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Relative nominals and event nominals in Hiaki

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Remarks on Nominalization centered on the question of whether certain derived nominals should be derived from underlying clauses, the ‘transformational’ approach, or base-generated in their nominal form. Given the conclusion that many complex nominals should be base-generated in their nominal form, the parallels between the phrase structural behavior of the corresponding verbal and nominal forms led to the proposal that phrase structure itself was best understood as an acategorical template—X-bar theory. It was the beginning of the end for language-specific syntactic rules, and the beginning of the beginning for a universal syntactic theory.

Since then, however, it has become common to suppose that derivational morphemes take phrasal (though not necessarily ‘clausal’) complements (e.g. Miyagawa, 1998; Borer, 2003, 2005a, b; Alexiadou, 2001, 2009). In such proposals, the head of the embedded phrasal category is typically supposed to head-move and adjoin to the affix which projects the derivational phrasal category, resulting in the affixation of the derivational morpheme to its base, and effecting the category change triggered by the affix, if any.

An important conceptual advance facilitated this development, namely the discovery that the clausal category (‘S’, or CP) consisted of a detailed hierarchy of projections intervening between the root node and the VP node. This allowed analysts to contemplate many subtle variations on a ‘clausal’ complement, each with varying properties: A CP complement would exhibit different properties than a TP, vP, or VP complement. Besides breakthroughs in our understanding of the morphosyntax of causatives and event nominals, key advances were made in ‘purely’ syntactic areas such as restructuring (Wurmbbrand, 2003) or control vs. raising infinitives (Siggurðson, 1989).

Many cases of category-changing derivational morphology in this phrasal approach involve a nominalizer taking a phrasal complement at or within the level of ‘first-phase’ syntax (Ramchand, 2008): the VoiceP, vP, VP, \sqrt{P} -projections that between them account for the syntactic and semantic properties of the constituent corresponding to the traditional verb phrase, see e.g. Kratzer (1994, 1996), Borer (1993, 2003), Alexiadou (2001, 2009), and many others. Less work has considered nominalization of constituents larger than VoiceP, but Alexiadou (2001) laid the foundations for investigation of nominalized phrases in the verbal extended projection that include at least AspP, in Greek (Alexiadou, 2011b), Romanian, Polish, Bulgarian, German, and Spanish (Alexiadou et al., 2010), Cherokee (Stone, 2012), and other languages, see Kornfilt and Whitman (2011b) for a cross-linguistic overview. Such nominalizations are predicted to exhibit many clausal characteristics internally—mandatory argument realization, adverbial modification, unconstrained verb class—but nominal characteristics externally.

I build on these developments to argue that Hiaki possesses nominalizations of this type, embedding (outer) AspP but not higher projections, such as TP or CP, supporting the conclusions of Martínez Fabian and Langendoen (1996) and Álvarez González (2012). Although they are not ‘true’ relative clauses, I also argue that the filler-gap structure evident in most of them requires an operator-movement treatment.

Interestingly, although these constructions are usually predicates of individuals, a subset are event nominalizations. The event nominalizations are for the most part constructed from argumentless predicates—weather predicates and impersonal passives. Building on this observation, I propose that the nominalizing head is an identity predicate, reifying the outermost unsaturated argument in the nominalized projection, whether it is an entity (relative reading) or an event (event-nominal reading). I follow Kraus (2001) in suggesting that the assignment of genitive case to the subject conditions the allomorphy of the main exponents of the nominalizing head.

I argue, building on Álvarez González (2012), that these clausal forms behave externally as unexceptional nouns, hence the term ‘nominalization’ is appropriate. However, I also argue that the syntactic patterns in the entity-denoting nominalizations requires an analysis involving lambda-abstraction over a saturated predicate, characteristic of relative clauses. Hence, Kraus’s term ‘reduced relative clause’ is also appropriate. I compromise on ‘relative nominal’ as a descriptive term.

9.1 Hiaki relative nominals: nP embedding AspP

Hiaki is a Uto-Aztecan language spoken in Sonora, Mexico and the southwestern US. It is SOV and agglutinating, with a nominative-accusative case system, and shows concord for case and number within the DP. Although it has ‘lexical’ nominalizers, such as *-reo*, an agentive nominalizer borrowed from Spanish *-ero*, it frequently derives nouns and adjectives from verbs by means of suffixes which preserve the base verb’s argument structure (modulo whatever changes the suffix itself imposes).

Three types of suffixes have been called ‘relativizers’ in Hiaki (e.g. by Dedrick & Casad, 1999: 370). Subject ‘relatives’ are formed by adding the suffix *-me* to a verb, object and oblique ‘relatives’ are formed with *-‘u*, and locative ‘relatives’ are formed with *-‘Vpo* or *-‘Vwi/-‘u*. Below, we see pairs of examples, the first illustrating the declarative clause corresponding to the relative nominal form, the second the relative nominal itself. As is the case for adjectives in Hiaki, relative nominals can be freely used without a head noun. No relative pronoun is in evidence.

(1) Subject-referring relative nominals with *-me*:

a. Peo usita mahta.

Peo usi-ta mahta
Pete.NOM child-ACC teach
‘Pete is teaching the child.’

b. Uu usita mahtame

Uu usi-ta mahta-me
The.SG child-ACC teach-S.NMLZ
‘The one who is teaching the child’

(2) Object-referring relative nominals with *-‘u*:

a. Vempo aa teak.

Vempo aa=tea-k
3PL.NOM 3SG.ACC=find-pfv
‘They found it.’

b. Vem teaka‘u

Vem tea-ka-‘u
3PL.GEN found-pfv-O.nmlz
‘What they found’

- (3) Oblique-referring relative nominals (with resumption) with –‘u:
- a. Vempo aetuk yeu yoemtuk.
Vempo ae-tuk yeu yoem-tu-k
3PL.NOM it-under out person-become-PFV
‘They were born under it (referring to the nurturing earth)’
- b. Vem aetuk yeu yoemtuka’u
Vem ae-tuk yeu yoem-tu-ka-‘u
3PL.GEN it-under out person-became-O.NMLZ
‘(The land) in which they were born (which nurtured them)’
- (4) Location-referring relative nominals, (syntactically PPs) with –‘Vpo
- a. Empo hunum karimpo hoakan
Empo hunu-m kari-m-po hoa-kan
2SG.NOM DEM-PL house-PL-in live-P.PRF
‘You have lived in those houses.’
- b. Em hoaka’apo
Em hoa-ka-‘apo
2SG.GEN live-PFV-LOC.NMLZ
‘Where you have lived’ (Álvarez González, 2012: 78)

Álvarez González (2012) argues that these forms should all be considered nominalizations, rather than relative clauses. Martínez Fabian and Langendoen (1996) come to a similar conclusion for the *-me* forms based on the fact that perception verbs can take *-me* forms as complements, but suggest that –‘u forms are true relative clauses; they do not address –‘Vpo constructions.

