handle

(30) V→N: N = process

V	Gloss	V-nom → N	Gloss
Bihiree	Admire	Bihirem	Admiration
Xap	Catch	Xabylyk	Game of catching small sticks
Xabys	Wrestle with	Xapsaqaj	Wrestling competition
Öhöö	Bear a grudge against	Öhögöj	Hostility, feud
Tap	Hit one's aim	Tabyl	Luck
Taptaa	Love	Taptal	Love

(31) V→N: N = result

V	Gloss	V-nom → N	Gloss
Üören	Study	Üörüjex	Habit
Öröj	Look up; keep up the spirits, become energetic	Örögöj	Success, triumph
Oŋor	Make	Oŋohuk	Thing made
Bil	Know	Bilge	Prognosis
Uur	Put, decree	Uuraax	Decree
Toŋ	Freeze	Toŋot	Crust of ice over snow

(32) V→N: N = ???

V	Gloss	V-nom → N	Gloss
Tep	Kick	Tebiŋ	Support; mentor
Sit	Catch up with	Sitim	Connection, net(work)
Uop	Take a mouthful	Obot	Appetite
Köm	Bury	Kömüs	Gold or silver
Uor	Steal	Uorba	Suspicion
Sie	Eat	Sieŋ	Carrion

Given the lack of any significant morphological correlations between the type of the argument denoted by the derived noun and the suffix used, an account which

specifies for each affix the relationship between the base verb and the derived noun does not appear plausible. Rather, it is more advantageous to assume the operation of m(orphological)-reduction of a θ-role similar to Schoorlemmer's (1995) m(orphological)-saturation of a θ-role: cf. "apart from saturation of a θ-role in syntax, there is also a mechanism of saturation in morphology. … a θ-role can be saturated either by being assigned to a syntactic argument position or by the addition of some particular piece of morphology" (Schoorlemmer 1995:2). In all of the cases considered above there is always some piece of (largely idiosyncratic) morphology attached to the base verb: it is this morphology which will be taken to reduce the argument structure of the base verb. M-reduction of argument structure will take place independently of whether the underlying verb is two-place as in *bil* 'know' → *bilge* 'prognosis' or one-place (i.e. derived unaccusative) as in *toŋ* 'freeze' → *toŋot* 'crust of ice over snow'. We will assume that argument structure (all of the feature clusters associated with one verb concept) is reduced as one complex. A more important question is what happens to the accusative case when the input of derivation is a transitive verb which assigns accusative. This question is undertaken in the next subsection.

5.2.1.1. Lexical nominalization and accusative reduction

Consider the following two verbs, both causative alternates of unaccusatives: *killer* 'enter, bring inside' and *buhar* 'cook'. According to the TS-lexicon marking rules repeated from (75) in 1.4.3, both qualify to be marked with the ACC feature. As illustrated in (33), both can be input to lexical nominalization which derives nouns with no arguments and no accusative case as well as to [+c]-reduction which reduces accusative case and derives the unaccusative entry. The question is: does lexical nominalization impose accusative case reduction in the same way as unaccusative reduction does?

(33) Unaccusative causative bases for lexical nominalization

Transitive V ([+c], [-c-m])	**Unaccusative V ([-c-m])**	**V_{TRANS}-nom → N**
Killer 'enter, bring inside'	Kiir 'enter'	Killehik 'insertion; patch'
Buhar 'cook'	Bus 'cook'	Buharca 'a type of fish dish'

(34) Lexicon marking: Given an n-place verb-entry, n>1,
- a. Mark a [-] cluster with index 2.
- b. Mark a [+] cluster with index 1.
- c. If the entry includes both a [+] cluster and a fully specified cluster [/α, /-c], mark the verb with the ACC feature.

Whereas argument structure reduction in nominalizations has been argued in the previous section to be the result of m-reduction, the disappearance of accusative case in deverbal nouns has not yet been investigated. We would like to argue here that lexical nominalization does not reduce accusative case: it only m-reduces the

whole feature cluster complex associated with a particular verb. Given a causative verb specified as ([+c], [-c-m]) or an agentive verb specified as ([+c+m], [-c-m]), lexical nominalization will take place before lexicon marking applies, reducing ([+c], [-c-m]) or ([+c+m], [-c-m]). Thus, at the point of turning a verb into a noun, there is no mention yet of accusative feature and, consequently, no need for accusative reduction.

This account explains the possibility of lexical nominalization with unaccusatives and its impossibility with regular causatives. Consider first unaccusative-based derivation some examples of which are given in (35).

(35) Unaccusative intransitive bases for lexical nominalization

Unaccusative V	**Gloss**	**V_{UNACC}–nom → N**	**Gloss**
Tüs	Fall	Tühük	Grammatical case
Tüs	Fall	Tühümex	Chapter; round (in sports)
Tüs	Fall	Tühülge	Arena
Üün	Grow	Üünüges	Shoot, sprout; puppy
Üün	Grow	Üüneeji	Plant
Mun	Lose one's way, get lost	Munnuk	Corner
Toŋ	Freeze	Toŋot	Crust of ice over snow
Sahar	Become yellow	Saharqa	Dawn

Under the present account, unaccusatives are derived from transitive verbs already marked with the accusative feature. Cause reduction, however, takes care of ACC by eliminating it. With no accusative feature left, lexical nominalization can apply reducing the remaining [-c-m] feature cluster of an unaccusative verb.

The behaviour of unaccusatives with respect to lexical nominalization can be contrasted with the behaviour of regular causatives which only allow syntactic nominalizations in –YY/-hYn and –CI/-AAccY: no instances of lexical nominalization taking a regular causative as input have been found. (36a) shows a regular causative derived from *aax* 'read'. *Aaxtar* can be nominalized in the syntax as shown in (36b) with argument structure preserved but it cannot be turned into a noun with argument structure reduced.