The core of the argument presented by Álvarez González (2012) is that these forms exhibit most of the external morphological and syntactic properties of Hiaki noun phrases. In particular, he provides extensive documentation of the potential for each of these construction types to bear nominal inflection. The *-me* forms are inflected for accusative singular when they occur in object position or as the object of an accusative-assigning preposition. In addition to this, they may optionally inflect for plural number. The –‘u forms, which refer to nonsubjects, exhibit a more restricted pattern of nominal inflection. Object-referring –‘u forms can be marked for plural number. However, the –‘u forms appear to be unlike regular nouns and *-me* forms in that they cannot be marked accusative. I contend, however, that this is not unexpected. Rather, it is a subcase of a general property of Hiaki noun phrases: Object noun phrases with genitive possessors usually fail to inflect for accusative case (Sanchez et al., 2016; Estrada-Fernandez &

Álvarez González, 2008). Since object relative nominals must express their subject arguments, and since those subject arguments are marked with genitive case (e.g. *vem*, ‘their’ in (2b)), the failure of *-‘u* forms to take accusative is a subcase of the general incompatibility of a genitive DP with accusative marking on the head noun. Hence, even when they cannot bear nominal inflection, Hiaki relative nominals show the morphosyntactic patterns of underived nouns.

More evidence that these forms behave like underived nouns can be seen when they appear in predicate position. Adjectival and nominal predicates in Hiaki may occur bare in present tense (5a), but in order to be marked with other TAM suffixes, they must first be verbalized by the copular verbalizer *-tu*, ‘be/become’ (5b):

- | | |
|--|--|
| (5) a. Hunuu kari.
Hunuu’u kari
That.NOM house
‘That is a house.’ | b. Hunuu’u karitukan.
Hunuu’u kari-tu-kan
That house-COP-P.PF
‘That was a house.’ |
|--|--|

In (6) we see *-tu* reverbalizing a *-me* nominal for use as an inflected predicate:

- (6) Uu ili uusi weemtuka veva vuivuitaitek.
 uu ili uusi wee-**m-tu**-ka=veva vui-vuiti-taite-k
 The little child.NOM walk-S.NMLZ-VBZ-PPL=then RED-run.SG-begin-PFV
 ‘The little child, having learned to walk, is starting to run.’
 lit. ‘... having become one who walks’

The subject nominal *weem(e)*, ‘one who walks’, is reverbalized by *-tu*, permitting the attachment of the participial *-k(a)*.

Similarly, an *-‘u* relative nominal can occur as a predicate with TAM suffixation as long as it is reverbalized by *-tu*, as in the following corpus example:

- (7) Bweta vat naatekai wa’a bwa’ame ama mana’aname, hunu’a veva mukilam tu’urisuka’utune.
 Bwe-ta vat naatekai wa’a bwa’ame ama mana’a-na-me,
 Well-but first beginning that food there set-PASS.IRR-S.NMLZ
 hunu’a=veva mukilam tu’u-ri-su-ka-‘**u-tu**-ne
 that.NOM=then deceased good-find-COMPL-PFV-O.NMLZ-VBZ-IRR
 ‘But since the beginning the food set [at the altar] is the kind that the deceased would have liked.’
 (lit. ‘would be that which the deceased found good’) (Leyva, 2019)

The use of *-tu-* to verbalize *-m(e)* and *-‘u* forms is more evidence that they are nouns, as this is one key category diagnostic in Hiaki (Harley, Haugen, & Tubino-Blanco 2019).

Álvarez González (2012) also notes that these forms are never headed by a relative pronoun, the hallmark of true relative clauses, and concludes that these Hiaki constructions should be analyzed as nominalizations rather than relative clauses. It is unlikely that the verbal suffix can plausibly be treated as a relative pronoun or determiner. Hiaki DPs are left-headed, with a preceding D. Hiaki wh-words are similarly left-peripheral; in questions, wh-words always occur clause-initially, presumably in a specifier of CP. If these forms were relative clauses and had a wh-pronoun (or other A-bar-moved pronominal element) in spec-CP, we would expect to see it surface clause-initially, not as a verbal suffix.

A relative clause analysis might instead posit a null wh-operator in spec-CP, and propose that the relative affixes spell-out a head-final relativizing C on the right, agreeing with the wh-operator in its specifier. This would be consistent with the rigid right-headedness of the Hiaki extended verbal projection. But it would not explain their external nominal properties.

However, there is other evidence these forms are internally not finite relative CPs. Neither *-me* clauses nor *-‘u* or *-‘Vpo* forms permit the full range of TAM suffixes inside the nominalizer. Although irrealis *-ne* (8a, 9a) and perfective *-k(a)* (2b, 3b, 4b) can occur inside the nominalizers, past *-n* (8b, 9b) and past perfect *-kan* cannot (8c, 9c):

- (8) a. Uu yoeme eu nokneme ama weyek.
Uu yoeme e-u nok-ne-me ama weyek
The.NOM man.NOM you-to speak-IRR-S.NMLZ over.there stand
‘The man who will speak to you is standing over there.’
- b. *Uu yoeme eu nokanme ...
*Uu yoeme e-u noka-n-me ...
The.NOM man.NOM you-to speak-PST-S.NMLZ
‘The man who was speaking to you ...’
- c. *Uu yoeme eu nokakanme ...
*Uu yoeme e-u noka-kan-me ...
The.NOM man.NOM you-to speak-P.PF-S.NMLZ
‘The man who had been speaking to you ...’

- (9) a. Humee nava'asom hume kuusim ae a'a kututane'u
humee navá'áso-m hume kúusi-m á-e
The.PL blade-PL the.PL rosary-PL with it
a'a kutúta-ne'u
3s.GEN carve-IRR-O.nmlz
'The knife with which he would carve the beads' (Crumrine, 1961: 23)
- b. *In amet tekipanoan'u
*In a-met tekipanoa-n-'u
1s.GEN it-with work-PST-O.NMLZ
'The thing with which I was working'
- c. *In aet tekipanoakan'u
*In ae-t tekipanoa-kan-'u
1s.GEN it-on work-P.PF-O.NMLZ
'The thing I had been working on'

Although a past interpretation is normally impossible for an uninflected verb, uninflected verbs in a relative nominal can get either a past or present reading (10), suggesting that Tense is unspecified.

- (10) Uu yoeme eu nokame...
Uu yoeme e-u noka-me...
The.NOM man.NOM you-to speak -S.NMLZ
'The man who is/was speaking to you'

The constrained range of TAM inflection inside nominalizations thus also suggests they are not fully finite relative CPs, but rather a nominalization of a lower functional projection.¹

The typological conclusions of Kraus (2001) further mitigate against a CP-analysis of the Hiaki relative nominals. She argues that genitive subject marking is crosslinguistically a hallmark of a 'reduced' relative structure, reflecting the omission of the nominative-assigning finite TP projection. Positing a reduced extended projection inside Hiaki relative nominals thus can explain why object, oblique, and locative relative nominals require genitive-marked subjects.

¹ This argument is weaker than it could be in that there is a potential phonological reason why these forms might not surface. Although coda [n] and onset [m] are both well formed in Hiaki, clusters of the form [n.m] are not attested, so it could be that the inflection is abstractly licit but deleted at the surface due to phonotactics. Further work is necessary to devise other diagnostics for the presence of the TP layer. Thanks to A. Álvarez (p.c.) for discussion of this possibility.

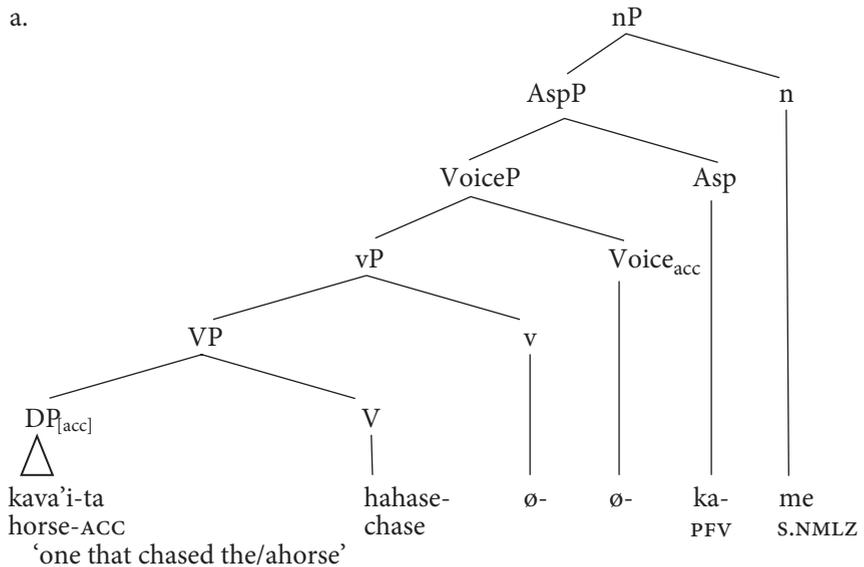
Following Kraus, we can ask which of the projections below TP is selected by these nominalizers. In previous work, Harley and Tubino-Blanco (2013) proposed the following templatic view of the extended projection of a Hiaki verb:

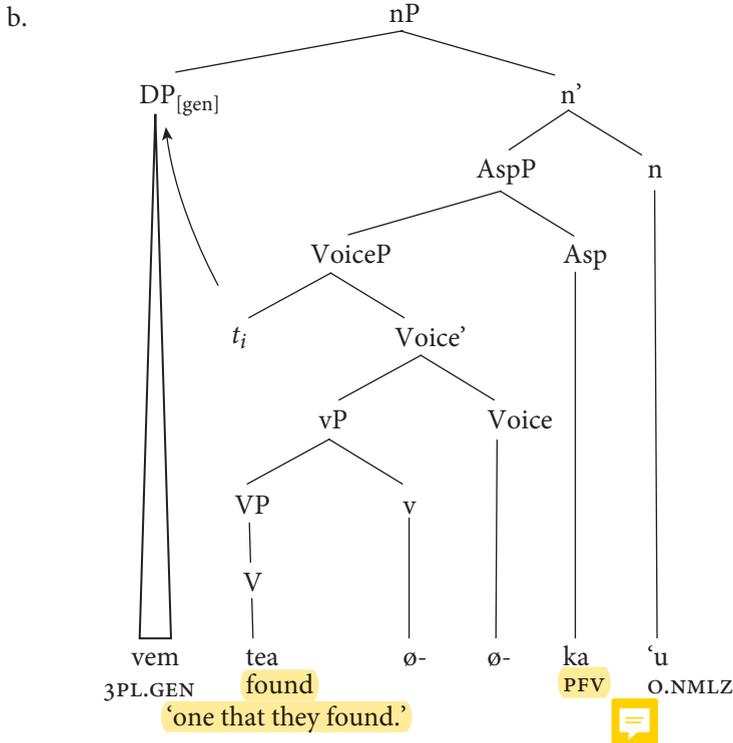
(11) V-(V*)-(Derivation*)-Voice/Mood-Asp-Tense-C

They argued that irrealis *-ne* reside in the Voice head, and that perfective *-k(a)* resides in Aspect. Past *-n* is a realization of Tense. Given that *-ne* and *-ka* are licit, while *-n* is excluded from these forms, I conclude that AspP is selected by the nominalizers. This comports with Álvarez González’s (2012) observation that accusative case (a feature of Voice) and habitual Aspect (indicated by reduplication of V) and all varieties of derivational suffixation are preserved inside these nominalizations.

A preliminary structural analysis of subject and object relative nominals is given in (12). The nominalizing *n°* head selects an AspP, and the verb head-moves to it. In the nonsubject relative nominals (12b), the subject DP, deprived of case within its own clause, raises to spec-nP (or higher) to receive genitive case.

(12) a.





When a relative nominal modifies another head noun, I assume, with Álvarez González (2012), that it occurs in apposition to the modified noun, adjoined to the nP and yielding an intersective reading.²

The structures above, however, do not account for the forms' interpretations, and, relatedly, they have unexplained gaps where arguments should be. In Hiaki, valency is a rigid property of most predicates. In (12a), the subject position (Spec-VoiceP) is not realized, although the signs of active Voice and an external argument are present—no passive markers, accusative case on *kava'ita*, 'horse.ACC'. Similarly in (12b), the object of the transitive verb *tea* 'find' is absent, which otherwise never occurs; overt realization of selected objects in Hiaki is mandatory. In Section 9.3 a standard operator-movement

² This is thus a 'matching' analysis of the filler-gap structure, at least when these relative nominals occur in apposition with a 'head' noun. This predicts the absence of reconstruction effects or idiomatic interpretations with idiom chunks in the head position; further testing will be needed to investigate these predictions. I hypothesize, with Álvarez González, that apposition of a relative nominal can yield the same range of restrictive and nonrestrictive interpretations as 'true' relativization, perhaps depending on the height of attachment of the relative nominal; this issue also requires further investigation. See also discussion in fn. 5.

account of these gaps is proposed. First, however, we meet a class of nominalizations that appear semantically and syntactically distinct, but are formed with the same *-me* suffix as the subject relative nominals already discussed. They will motivate a proposal for the semantics of nominalizing *n*.

9.2 The subject nominalizer *-me* and abstract/event nominalizations

We now turn to a closer examination of the subject nominalizer *-me*. As we have seen, this nominalizer creates relative nominals referring to subjects. It does not care what theta role that subject argument bears, nor what event type the verb belongs to. Rather, *-me* creates nominals that refer to whatever entity would be the nominative subject of the corresponding declarative, whether derived or base-generated. That subject argument is mandatorily absent, and the complex nominal is interpreted as referring to it—the nominative argument is ‘reified’, in Landau’s (2010a) sense.

For example, as shown in Álvarez González (2005), a passive clause with a promoted internal argument, which has become the nominative subject (13a), forms a relative nominal in *-me* that refers to the promoted internal argument (13b):

- (13) a. Huna’a kesu ama hoowa.
Huna’a kesu ama hoo-wa
That cheese there make-pass
‘That cheese is made there.’
- b. Huna’a kesu hoowame
Huna’a kesu hoo-wa-me
That cheese make-pass-S.REL
‘That cheese that is made there.’