(36) a. Lena Sardaana-ny surug-u aax-tar-da.
Lena Sardaana-acc letter-acc read-caus-past.3
'Lena made Sardaana read the letter.'

b. kinige-ni aax-tar-yy / kinige-ni aax-tar-aaccy
book-acc read-caus-nom / book-acc read-caus-nom
'making to read the book / maker to read the book'

In section 2.4.3 we mentioned cases when –YY/-hYn and –CI/-AAccI nominalizations acquire 'lexicalized' (non-transparent) meanings alongside the fully transparent reading of action/process nominalization: cf. *bys* 'to cut' → *byhyy* 'SYNT: cutting; LEX: piece; shape, character', *daqaa* 'to touch lightly' → *daqaahyn* 'SYNT: touching lightly; LEX: adjective', *kerbee* 'gnaw/bite through' →

kerbeecci 'SYNT: biter; LEX: rodent'. The non-transparent cases are characterized not only by meaning change and fixed meaning determination (functions typically associated with lexicon and not syntax) but also by the lack of any argument structure. They therefore represent cases of one and the same suffix used across domains. Crucial for present concerns is the fact that the suffixes –YY/-hYn and –CI/-AAccY do not have this second unproductive, non-transparent use in cases like (36b).

Having shown the impossibility of lexical nominalization with regular causatives, this fact can now be explained as follows. A verb like *aax* 'read', in order to be subjected to the lexicon-internal operation of causativization (see 5.3 below), will first undergo lexicon marking procedures which will assign to it the accusative feature. A second accusative feature (witnessed on Sardaana in (36a)) will be added by the operation of causativization resulting in a verb taking two accusative arguments. Lexical nominalization cannot apply to such a verb because it does not have the ability to reduce even one accusative feature, let alone two. Thus, the behaviour of regular causatives with respect to lexical nominalization is the opposite of what happens in the case of irregular causatives, i.e. causative alternates of unaccusative verbs which can serve as bases for deriving nouns inside the lexicon (see (33) above). As argued above, the reason for that is their basic, underived status which allows lexical nominalization to apply prior accusative marking takes place.

5.2.2. V→A derivation

In this section a number of unanswered questions left over from section 2.5.3 will be considered. To recall, four possible types of V→A derivation were identified in 2.5.3 summarized below. We will not consider the fourth type which has been sufficiently covered in 2.5.3: it is a straightforward syntactic adjectivization which preserves the original argument structure of the base verb, be it transitive or intransitive.

(37) Types of V→A derivation

V	**Gloss**	**V-suffix → A**	**Gloss**
1. V_{TRANS}→A lexical derivation: argument reduction; meaning change			
Bys	Cut	Byha	Short, quick, direct
Ketee	Watch, keep an eye on	Ketex	Private
2. $V_{INTRANS}$→A lexical derivation: no argument reduction; meaning change			
Bar	Go, leave	Barbax	Unimportant, insignificant
Mun	Get lost	Munaax	Doubtful
3. $V_{INTRANS}$→A syntactic derivation: no argument reduction; no meaning change; category change			
Sahar	Become yellow	Saharxaj	Yellow
Kytar	Become red	Kytarxaj	Reddish
4. 'V-able' adjectives			
Kör	See	Körümtüö	Able to see, observe
Bul	Find	Bulumtuo	Able to find

The main question is why causer reduction which results in a one-place concept yields an unaccusative verb and not an adjective. Other questions include the derivation of adjectives in the lexicon and in the syntax and differences between these two types of derivation as well as semantic correspondences between adjectival arguments and the original arguments of base verbs.

5.2.2.1. Deriving adjectives from intransitive verbs in the syntax

As argued in detail in chapter 2, syntactic derivation can only change category and cannot alter input argument structure or induce meaning change. If we take a look at those pairs of intransitive verbs and adjectives which qualify the criteria, it turns out that all verbs which give rise to adjectives in the syntax are unaccusative. This is indeed what is expected: with an unaccusative verb which has only one [-c-m] argument left after causer reduction and is not associated with the accusative feature, adjectivization only needs to manipulate syntactic category. This can be achieved with the help of adjectivizing morphology. Appendix 4 (section III) lists a variety of morphological correspondences existing between transitive verbs, their unaccusative alternates and adjectives derived from the latter. Some of these patterns are fully regular, others less so. What is important is that there are no instances of an adjective derived by attaching a suffix to the transitive alternate. In the majority of cases, the adjective contains an unaccusative verb to which an adjectivizer is attached. In other cases the three types of suffixes (marking transitives, unaccusatives and adjectives) are attached to bound roots. There are also a number of homophonous cases when a lexical item is ambiguous between being an unaccusative verb or an adjective: crucially, there are no cases when a lexical item is ambiguous between being a transitive verb or an adjective.

Apart from unaccusatives, subject experiencer predicates can also be turned into adjectives in the syntax. Again, this is as expected. A subject experiencer is derived in the lexicon from an underlying two-place concept specified as ([+c], [-c+m]): e.g. *kuttaa* ‘frighten’, *sohut* ‘surprise’, *öhürget* ‘offend’. Reducing [+c] leaves us with a one-place verb with an experiencer [-c+m] argument: *kuttan* ‘become frightened’, *sohuj* ‘become surprised’, *öhürgen* ‘become offended’. In the syntactic component, these intransitive verbs can become adjectives resulting in *kuttas* ‘fearful, coward’, *sohuk* ‘unexpected’, *öhürges* ‘touchy’.

To end this section, the following answer emerges to the above question why causer reduction yields an unaccusative/subject experiencer verb and not an adjective: an adjective is not derived from the transitive verb. We are dealing with two different computational modules: first, a transitive verb serves as input for intransitive verb formation inside the lexicon and, second, the resulting intransitive verb serves as input for adjective formation inside the syntax. However, as the next two sections will show, the question has one more answer.