Similar patterns obtain for other derived argument structures. If a new object is added to the clause by applicativization, and then promoted to subject by passivization, *-me* suffixation produces a nominal referring to the promoted applied argument. Similarly, if a verb that has an agentive subject is causativized, the former subject is marked as an object and the causer becomes the new nominative subject. The *-me* nominal of such a causative refers to the nominative causer, not the verbal Agent. In short, if the corresponding

declarative has a nominative subject, *-me* suffixation creates a nominal that refers to it, whatever its selectional relation to the main verb.³

Surprisingly, Hiaki also permits subjectless clauses to be suffixed with *-me*. Consider an intransitive which has had its nominative subject suppressed by (impersonal) passivization (15a), available in Hiaki for any intransitive verb with a human subject (Harley & Jelinek, 2014). This verb has zero valency; it takes no entity arguments and would translate as an impersonal passive in e.g. Dutch. Here, affixation with *-me* yields a nominal that refers to the event denoted by the zero-valency verb (14b). The best translation is an English event nominal:

- (14) a. Aman nahsuawa.
Aman nahsua-wa
There fight-pass
'Fighting is going on there.' lit. '(It) is being fought there.'
- b. Hunu'u nahsuawame
hunu'u nahsua-wa-me
that fight-pass-S.REL
'The fighting'

Importantly, note that in the base sentence in (14a) there is no grammatical subject. *Aman* is adverbial, and does not figure in the argument structure of the sentence. Nonetheless, the supposed 'subject' nominalizer creates a nominal referring to the event argument.

Molina et al. (1999) list several $V_{\text{intr}}\text{-wa-me}$ forms as translations of English event nominals, all built from impersonal passives (15). Even these fairly 'lexicalized' forms (I call them 'lexicalized' since they merited inclusion in the dictionary) are clearly still clausal nominalizations; consider (15b) for example, which includes a clausal negator and adverb:

- (15) a. aleewame
alee-wa-me
happy-PASS-S.NMLZ
'health, happiness, well-being'

³ Note that this insensitivity to verb type or thematic role, and sensitivity to purely grammatical roles, is another motivation for deriving these nominals syntactically, taking as a base a larger structure in the functional domain. Typical examples of 'lexical' derivational morphology attend to thematic or event-structural properties of the stem.

b. *kāa ama'ali anwame*

kāa ama'ali an-wa-me
not properly do-PASS-S.NMLZ
'sin', lit. 'not doing properly'

c. *atwame*

at-wa-me
laugh-PASS-S.NMLZ
'smiles, laughter'

d. *bendisiroawame*

bendisir-oa-wa-me
bless-do-PASS-S.NMLZ
'blessing'

e. *bwanwame*

bwan-wa-me
cry-PASS-S.NMLZ
'crying'

f. *yee chupa'awame*

yee-chupa'a-wa-me
people-finish-PASS-S.NMLZ
'ambition'

g. *eteho-wa-me*

speak-PASS-S.NMLZ
'conversation.'

The productive character of event nominals in *-wa-me* is further supported by nonce forms in natural speech, like these corpus examples:

(16) *Kaita wana haksa to'owame.*

Kaita wana haksa to'o-wa-me
Nothing from.side somewhere lie.down-PASS-S.NMLZ
'There was no lying down anywhere.' (Leyva, 2019)

(17) *Hunaa intok vat yee varkaroawame*

Hunaa=intok vat yee=varkaroa-wa-me
That=and first people=deport-PASS-S.NMLZ
'And that's when the deportations began.' (Leyva, 2019)

The forms *to'owame* and *yee varkaroawame* do not occur in any dictionary and do not appear to be lexicalized; they seem **be** created for use in the moment. As with the previous examples, they are formed from impersonal passives of intransitive verbs, *to'ote* 'lie down' and the verb *yee-varkaroa*, 'people-deport', which has transitive *varkaroa* as its base but which has been detransitivized with the incorporation of the indefinite prefix *yee-* 'people'.

In previous descriptions (Dedrick & Casad 1999), the *-wame* sequence is treated as an unanalysable event nominalizer. Álvarez González (2005) recognizes the bimorphemic diachronic source of this form, but suggests that the abstract event-denoting meaning is due lexicalization/reanalysis. He proposed that the reanalysis started with transitive-base forms in *-wa-me*, as in (12), forms which refer to a patient entity, 'the one who is Vd'. He proposes that an abstract sense for the *-wame* combination was developed via lexicalization: The interpretation 'the one who is Vd' lost its concrete denotation via metonymy and 'abstractivization' and came to refer to 'the result or event of V-ing'. This new abstractivizing suffix *-wame* could then apply to intransitive, yielding the event/result nominals typified by (15).

In support of this proposal, Álvarez González (2005: section 3.5.2) exhibits two transitive-base verbs which have nominalizations in *-wame* that can either refer to the promoted patient argument (subject relative denotation) or to the event or result:

- (18) a. Hoan kaarota etbwa.
Hoan kaaro-ta etbwa
Juan car-ACC rob
'Juan is robbing the car.'
- b. etbwawame
etbwa-wa-me
rob-PASS-S.NMLZ
'The one who is robbed' or 'The result or action of robbing'
- c. Ume yoemem maasom suak.
Ume yoeme-m maaso-m sua-k
The.PL men-PL deer-PL kill.PL-PFV
- d. suawame
sua-wa-me
kill.pl-PASS-S.NMLZ
'The ones who are being killed' or 'the result or action of killing'

In our data, these forms are more the exception than the rule. For example, no event/result reading is available for my consultants for (12b). For *suawame*, ‘kill-pass-s.nmlz’, (18d), my consultants agree it has the abstract meaning (as well as the concrete meaning) when presented with the form out of context, but when asked to generate a sentence using the abstract sense, they prefer instead the detransitivized form *hissuawame*, which only has the event/result meaning. For *etbwawame*, (18b), they agree that it has the event-denoting meaning, as in *Etbwawame si kaa tu’i*, ‘Stealing is really not good’, but note that it can also have the meaning ‘That which is being stolen’; for them, however, it cannot refer to the person being robbed.

If the event/result readings in (14) and (15) were dependent on a lexicalized-*wame* suffix, we might expect that *-wame* forms generally would receive an event/result reading. That is, transitive bases in *-wame* would receive event/result readings as often as entity readings, since there would be two derivations available: (i) the subject-nominalizing *-me* attached to a passive verb in *-wa*, yielding a relative nominal referring to the patient, and (ii) the event/result nominalizing *-wame* attached to the transitive verb. However, for my consultants, this does not seem to generally be the case. Transitive verbs suffixed with *-wame* seem to receive (patient) entity-denoting readings, while event/result readings are reserved for intransitive verbs with *-wame*. That is, the hypothesis that *-wame* is a monomorphemic event nominalizer misses the generalization, for my consultants, that it is primarily attested with intransitive verbs.

If we take seriously the decomposition of *-wame* into passive *-wa-*, which suppresses an argument, and the nominalizer *-me*, we arrive instead at the generalization that the event reading for a *-wa-me* form is only available with intransitive verbs—that is, with verbs whose adicity has been reduced to zero by the removal of their only argument via the impersonal passive suffix *-wa*.

This makes two predictions. First, only intransitive verbs that independently take *-wa* should be able to form event nominals in *-wame*. This is borne out by the ill-formedness of *-wame* event nominals of verbs which take nonhuman subjects. For example, the verb *bwase*, ‘cook.intr’, cannot form an event nominal **bwasi-wame*, ‘cooking’. This is expected on the bimorphemic hypothesis, since there is no impersonal passive **bwasi-wa*, ‘(it) is being cooked’/‘cooking is happening’, because the verb does not take a human subject.

Second, if *-wa* and *-me* are independent in these forms, we can seek confirmation in inflection. If *-wa* and *-me* are separate morphemes, perfective *-ka* will surface at the end of the verb but before the nominalizer. Such perfective event nominalizations require special context to make them felicitous, but in an appropriate context, they are perfectly acceptable.

Consider the following examples. The first, (19a) refers to drinking in general. The second, perfective, form refers to a specific event of drinking. It could be used in a context where people are discussing the deleterious effects of drinking tap water in e.g. Mexico City, which can give Americans diarrhea. The speaker remembers a particular night when she drank tap water, and then says (19b)

- (19) a. hi'iwame
hi'i-wa-me
drink-PASS-S.NMLZB.
- b. Hunu'u hi'iwakame nee nasontak.
Hunu'u hi'i-wa-ka-me nee nasonta-k
that drink-PASS-PFV-S.NMLZ 1s.ACC destroy-PFV
'That event of drinking wrecked me'

In this example we can see that the impersonal passive internal to the event nominal, *hi'i-wa*, 'drink-PASS', can be inflected for Aspect, prior to the attachment of *-me*. This is predicted by an analysis which treats the *-wa* and the *-me* as independent suffixes in their own right, each performing normally **perform** in the clausal syntax.

Further confirmation comes from certain *-me* nominalizations without *-wa*, formed from inherently impersonal predicates—weather predicates—which do not have a thematic subject argument at all. Martínez Fabian and Langendoen (1996) give nominalized forms derived from *yuke*, 'to rain', that have an event denotation even without *-wa*:

- (20) *Yukemta ne hikkahan.*
yuke-m-ta=ne hikkaha-n
rain-S.NMLZ-ACC=1SG hear-PST
'I listened to it raining.'

A true relative clause formed on 'rain' or other intrinsically argumentless weather predicates, could not denote, since there is no argument position to abstract over. For example, *#the event/time/weather that was raining* does not work as a subject relative in English. Since the corresponding declaratives contain no grammatical subject, these forms cannot be relative clauses; relativization cannot proceed when there is no syntactic argument to relativize.⁴

⁴ As in English, there is no subject nominal possible in Hiaki weather predicates; examples like (i) are out:

This observation forms part of Langendoen and Martínez Fabian and Langendoen’s argument against treating *-me* forms as relative clauses.

The availability of an event-denoting reading for *-me* relative nominals of weather predicates confirms that *-me* on its own can yield an event nominal; *-wa* is not needed. This suggests that the inclusion of *-wa* in the other event nominals above is necessary to suppress the argument structure of the base predicate.

The core generalization, then, is relative nominals with *-me* denote the subject of the clause, *unless the clause was subjectless to begin with*, i.e. unless the clause was an impersonal passive or a weather predicate. If *-me* attaches to such a subjectless clause, the resulting nominalization denotes the event or situation argument of the verb.

Assuming that such zero-adicity verbs are predicates of events, and taking seriously the unity of subject-nominalizing *-me* and event-nominalizing *-me*, we propose that when *-me* attaches to a verb, it reifies whatever open argument is available. This will be the subject argument, in the case of the entity-denoting *-me* forms—but if there is no open entity argument, *-me* reifies the open event argument. This is what yields event/result denotations with argumentless predicates.⁵

In Section 9.1, we sketched the syntax of these relative nominals. Now we can develop a proposal about their interpretation.

(i) *Yuku aman yuke.

Yuku aman yuke
 Rain over.there rains
 ‘Rain is raining over there.’

I take this as evidence against the possibility that these event nominals are actually true subject relativizations of a null cognate subject, akin to *the (dance) that was danced* or *the (song) that was sung*. Although some of the unergative Hiaki predicates exemplified above, such as *yi’i-* ‘dance’, can optionally take an incremental-theme cognate object argument referring to an event, others cannot (e.g. *hi’i-* ‘drink’). As noted, weather predicates like *yuke* ‘rain’ prohibit any overt argument. I conclude a subject relativization analysis of these event nominals is untenable. Nonetheless, further investigation is warranted; the intuition resembles that expressed by Álvarez’s (2015) concept of ‘abstractivization’ of the relativized patient argument. Schäfer (2008b) describes some ambiguous *-er* nominals in German. Such nominals normally would refer to agents, but also have event-referring meanings, e.g. *ein Hüpfen* ‘a jumper/a jump’.

⁵ We might expect that an event nominal in *-me* could occur in apposition to another event-denoting nominal, modifying it. It can, albeit with a significant prosodic break:

- (i) Hiawata, atwamta ne hikkahak.
 Hiawa-ta | at-wa-m-ta=ne hikkaha-k
 Sound-ACC laugh-PASS-S.REL-ACC=1SG.NOM hear-PFV
 ‘I heard the sound of laughter’; ‘I heard the sound—the laughter’

Restrictive uses of entity-denoting *-me* nominals in apposition do not usually require a prosodic break. However, little is known about nominal apposition and its relationship to prosody. It is possible that (i) is an instance of a nonrestrictive relative apposition use of an event nominal in *-wa-me*, and thus supports the unified treatment of *-me* here.

9.3 An identity function

The introduction noted that the modern understanding of the extended verbal projection permits finer-grained hypotheses about the phrase structure of nominalizations. Similarly, the development of Davidson's (1967) event arguments will allow us to make a more concrete proposal concerning the interpretation of the Hiaki relative nominalizers.

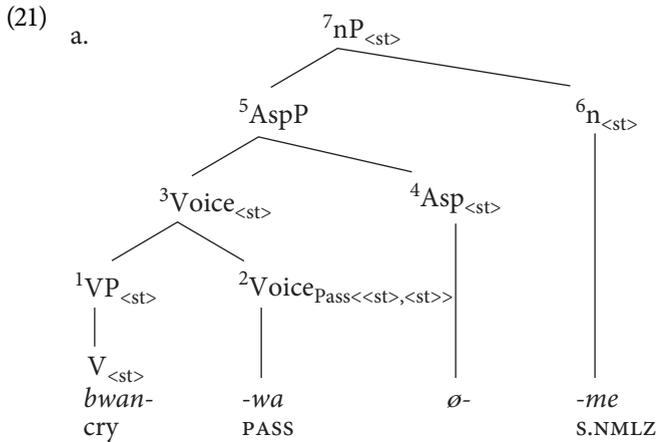
Davidson added the event argument to verbal predicates to capture entailments and anaphoric reference to the event. He argued that verbal predicates typically do not point to specific events, but simply assert the existence of the described type of event. Rather than hypothesize that the event argument is saturated or bound by a projected syntactic element, the consensus is that it remains unsaturated in the syntax until the verbal predicate merges with a particular functional projection, typically Tense. At that point either a default semantic operation of unselective binding existentially binds the event argument (as well as any other unbound variables), or else the lexical content of the T node existentially binds the event argument. In the syntactic representation, up to a certain level, the extended verb phrase remains an open predicate of events.

This allows us to propose a treatment of the Hiaki nominalizers. At the constituent that is the correlate of the former VP node in the modern framework, i.e. at VoiceP, we have a denotation equivalent to that of the former VP, i.e. a predicate of events. In fact, I will propose that the event argument in Hiaki remains unbound even into AspP. This will allow us to adopt a univocal denotation for all the relative nominalizers of Hiaki.