5.2.2.2. Deriving adjectives from intransitive verbs in the lexicon

As mentioned in chapter 2 (section 2.5.3), unaccusative verbs can also give rise to adjectives in the lexicon. Some examples are listed in (38)[6]. This derivational process is characterized by non-transparent meaning change and by the lack of any morphological correlations: as opposed to syntactic derivation, no regular suffixal patterns of adjectivization can be extracted.

(38) Unaccusative inputs for lexical V→A derivation

V	**Gloss**	**V-suffix → A**	**Gloss**
Bar	Go, leave	Barbax	Unimportant, insignificant
Büt	End, finish	Bütün	Whole
Büt	End	Bütehik	Final, last
Köt	Fly	Kötümex	Negligent, slipshod
Mun	Get lost	Munaax	Doubtful
Örköj	Become enthusiastic	Örkön	Victorious, invincible

One and the same unaccusative verb can be subjected either to lexical or syntactic adjectivization. To consider one example, transitive *toŋor* 'freeze ([+c], [-c-m])' gives rise to *toŋ* 'freeze ([-c-m])' which in turn can be adjectivized into *toŋ* 'frozen' or *toŋuj* 'sensitive to cold; reserved, cold, distant'. The former is syntactic, the latter is lexical. What sets the lexical and syntactic adjectives apart from each other is a difference in argument correspondences between the argument of the unaccusative verb and the argument of the adjective. Whereas in the syntactically related pair *toŋ* 'freeze' – *toŋ* 'frozen' both the argument of the verb and the argument of the adjective bear the same semantic relationship to their predicate (whatever can freeze is the same as whatever can be frozen), in the lexically related pair this is not the case: the things that can freeze only partially overlap with the things that are physically sensitive to cold or emotionally reserved.

Lexical adjectivization of unaccusatives raises a question as to the ordering of the operation. Lexical nominalization was argued above to apply 1) prior to lexicon marking to two-place concepts and 2) to marked entries whose accusative feature was reduced independently, i.e. to unaccusatives. Lexical adjectivization, just like lexical nominalization, is incapable of assigning accusative case: no adjective (apart from the fourth type, 'V-able' adjectives derived syntactically with argument structure preservation) can license accusative arguments. We would like to argue that lexical adjectivization, just like lexical nominalization, cannot effect the elimination of accusative and therefore has the same range of application as the latter, i.e. it can apply to pre-marked two-place entries (see the next subsection) as well as to unaccusatives. This means that *toŋuj* 'sensitive to cold; reserved, cold, distant' can be derived either from transitive *toŋor* 'freeze' not yet marked with the

[6] Intransitive verbs which give rise to adjectives in the lexicon are not necessarily unaccusative. Unergative verbs like *xaam* 'walk', *süür* 'run', *syyl* 'crawl' are possible inputs for lexical adjectivization as well. We will consider unergatives for which a denominal derivation is defended in chapter 7.

accusative feature or from unaccusative *toŋ* ‘freeze’. Both options are possible but two pieces of evidence point in favour of the ‘unaccusative → adjective’ derivation against ‘transitive → adjective’. First, it is always the case that an adjective is morphologically decomposable into an unaccusative verb plus some affix but never into a transitive verb plus some affix. Second, some unaccusative verbs lack transitive counterparts but nevertheless have adjectival derivatives, e.g. *bar* ‘go, leave’ → *barbax* ‘unimportant, insignificant’.

5.2.2.3. Deriving adjectives from transitive verbs in the lexicon

Lexical adjectivization does not reduce accusative case. It has two points of application: prior to lexicon marking procedures which assign accusative case feature to appropriate concepts or after lexical operations which eliminate accusative, in particular, unaccusative reduction considered in the previous section. Here we will consider the first case when a basic transitive verb serves as input to lexical adjectivization.

In this type of derivation the base verb is associated with two arguments and can be specified as [+c+m], [-c-m] (*bul* ‘find’, *tal* ‘choose’, *ketee* ‘watch, keep an eye on’); [+c], [-c-m] (*imit* ‘press, wrinkle’, *tes* ‘pierce through’, *aqaa* ‘smear, glue’); [+m], [-c-m] (*bil* ‘know’, *ihit* ‘hear’, *umun* ‘forget’). A natural question is whether the adjectival argument corresponds to any of these or not. The answer seems to be both yes and no. Consider first the cases where there seems to be a correspondence. Interestingly, it can go both ways as with *tal* ‘choose’, an agentive verb taking [+c+m] and [-c-m] arguments. *Tal* can serve as a base for deriving the adjectives *talymas* ‘choosy’ and *talba* ‘chosen, choice’. The semantic relationship *talymas* ‘choosy’ has with its sole argument is the same as that between the verb *tal* and its external argument. With *talba* ‘chosen, choice’, its argument corresponds to the internal argument of the corresponding verb. Some more examples are given below. Note that the correspondences are not always completely direct: someone who knows (*bil* ‘know’) is not always curious and inquisitive (*biliges* ‘curious, inquisitive’) and vice versa. What is important, however, is the fact that both the external argument of *bil* ‘know’ and the unique argument of *biliges* ‘curious, inquisitive’ are specified as [+m] (they can never be inanimate and neither of them is specified as [+c]). In terms of causality then, the correspondence is complete.

(39) Adjectives whose arguments correspond to external arguments of corresponding verbs:
Umun ‘forget’ – *umnugan* ‘forgetful’, *ahyn* ‘feel sorry for’ – *ahynygas* ‘compassionate’, *ihit* ‘listen to, obedient’ – *istigen* ‘obedient’, *saaraa* ‘doubt, not dare’ – *saaraŋy* ‘indecisive, uncertain’, *kömüskee* ‘defend’ – *kömüskes* ‘defensive’, *bil* ‘know’ – *biliges* ‘curious, inquisitive’, *bul* ‘find’ – *bulugas* ‘resourceful’, *tut* ‘hold’ – *tuppax* ‘having the habit of grabbing things’, etc.