Here is the core idea: In a Hiaki nominalized clause, the nominalizer selects a verbal predicate, regardless of its type, and passes the denotation of the predicate up. The nominalizer functions purely syntactically: It changes the predicate's category from verbal to nominal. If necessary, it also checks genitive case on the external argument of the predicate. (In Section 9.4, I follow Kraus (2001) in suggesting that form of the nominalizer is determined by whether it bears a [+gen] case feature or not.) The nP thus still denotes a predicate but due to its nominal category it will only subsequently compose with elements from the nominal extended projection. The nP can compose via predicate modification with another noun, to give the appearance of a headed-relative structure, or simply compose with D itself to have its open role bound and form a referring expression.

Let us see how the semantic derivation works. I will notate the nominalizer's identity function as $\lambda P.P$, where P is a variable over predicates.⁶

The most straightforward cases are the event nominals formed from passivized intransitive verbs or subjectless weather verbs. Let us consider the form in (15e), *bwanwame*, 'crying', whose tree diagram in (21a) is annotated with the types of each of its constituents, with each node numbered for ease of reference. We follow Kratzer (1996) in assuming that external arguments are introduced by Voice. Let us look at the denotations corresponding to the numbered nodes from the bottom up. The unergative verb and its verb phrase 1 is a predicate of events, characterizing all and only crying events. The passive Voice head 2 introduces and existentially binds the only entity argument of the verbal predicate at VoiceP 3, yielding the 'some Agent of this event exists' entailment of an impersonal passive. The VoiceP itself is thus a predicate of events only. Aspect 4 is merged next, projecting to AspP 5. Since Aspect is unmarked, I assume it also denotes the identity function. Finally, the nominalizer n 6 is introduced and changes the category of the projection to nP 7; its denotation, however, is still that of a predicate of events. A subsequent nominal projection, most likely D, binds the open argument position in the predicate and yields the event-referring denotation *crying* for the full projection headed by this nominal.



- b. 1. $\llbracket VP \rrbracket = \lambda e.cry(e)$
 2. $\llbracket Voice_{PASS} \rrbracket = \lambda P_{\langle st \rangle} \lambda e \exists x.P(e) \ \& \ Agent(x, e)$
 3. $\llbracket VoiceP \rrbracket = \llbracket Voice_{PASS} \rrbracket (\llbracket VP \rrbracket) = \lambda e \exists x.cry(e) \ \& \ Agent(x, e)$ by
 Function Application (FA)

⁶ In the formulas, s is the type of events/situations and e is a variable over events/situations; e is the type of entities/individuals and x, y are variables over entities/individuals. Truth values are type t .

4. $[[\text{Asp}]] = \lambda P.P$
5. $[[\text{AspP}]] = [[\text{Asp}]][[\text{VoiceP}]] = \lambda e \exists x. \text{cry}(e) \ \& \ \text{Agent}(x, e)$ by FA
6. $[[n]] = \lambda P.P$
7. $[[nP]] = [[n]]([\text{AspP}]) = \lambda e \exists x. \text{cry}(e) \ \& \ \text{Agent}(x, e)$ by FA

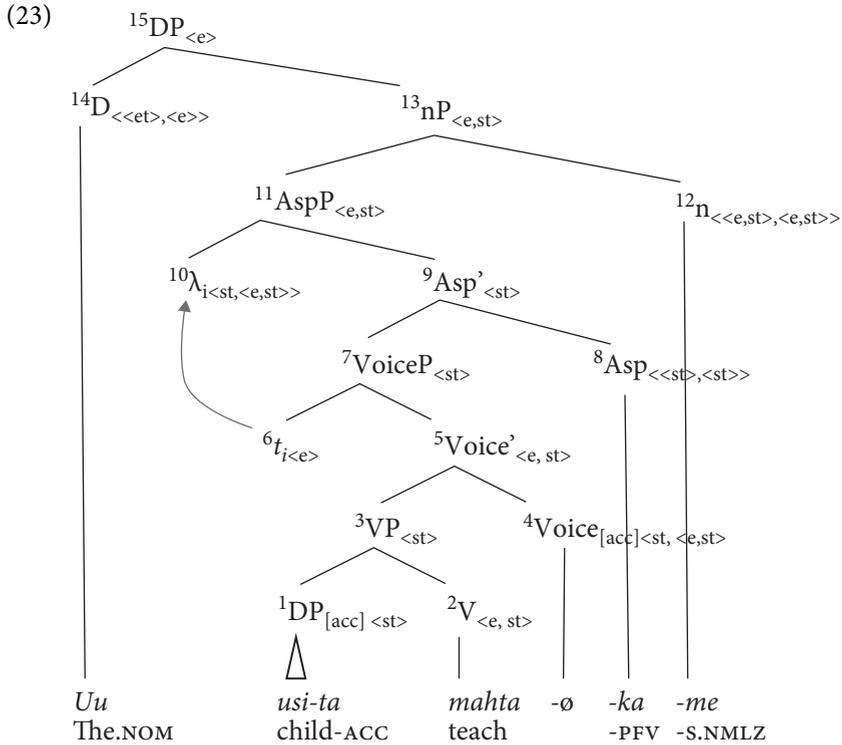
So far we have not learned much by working through the semantic derivation, but we can at least see how the content of nP is inherited from AspP to derive the abstract/event nominalization interpretation.

Next we turn to subject-referring relative nominals, like (22) below:

- (22) *Uu usita mahtakame*
Uu usi-ta mahta-ka-me
 The child-ACC teach-PFV-S.NMLZ
 ‘The one who taught the child’

In this case, the derivation is constrained by our understanding of the syntax of Voice. Since the verb occurs in its active form, and assigns accusative case to the object of the verb, the Voice head above *mahta* must be an active Voice head—a syntactic argument must be projected in its specifier. The nP must denote a monotransitive predicate in order to compose with D, and since n is the identity function, its complement AspP must share this denotation. Since nP is a predicate of entities in this case, AspP must also be a predicate of entities, and its argument must be identified with the external argument of the verb *mahta*, ‘teach’. To satisfy both the syntactic and semantic requirements on the construction, we must posit operator movement from spec-VoiceP, creating a predicate of entities by lambda-abstraction over AspP. Spec-VoiceP is filled by Heim and Kratzer’s (1998: 186) lambda-operator, which moves to spec-AspP to create the predicate of entities that n selects in subject nominalizations. As usual, the trace of operator movement is interpreted as a variable. I illustrate the derivation in (23), this time including a D which binds the open lambda-abstracted argument to yield the entity-denoting referring expression.⁷ There is a key difference between this derivation and the previous one in the binding of the event argument; see discussion below. Again, the nodes of the tree are annotated with superscript numerals and subscript types to make discussion easier.

⁷ I omit intervening nominal projections for simplicity, though I assume they are there; the number/case suffixes, for example, likely head NumP between DP and nP. For discussion of number in event nominals, see Alexiadou et al. (2010).



1. $\llbracket DP \rrbracket = \iota x. \text{child}(x)$
2. $\llbracket V \rrbracket = \lambda x \lambda e. \text{teach}(x)(e)$
3. $\llbracket VP \rrbracket = \llbracket V \rrbracket(\llbracket DP \rrbracket) = \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e)$ by FA
4. $\llbracket Voice_{Act} \rrbracket = \lambda P_{\langle st \rangle} \lambda y \lambda e. P(e) \ \& \ \text{Agent}(y, e)$
5. $\llbracket Voice' \rrbracket = \llbracket Voice_{Act} \rrbracket(\llbracket VP \rrbracket) = \lambda y \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e) \ \& \ \text{Agent}(y, e)$ by FA
6. $\llbracket t_i \rrbracket = y_i$
7. $\llbracket VoiceP \rrbracket = \llbracket Voice' \rrbracket(\llbracket t_i \rrbracket) = \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e) \ \& \ \text{Agent}(y_i, e)$
8. $\llbracket Asp \rrbracket = \lambda P_{\langle st \rangle} \lambda e. P(e) \ \& \ \text{pfv}(e)$
9. $\llbracket Asp' \rrbracket = \llbracket Asp \rrbracket(\llbracket VoiceP \rrbracket) = \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e) \ \& \ \text{Agent}(y_i, e) \ \& \ \text{pfv}(e)$
10. $\llbracket \lambda_i \rrbracket = \lambda P_{\langle st \rangle} \lambda x \lambda e. P(x)(e)$
11. $\llbracket AspP \rrbracket = \llbracket \lambda_i \rrbracket(\llbracket Asp' \rrbracket) = \lambda x \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e) \ \& \ \text{Agent}(x, e) \ \& \ \text{pfv}(e)$ by FA
12. $\llbracket n \rrbracket = \lambda P.P$
13. $\llbracket nP \rrbracket = \llbracket n \rrbracket(\llbracket AspP \rrbracket) = \lambda x \lambda e. \text{teach}(\llbracket \text{the.child} \rrbracket)(e) \ \& \ \text{Agent}(x, e) \ \& \ \text{pfv}(e)$ by FA
14. $\llbracket D \rrbracket = \lambda P \iota x. P(x)$
15. $\llbracket DP \rrbracket = \llbracket D \rrbracket(\llbracket nP \rrbracket)$ ← type mismatch! nP is type $\langle e, st \rangle$, not type $\langle et \rangle$ (or $\langle st \rangle$).

Hypothesis: Merge of D triggers repair operation to permit composition:

Existential Binding of open event argument:

$[[nP']] = \lambda y \exists e. \text{teach}([[the.child]])(e) \ \& \ \text{Agent}(y, e) \ \& \ \text{pfv}(e)$

$[[DP]] = [[D]]([[nP']]) = \lambda x \exists e. \text{teach}([[the.child]])(e) \ \& \ \text{Agent}(x, e) \ \& \ \text{pfv}(e)$

Working from the bottom up, the transitive verb *mahta* ‘teach’ 2 is a function from entities to predicates of events; its sister DP 1, *usita* ‘child’, is an entity. They compose via FA to yield a ‘teach children’ predicate of events, the VP 3. The Voice head 4 then merges with VP 3. It checks accusative case on *usita* and introduces the Agent predicate, a function from entities to predicates of events, to the derivation. The VP 3 and Voice 4 heads compose to yield Voice’ 5, a function from entities to predicates of events. Voice’ is now an $\langle e, st \rangle$ function that will assign the Agent role to an entity it composes with. This function takes a variable over entities 6 as its argument, the trace of movement of the lambda-operator.⁸ The resulting VoiceP 7 is then a predicate of events again, with a variable in the Agent role. Aspect 8 adds a perfective interpretation, yielding a predicate of the same type at Asp’ 9. The lambda-operator 10, looking for a predicate of type $\langle s, t \rangle$, composes with Asp’, abstracts over and binds its coindexed trace, the variable, and yields the AspP 11. AspP is now a function from entities to predicates of events, type $\langle e, st \rangle$, whose unsaturated entity argument corresponds to the Agent role. The identity function nominalizer 12 passes that denotation up to nP 13. The nP and D 14, cannot compose, however, since D requires a simple property-denoting predicate but instead is confronted with a predicate of type $\langle e, st \rangle$. I hypothesize that this type of mismatch is resolved by a repair operation, the introduction of an existential operator to bind off the situation/event argument. I assume that this is the same mechanism that binds the open event in regular declarative clauses.⁹ D, which for our purposes here we treat like an English definite determiner, then asserts the existence of a unique entity with the properties

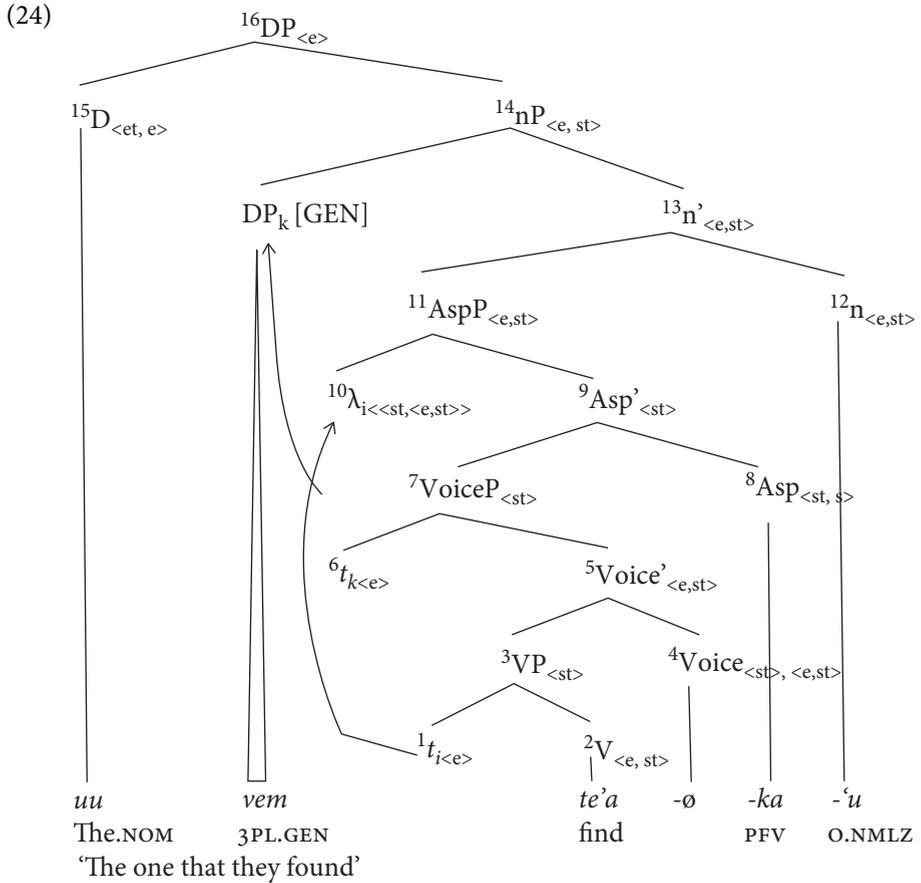
⁸ For simplicity, I take the needed assignment function for granted here.