(40) Adjectives whose arguments correspond to internal arguments of corresponding verbs:
Tes 'pierce through' – *teheqes* 'pierced through', *as* 'open' – *ahaqas* 'open', *iit* 'bring up, sustain' – *iitiex* 'adopted, domesticated', *imit* 'press, rumple, wrinkle' – *imiges* 'flexible, supple', *kyrbaa* 'cut into pieces' – *kyrbas* 'piecemeal, cut into pieces', etc.

In cases like the ones exemplified by (39) and (40) it is plausible to argue that the function of adjectivizing morphology is to suppress one of the arguments of the base verb making the remaining argument available to the adjective.

On the other hand, in cases like *tap* 'hit one's aim' – *taba* 'correct', *sim* 'stuff in' – *simik* 'shy', *dalaj* 'swing hands, hit' – *dalan* 'reckless, careless', etc. the relationship between the adjectival argument and the arguments of the base verb is much less clear. Nevertheless, any theory which addresses interface issues pertaining to the conceptual system, syntax and morphology needs to investigate this question. For now we will leave these cases out of consideration, pending further research.

5.2.3. A quick summary of N/A-derivation

A distinction is made between lexical and syntactic processes of nominalization and adjectivization. Syntactic processes preserve the original argument structure of the underlying verb, lexical processes do not. Neither lexical nominalization nor lexical adjectivization have the ability to eliminate accusative case feature. In the mapping from the lexicon to syntax, there are several points at which the two operations can apply as outlined below. When a pre-marked concept is nominalized, its both feature clusters are reduced. When it is adjectivized, one of the argument is not reduced and merges as the adjectival argument. Another lexicon-internal point for derivation is after accusative case reduction, on the output of causer reduction. Here, too, the function of nominalizing morphology is to signal argument reduction.

(41)

A pre-marked concept → N; A
↓
Lexicon marking
↓
[+c]-reduction
↓
Unaccusative verb → N; A (lexical)
↓
Syntax → N; A

5.3. Causativization

In this section we will provide an account of causativization in Sakha along the lines of the Theta System: 5.3.1 presents a descriptive overview of causatives, 5.3.2

outlines the TS-account of causativization, 5.3.3 argues for the lexical status of causatives in Sakha and 5.3.4 offers some evidence for the existence of syntactic causatives along with lexical ones. This section is devoted entirely to regular causatives derived by the addition of a causer role as opposed to causative alternates of unaccusative verbs considered above which have a basic underived status.

5.3.1. Introducing Sakha causatives

Causative voice is marked with one of the two suffixes /-t/ or /-TAr/. The choice between them is regulated phonologically: if a verb ends in a vowel, -t- is chosen, if it ends in a consonant, the suffix is -tar-.

(42)

Ahaa 'eat'	*ahat* 'make eat'
Saqalaa 'begin'	*saqalat* 'make begin'
As 'open'	*astar* 'make open'
Kyryj 'cut'	*kyryjtar* 'make cut'

Causativization adds an obligatorily animate causer argument, i.e. an agent, marked nominative. When an intransitive predicate is causativized, its sole nominative argument is accusativized. Other arguments if present (e.g. source, goal, location) retain whatever cases they had.

(43) a. Sargy ytaa-ta.
Sargy cry-past.3
b. En Sargy-ny yta-t-ty-ŋ.
You Sargy-acc cry-caus-past-2sg
'You made Sargy cry.'

When a transitive predicate is causativized, the causee has three options of case realization between dative, accusative and instrumental.

(44) a. Sargy taŋas tal-la.
Sargy clothes choose-past.3
b. Erel Sargy-ga/Sargy-ny/Sargy-nan taŋas tal-lar-da.
Erel Sargy-dat/-acc/-instrum clothes choose-caus-past.3
DAT/ACC/INSTRUM: 'Erel made Sargy choose clothes.'
DAT/*ACC/*INSTRUM: 'Erel let Sargy choose clothes.'

The difference in case-marking entails differences in interpretation and ordering. With a dative/instrumental causee, the mutual ordering of arguments is free (only governed by discourse considerations such as topic/focus) but if both the causee and patient are accusative, the ordering is strictly causee-patient: the first accusative noun phrase is interpreted invariably as causee. With respect to interpretation, both instrumental and accusative imply greater coercion on the causee, with pressure on the accusative being the greatest. Hence, whereas all three causativization patterns

allow a proper causative reading, a permissive causative is only possible with the dative causee[7].

5.3.2. Causativization in the Theta System

Within TS, causativization is one of the available arity operations which can take place either in the lexicon or syntax. Lexical causativization equals agentivization: it adds a [+c+m] agent argument to the verb's θ-grid which explains the ungrammaticality of (46a) with *whip* as the external argument. There are two steps involved in the operation illustrated in (45) repeated from 1.4.3.

(45) **Causativization**:

a.	Decausativize:	Change a /+c feature to a /-c feature.	
	walk([+c+m])	→	walk([-c+m])
b.	Agentivize:	Add an agent role.	
	walk([-c+m])	→	walk([+c+m], [-c+m])

Syntactic causativization adds simply a causer role which may vary in its interpretation from animate/inanimate cause to obligatorily animate agent. The examples in (46) illustrate the contrast between lexical (46a) and syntactic (46b) causatives.

(46) a. The rider/*The whip jumped the horse over the fence.
b. The rider/The whip made the horse jump over the fence.

Syntactic causativization does not follow the same two-step procedure as lexical causativization because in the Theta system the syntax does not read the content of the θ-features. This lack of sensitivity to θ-features explains why the application range of syntactic causativization is much broader than that of lexical causativization. For instance, a subject experiencer verb like 'love' can be causativized with the help of *make* as in (47a) but it cannot form a lexical causative (47b): its external Experiencer argument is specified as [-c+m] lacking the [+c] component necessary for the first step of decausativization in (45a).

(47) a. The aroma of cocoa made me love chocolate.
b. *The chef loved me chocolate.

Another important thing to be noted is the fact that causativization is not subject to the Lex-Syn parameter: one and the same language can display both lexical and syntactic causativization as is the case with English, cf. (46).

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[7] A distinction between two interpretations of causative verbs, viz. causation proper and permission, is drawn in Comrie (1985:332ff.). Under the causative proper reading, the causer has control over the situation and intentionally makes the causee do something whereas in the permissive case the causer lets something happen, whether out of his own will or against it.

5.3.3. Causativization as lexicon-internal operation in Sakha

Various pieces of evidence point to the lexical status of causatives in Sakha. First of all, predicates whose external arguments are not specified as [+c] and which therefore do not qualify according to (45a) cannot be causativized. This explains the ungrammaticality of (48b) with subject experiencer predicates causativized.

(48) a. Lena Aisen-y söbül-üür/abaahy kör-ör.
Lena Aisen-acc like-aor/devil see-aor
'Lena likes/dislikes Aisen.'
b. *Sargy Lena-qa Aisen-y söbüle-t-er/abaahy kör-dör-ör.
Sargy Lena-dat Aisen-acc like-caus-aor/devil see-caus-aor
'Sargy makes Lena like/dislike Aisen.'

That the content of θ-features does play a role in causativization can be seen from the following piece of data. A verb such as *öhös* has two senses: transitive agentive 'oppose' (+c+m) and intransitive stative 'be obstinate' (-c+m). Under causativization only the former meaning is preserved.

(49) a. Micil ösöh-ör.
Micil be.obstinate-aor
'Micil is being obstinate.'
b. Micil iti-ni ösöh-ör.
Micil this-acc oppose-aor
'Micil opposes this.'
c. Sargy Micil-i ösöhün-ner-de.
Sargy Micil-acc oppose-caus-past.3
'Sargy made Micil oppose (her/something).'

Presence of sensitivity to conceptual features argues for the lexical status of causatives in Sakha. Syntactic causatives, on the contrary, should not be sensitive to conceptual features which are not visible to the computational system.

Apart from θ-feature sensitivity, a large body of tests distinguishing between lexical and syntactic causatives have been devised by various researchers, cf. (inter alios) Fodor 1970, Miyagawa 1984, Tsujimura 1996, Alsina 1997, Polinsky and Comrie 1998. A number of these tests were applied to Sakha in Vinokurova 1999a reaching the overall conclusion that causatives in Sakha are lexical. Below we will consider a number of these diagnostics, to corroborate the main point.

The first test involves pronominal orientation and is based on Principle B of the Binding Theory. The pronoun cannot be coindexed with the subject noun phrase in (50a), nor can it be coindexed with the causer or the causee in (50b) suggesting that we are not dealing with a biclausal structure but rather with one predicate and a uniclausal structure.

(50) a. Ookko kini-ni semelee-te.
Ookko he-acc reproach-past.3
'Ookko$_i$ reproached him$_{*i/j}$.'
b. Bajbal Ookko-qo kini-ni semele-t-te.
Bajbal Ookko-dat he-acc reproach-caus-past.3
'Bajbal$_k$ made Ookko$_i$ reproach him$_{*i/*k/j}$.'

The second diagnostic concerns VP-ellipsis. In the context of VP-deletion syntactic causatives are expected to be ambiguous: either the whole causative predicate can be recovered or just the embedded one. A lexical causative is unambiguous: only the entire causative complex can be recovered as in (51a).

(51) Ajaal Sargy-ga oton sie-t-te. Keskil emie onnuk gyn-na.
Ajaal Sargy-dat berry eat-caus-past.3. Keskil too so do-past.3
'Ajaal made Sargy eat berries.'
a. 'Keskil also made Sargy eat berries.'
*b. 'Keskil also ate berries.'

Finally, the availability of idiomatization and lexicalization with causatives can be best accommodated if the latter are assigned to the lexicon. Examples of causative idioms will be given in 5.4.1. As for lexicalization, Sakha features a significant number of causative verbs which cannot be readily construed with a transparent meaning of causation. Some of these verbs possess both an opaque lexicalized and a fully transparent causative meanings.

(52) Lexicalized causatives

V	Gloss	V-caus	Regular causative	Idiosyncratic causative
Sanaa	Think	Sanat	-	Remind, resemble
Süüj	Win	Süüjter	-	Lose
Kepsee	Tell	Kepset	Make tell	Talk to
Ekkiree	Jump up	Ekkiret	Make jump up	Chase
Eren	Hope	Erenner	-	Promise

Before leaving this section, we need to address the issue of negation and adverbial scope considered in 5.1.2.3/4. The contrast in (17)-(18) and (19)-(20) was used to demonstrate the underived status of causative alternates of unaccusatives versus the derived status of regular causatives. To account for (18) and (20), it was suggested that regular causatives behave as if they consisted of two separate components which can be modified by negation/adverbs independently of each other. Usually, the availability of the underlying predicate for modification independently of the causative component is taken to indicate that a causative verb is derived syntactically. However, a different explanation is possible for narrow/wide scope of adverbs and negation. We would like to offer a reasoning similar to the one offered by LRH'95 and Reinhart 2000 for the compatibility of 'by itself' adverbials with unaccusative verbs (see section 5.1.2.5). To recall, if the underlying verb concept includes a cause role, one can still refer to it even if the unaccusative derivation is

selected which does not realize the cause role. In a similar vein, if the reduced cause role of the underlying concept can be referred to, so can the underlying concept itself. The claim is this is what is happening with varying scopal possibilities of adverbs/negation: they can modify the derived causative verb which is straightforward but they can also modify the underlying concept from which the causative verb has been derived.

5.3.4. High syntactic causatives

Since causativization is not subject to the Lex-Syn parameter, it can apply within both lexical and syntactic modules in one and the same language. In Sakha this possibility is reflected morphologically, in the form of two suffixes occurring with the same predicate. We would like to argue that (53b) presents a lexical causative whereas (53c) is a lexical causative which has been syntactically causativized.

(53) a. Keskil bu kinige-ni tal-la.
Keskil this book-acc choose-past.3
b. Aisen Keskil-ge bu kinigeni tal-lar-da.
Aisen Keskil-dat this book-acc choose-caus-past.3
'Aisen made Keskil choose this book.'
c. Lena Aisen-ynan Keskil-ge bu kinigeni tal-lar-tar-da.
Lena A.-instrum K.-dat this book-acc choose-caus-caus-past.3
'Lena made Aisen make Keskil choose this book.'

The following arguments support the syntactic status of double causatives like (54c). Tests involving pronominal orientation, VP-ellipsis, idiomatization, lexicalization, passivization and syntactic nominalization with syntactic causatives yield different results than with lexical causatives. (54a) shows that the pronoun cannot be coindexed with the nominative subject, nor with the dative causee because here we are dealing with co-arguments of the same predicate, namely, the lexical causative *möxtör* 'make scold'. In (54b) syntactic causativization results in a bi-clausal structure making it possible for the pronoun to refer to the uppermost nominative subject.

(54) a. Lena Aana-qa kini-ni möx-tör-dö.
Lena Aana-dat she-acc scold-caus-past.3
'Lena$_j$ made Aana$_k$ scold her$_{*j/*k}$.'
b. Erel Lena-nan Aana-qa kini-ni möx-tör-tör-dö.
Erel Lena-instrum Aana-dat she-acc scold-caus-caus-past.3
'Erel$_i$ made Lena$_j$ make Aana$_k$ scold her$_{i/*j/*k}$.'

(55) demonstrates the VP-ellipsis diagnostic. Since the double causative is syntactic, the elliptical VP can recover either the whole causative as in (55a) or just the underlying agentive causative *tallar* 'make choose'.

(55) Lena Aisen-ynan Keskil-ge bu kinigeni tal-lar-tar-da.
Ookko emie onnuk gynna.
L. A.-instrum K.-dat this book-acc choose-caus-caus-past.3 O. too so did
'Lena made Aisen make Keskil choose this book.'
a. 'Ookko also made Aisen make Keskil choose this book.'
b. 'Ookko also made Keskil choose this book.'

Third and fourth, idioms whose idiomatic meaning requires the presence of two causative morphemes are lacking and syntactic causatives are always semantically transparent. Thus, as far as idiomatization and lexicalization are concerned, motivation for placing double causatives in the lexicon is absent.

With respect to passivization and syntactic nominalization syntactic causatives behave differently from lexical causatives: syntactic causatives cannot be passivized (57b) and syntactically nominalized (57c) whereas lexical causatives can undergo both these processes (56b-c). Syntactic nominalization has been argued to target different levels of structure. Thus, the ungrammaticality of (57c) suggests that syntactic causatives are higher than lexical ones and hence inaccessible to the syntactic operation of nominalization. As for passivization, (56b) and (57b) exemplify what will be studied in more detail in the next chapter under the heading of lexical passives. (57b) indicates that a syntactic causative cannot be passivized in the syntax whereas a lexical causative, being itself derived in the lexicon, can (56b).

(56) a. Sardaana Erel-ge kinige-ni aax-tar-da.
Sardaana Erel-dat book-acc read-caus-past.3
'Sardaana made Erel read the book.'
b. Kinige Erel-ge aax-tar-ylyn-na.
Book Erel-dat read-caus-pass-past.3
'The book was made to be read by Erel.'
c. Erel-ge kinige-ni aax-tar-yy
Erel-dat book-acc read-caus-nom
'making Erel read the book'

(57) a. Aisen Sardaana-nan Erel-ge kinige-ni aax-tar-tar-da.
Aisen Sardaana-instrum Erel-dat book-acc read-caus-caus-past.3
'Aisen made Sardaana make Erel read the book.'
b. *Kinige Sardaana-nan Erel-ge aax-tar-tar-ylyn-na.
Book Sardaana-instrum Erel-dat read-caus-caus-pass-past.3
'The book was made to be read by Erel by Sardaana.'
c. *Sardaana-nan Erel-ge kinige-ni aax-tar-tar-yy
Sardaana-instrum Erel-dat book-acc read-caus-caus-nom
'making Sardaana make Erel read the book'

Finally, anticipating the discussion in the next chapter, we would like to mention that benefactive reflexives (58a) can be causativized (58b). This topic will be investigated in detail in chapter 6. For now suffice it to mention that benefactives will be argued to be formed in the syntax by bundling the agent role with the

possessor of the benefactive argument. Since the kind of bundling involved in (58a) is syntactic, (58b) cannot be the result of lexical causativization. In the present framework, (58b) can be easily accommodated as an instance of syntactic causativization.

(58) a. Lena taŋah-yn ötüükte-n-ne.
Lena clothes-acc iron-refl-past.3
'Lena ironed her clothes (for her own benefit).'
b. Sargy Lena-qa taŋah-yn ötüükte-n-ner-de.
Sargy Lena-dat clothes-acc iron-refl-caus-past.3
'Sargy made Lena iron her clothes (for Lena's benefit).'

5.4. Causativization in Distributed Morphology

In this section we would like to consider the treatment of causatives in the DM-framework. The DM-approach to argument structure was discussed in detail in section 1.4.1. As shown there, a strictly anti-lexicalist approach like that of Marantz 2001 maintains full separation of all arguments, both external and internal, from the root. Whenever a root implies either an external or internal arguments (such implications being detected by root nominalizations), this means that a root is further decomposable into constituent parts one of which is a manner root (in the case of external arguments) or an aspectual head (in the case of internal arguments, cf. McGinnis 2001a). The problem which arises is to know when exactly a root contains manner or aspectual components. The problem with internal arguments will be considered in the next chapter where we will show that internal arguments must be dissociated from aspect. In this section we would like to consider DM's approach to causatives and unaccusatives in light of the proposals that an external argument is severed from the root (Marantz 1984, Kratzer 1996). On the contrary, within Theta System it is maintained that external arguments are true arguments specified in the θ-grids of verbal concepts. We will abstain from reviewing Marantz' (1984) and Kratzer's (1996) arguments for their proposals: in this, we fully endorse the position taken by Horvath and Siloni 2003 and their arguments against severing the external argument from the verb.

The two particular DM-accounts of causativization discussed below are McGinnis 2000 (section 5.4.1) and Pylkkänen 1999 (section 5.4.2).

5.4.1. McGinnis 2000

McGinnis argues for the existence of two types of causative heads – root causatives and external causatives. Root causatives attach to roots and determine the syntactic category of a predicate whereas external causatives are added to a predicate that already has a category. Only root causatives can be spelled out using morphology idiosyncratically specified by the root. External causatives are spelled out by default causative morphology which is *make* in English[8].

[8] The main topic of the paper is to provide a structural account for the Target/Subject Matter (T/SM) restriction: an observation due to Pesetsky 1995 that an object experiencer predicate (b) cannot have both

Note that the analysis that McGinnis puts forth for *make* is compatible with TS where *make*-causatives are also syntactic. What is incompatible with TS is the DM-notion of root-external causation. In DM, unaccusatives and their causative alternates are derived by embedding an argumentless and category-less root under either unaccusative v or causative v. Transposing the analysis to the Sakha data in (59) seems to receive morphological support: both *orguj* 'boil, intr.' and *orgut* 'boil, trans.' contain a bound root (√orgu-) to which either unaccusative –j or causative –t is attached. As for 'spill', in (59a) the root √tox- is embedded under unaccusative v spelled out by the suffix –n and in (59b) under causative v realized by zero morphology. Both unaccusative v and causative v are category-determining heads.

(59) a. Uu orguj-da/toq-un-na.
Water boil-past.3/spill-n-past.3
'Water boiled/spilled.'
b. Lena uu-nu orgut-ta/tox-to.
Lena water-acc boil-past.3/spill-past.3
'Lena boiled/spilled water.'

(59b) can be causativized as in (60a) which is glossed in accordance with the technical details of the previous paragraph. By assumption, the second causative morpheme spells out a syntactic causative head which has attached to a predicate whose category has already been determined by the first, root causative. Subjecting (60a) to another round of causativization yields (60b) which must be analyzed as two category-external causatives above a root causative.

(60) a. Sargy Lena-qa uu-nu orgu-t-tar-da/tox-∅-tor-do.
Lena water-acc √boil-v_{caus}-v_{caus}-past.3/√spill-v_{caus}-v_{caus}-past.3
'Sargy made Lena boil/spill water.'
b. Semen Sargy-nan Lena-qa uu-nu orgu-t-tar-tar-da/
tox-∅-tor-tor-do.
Semen Sargy-instr Lena-dat water-acc √boil-v_{caus}-v_{caus}-v_{caus}-past.3/
√spill-v_{caus}-v_{caus}-v_{caus}-past.3
'Semen made Sargy make Lena boil/spill water.'

One piece of evidence for the distinction between root-external causation and category-external causation comes from idiom formation: although idioms based on a root-external causative are possible, idioms in which both the root causative head and the external causative head are required to derive idiomatic interpretation are ruled out. Thus, *make X eat cake* cannot have an idiomatic reading which disappears

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a causer and a T/SM argument realized simutaneously, witness ungrammaticality of (c). The distinction between root causatives and external causatives is one of the components of the analysis. For an alternative thematic account of the T/SM restriction advanced in Reinhart 2001b see 6.10.4, footnote 15.

a. John worried about the news.
b. The news worried John.
c. *The program worried John about the news.
d. The program made John worry about the news.

with the removal of *make*: if *make X eat cake* has an idiomatic reading, *X eat cake* must also have it.

An investigation of idioms in Sakha refutes this DM-prediction with respect to idioms. Listed in (61) and (62) are idioms whose formation requires the presence of a causative morpheme: if the causative morpheme is removed, the idiomatic meaning is lost. The idioms in (61) are not problematic for DM because they involve root-external causatives. The idioms in (62), however, are problematic: they involve category-external regular causative morphemes, hence it is predicted that the predicate embedded under the external causative head will necessarily possess the same idiomatic reading as its causative but this is not the case. On the contrary, within Theta system both types of causatives are allowed to participate in idiom formation because, on the one hand, causative verbs listed in (61) are basic non-derived entries listed in the lexicon and, on the other, causative verbs listed in (62) are derived lexicon-internally by expansion and hence are also listed in the lexicon. Being listed in the lexicon is a necessary condition for the ability to form idioms.

(61) Idioms based on root causatives (i.e. causative alternates of unaccusative verbs): the corresponding unaccusative lacks the idiomatic meaning

IDIOM	**Gloss**	**Idiomatic meaning**
Belesker tüher	Throat-2sg.dat drop-caus	Give a hostile reception, meet with verbal abuse
Itiite killer	Hot-part enter-caus	Drink/eat something hot when coming from the cold
Aqaŋ tujaqyn xatar	Father-2sg hoof-3.acc dry-caus	Follow your father's footsteps
Ajax ürdün oxtor	Goblet top-3.acc fall-caus	Drink first from a goblet (loving cup); enjoy respect
Ajaxxyn minnjit	Mouth-2sg.acc sweeten-caus	Make false, empty promises Min Mashaqa ajaxpyn minnjitebin
Kutaalaax uokka olort	Bonfire-with fire-dat sit-caus	Strongly scold so
Kyhyl tylgar olort	Red word-2sg.dat sit-caus	Lecture, reprimand, accuse, scold, abuse verbally
Kynakkyn kuurt	Wing-2sg.acc dry-caus	Prepare for departure
Uhalaaqy umsar/oxtor	Uha-with-acc dive-caus/fall-caus (*uhalaax* 'uha-with: no clear meaning for *uha*': euphemism for cattle/horses)	Kill a cow/horse
Iliigin kirtit	Hand-2sg.acc	Soil one's hands,

	make.dirty	become corrupted
Ohoqohun tokurun könnör	Bowel-3.gen crooked-3.acc straighten-caus	Eat a little, without appetite (archaic)

(62) Idioms based on external causatives (causatives of transitives and unergatives): the corresponding transitive or unergative lacks the idiomatic meaning

IDIOM	**Gloss**	**Idiomatic meaning**
Aany keteqinen astar	Door occiput–3.instr push-caus	Oust, expel, drive out
Aakkyn aattat	Name-2sg.acc name-caus	Become famous; have a lot of progeny
Ataxxa biller	Leg-dat know-caus	Run away
Köxsügün kördör	Back-2sg.acc see-caus	Leave angry/dissatisfied; turn one's back on
Munnuga berder	Nose-dat give-caus	Meet with strong resistance
Uoska berder	Lip-dat give-caus	Shut up suddenly
Ykkyn ürder	Dog-2sg.acc bark-caus	Shout
Ekkin süüjter	Meat-2sg.acc win-caus	Grow thin, lose weight
Ala kulunu töröt	Skewbald foal-acc give.birth	Freeze extremely
Oroqun ustun süürt	Path-3.gen along run-caus	Make so a follower of one's ideas
Siik-dabarxaj süürt	Sap-wood.tar run-caus	Derive benefit, make profit

Finally, an approach which takes both –tar suffixes attaching to *orgut* 'boil, trans.' in (60b) as realizing category-external causative heads cannot derive the differences between the two which have been demonstrated in sections 5.3.3 and 5.3.4. Also, the asymmetry mentioned in 5.1.2.5 is unexpected for an analysis which derives unaccusatives and their causative alternates by embedding one and the same root under two different flavours of category-determining v. To recall, the asymmetry concerned selectional restrictions: the set of possible unaccusative subjects forms a subset of the set of possible causative subjects.

5.4.2. Pylkkänen 1999

Another structural account of causatives to be considered is proposed in Pylkkänen 1999 where causation is analyzed as having a universal core consisting of CAUSE, introducing a causing event, θ_{EXT}, introducing an external argument and APPL, introducing an argument affected by the causing event. Crosslinguistic differences between 'lexical' and 'syntactic' causatives are derived from how these semantic features are syntactically realized and not attributed to different components of the grammar.

In UG, CAUSE, θ_{EXT} as well as APPL are separate pieces. It is a language-specific option which pieces to choose and, further, which pieces to bundle together. The interpretability constraint insures that the semantic properties of the meaning components of causation are respected and therefore not all kinds of bundling are permitted. Only three options are possible. One is that all three features remain separate presyntactically and are also realized by separate heads in the syntax. Another is that CAUSE bundles with APPL and is realized by one head in the syntax whereas θ_{EXT} remains separate and is realized separately in the syntax (by Voice). It is impossible to bundle all three together because applying APPL to CAUSE introduces an unsaturated argument and before this argument is saturated, θ_{EXT} cannot be merged with the CAUSE-APPL complex. A third option is to combine CAUSE and θ_{EXT}. If a language chooses this option, it can no longer merge an APPL head introducing the affected argument of a causing event. This is because APPL must apply to CAUSE first, before θ_{EXT} and therefore intervenes between CAUSE and θ_{EXT}.

English presents a language of the third type. It allows causatives of unaccusatives which are derived by merging v above a root as in (63). As depicted, v simultaneously realizes the two features [cause] and [θ_{EXT}] which ensures that it introduces a causing event together with an external argument.

(63) $[_{vP}$ Mary $[_{v'}$ v-[cause, θ_{EXT}] $[_{\sqrt{P}}$ break glass]]]

The reason English does not allow causatives of unergatives (64b) and other agentives has to do with the fact that there is no way to accommodate APPL in the structure. APPL is the head responsible for introducing the affected (causee) argument – the underlying agent Mary of (64a-b). As already mentioned, APPL must necessarily intervene between CAUSE and θ_{EXT} which is ruled out because in English CAUSE and θ_{EXT} are realized on the same head and nothing can intervene between them.

(64) a. Mary laughed.
b. *John laughed Mary.

Sakha is like Japanese and Finnish in allowing causatives of agentives. This means that CAUSE and θ_{EXT} are realized by separate heads. However, languages of this type are predicted to have causative morphology which introduces a causing event

without introducing an external argument. Thus, Pylkkänen makes a wrong prediction for Sakha causatives: they always introduce an external argument which means in Pylkkänen's terms that CAUSE is bundled with θ_{EXT}. This bundling should prevent applying APPL to CAUSE before θ_{EXT}. If APPL cannot apply to CAUSE, the affected argument of the causing event (the underlying agent of an unergative predicate) cannot be introduced, hence unergatives cannot be causativized. However, in Sakha causatives of unergatives are perfectly possible just like in Finnish or Japanese.

5.5. Concluding remarks

In this chapter we have argued for a reduction analysis of unaccusatives and presented various arguments showing the basic, non-derived status of causative alternates of unaccusative verbs. Thus, unaccusative verbs, being derived, do not threaten the main thesis of the dissertation about inherent verbal relationality. In the course of discussion three types of causative verbs were discovered: 1) basic [+c] verbs – causative alternates of unaccusatives; 2) lexical causatives derived in the lexicon by the operation of expansion adding an agent role; 3) syntactic causatives. This three-way distinction has been corroborated by numerous empirical data. Another topic considered involved verb-based derivation leading to the formation of nouns and adjectives. The difference between lexical and syntactic nominalization and adjectivization maintained in chapter 2 was elaborated further, with an eye to argument correspondences between underlying verbs and their derivatives.