⁹ There are other options here. If we adopted a different type for D, the open event argument could be passed up to DP and existentially bound when DP is interpreted, but that would incorrectly predict that these DPs might be able to act as predicates of events in some circumstances. Another option would be to build the binding of extraneous open arguments into the composition of n and its complement, giving n a more robust semantic role, perhaps needed for ‘reification’ of the topmost open argument. This denotation would force existential binding of any open event argument in the case of entity-relativization nominals, but instead reify the open event argument itself in event nominalizations. However, since the goal here is to propose a uniform denotation for the nominal relativizer across constructions, this option seems less attractive.

described by the (coerced) nP predicate: the unique Agent of a perfective event of teaching the child.

What have we learned from this walkthrough? First, that lambda-abstraction, implemented here via operator movement, must be part of these relative nominals, since active VoiceP must be saturated in the syntax but the final nP is a predicate of Agent entities. Second, that we need a repair operation to existentially bind the event argument after the nP level, since it cannot be bound by D's iota operator as it can in event nominals.

The object relative nominals in *-u* receive the same analysis, except the lambda-operator merges in object position rather than subject position. In all other respects the derivations are identical. Here is the (almost) complete derivation of *Uu vem te'aka'u*, 'the one that they found', from (12b):



1. $\llbracket t_i \rrbracket = x_i$
2. $\llbracket V \rrbracket = \lambda x \lambda e. \text{find}(x)(e)$
3. $\llbracket VP \rrbracket = \llbracket V \rrbracket(\llbracket t_i \rrbracket) = \lambda e. \text{find}(x_i)(e)$ by FA
4. $\llbracket \text{Voice}_{\text{Act}} \rrbracket = \lambda P_{\langle \text{st} \rangle} \lambda y \lambda e. P(e) \ \& \ \text{Agent}(y, e)$
5. $\llbracket \text{Voice}' \rrbracket = \llbracket \text{Voice}_{\text{Act}} \rrbracket(\llbracket VP \rrbracket) = \lambda y \lambda e. \text{find}(x_i)(e) \ \& \ \text{Agent}(y, e)$ by FA
6. $\llbracket t_k \rrbracket = \llbracket DP_k \rrbracket = \llbracket 3pl \rrbracket = \iota x. [-\text{Part}](x) \ \& \ [-\text{sg}](x)$ ¹⁰
7. $\llbracket \text{VoiceP} \rrbracket = \llbracket \text{Voice}' \rrbracket(\llbracket t_k \rrbracket) = \lambda e. \text{find}(x_i)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e)$ by FA
8. $\llbracket \text{Asp} \rrbracket = \lambda P_{\langle \text{st} \rangle} \lambda e. P(e) \ \& \ \text{pfv}(e)$
9. $\llbracket \text{Asp}' \rrbracket = \llbracket \text{Asp} \rrbracket(\llbracket \text{VoiceP} \rrbracket) = \lambda e. \text{find}(x_i)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e) \ \& \ \text{pfv}(e)$
10. $\llbracket \lambda_i \rrbracket = \lambda P_{\langle \text{st} \rangle} \lambda x \lambda e. P(x)(e)$
11. $\llbracket \text{AspP} \rrbracket = \llbracket \lambda_i \rrbracket(\llbracket \text{Asp}' \rrbracket) = \lambda x \lambda e. \text{find}(x)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e) \ \& \ \text{pfv}(e)$
by FA
12. $\llbracket n \rrbracket = \lambda P. P$
13. $\llbracket n' \rrbracket = \llbracket n \rrbracket(\llbracket \text{AspP} \rrbracket) = \lambda x \lambda e. \text{find}(x)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e) \ \& \ \text{pfv}(e)$ by FA
 $\llbracket nP \rrbracket = \llbracket n' \rrbracket = \lambda x \lambda e. \text{find}(x)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e) \ \& \ \text{pfv}(e)$ by inheritance¹¹
14. $\llbracket D \rrbracket = \lambda P \iota x. P(x)$
15. $\llbracket DP \rrbracket = \llbracket D \rrbracket(\llbracket nP \rrbracket)$ ← type mismatch!
 Existential binding of λe in $\llbracket nP \rrbracket$ allows FA to proceed,
 yielding
 $\iota x \exists e. \text{find}(x)(e) \ \& \ \text{Agent}(\llbracket 3pl \rrbracket, e) \ \& \ \text{pfv}(e)$
 i.e. ‘the unique thing that the unique 3pl entity found.’

The result, then, is not too dissimilar from a true relative clause, invoking operator movement to create the familiar gap structure in the case of entity nominalization. The main difference is that the whole form, externally, morphologically behaves like a noun.

The treatment suggests that long-distance nominalization should perhaps be possible, depending on the availability of successive-cyclic A-bar movement in Hiaki. In-depth work on Hiaki A-bar movement remains to be done, but we note the possibility here for future work.

¹⁰ Or whatever the right interpretation for a 3PL pronoun turns out to be.

¹¹ The re-merge of the agent DP_k to check its genitive case in spec-nP is semantically vacuous, since it is interpreted in spec-VoiceP, so I do not indicate the additional step of lambda-abstraction over n' and saturation via re-Merge of DP_k that would be required to interpret it in its moved position. Alternatively, DP_k could check its genitive case against n in situ, via Agree; I leave these options open here.

9.4 Morphosyntax

Example (25) is the complete paradigm of relative nominalizers in (1)–(4), plus the event nominalizer in (14)–(15). The form of the nominalizer correlates with the presence of a genitive subject argument in the embedded clause:

(25)	<i>n</i> suffix	Genitive subject?	Abstracted argument
	<i>-me</i>	N	subject
	<i>-me</i>	N	event
	<i>-‘u</i>	Y	object
	<i>-‘u</i>	Y	oblique
	<i>-‘Vpo</i>	Y	location
	<i>-‘u/-‘Vwi</i>	Y	goal

All the forms beginning in a glottal have a genitive subject. I propose that this form of the nominalizer is conditioned by the [+gen] *n* needed in object, oblique, location, and goal relative nominals. It is likely best to treat the location and goal nominalizers in (25) as bimorphemic, consisting of a relativizer plus postposition. The nominalizer then would simply be the glottal, *-‘(V)*, followed by the independently motivated postposition (*-po*, *-wi*, *-u*). This would explain why none of the locative relatives can be marked for nominal inflection, and why they behave like PPs, syntactically. The echo vowel before the postposition is conditioned by the phonotactics of the postposition—consonant-initial postpositions like *-po* or *-wi* trigger the insertion of the echo vowel, while the vowel-initial postposition *-u* does not. Álvarez González (2016: 132) hints at the possibility that the glottal is the nominalizer in his discussion of the development of the Old Cahita nonsubject nominalizer *-ye*; the glottal may be the reflex of the defunct *ye*.

With a bimorphemic treatment of the location and goal relative nominalizers in mind, I propose the following Vocabulary Insertion rules for nominalizing *n*, ordered as usual from most-specific conditioning context to least specific. Under normal assumptions about the Subset Condition (Halle, 2000), more specific rules block less specific ones.

- (26) Vocabulary Items for *n*
- $n_{[+gen]} \leftarrow \rightarrow -‘ / [___ P]_{PP}$
 - $n_{[+gen]} \leftarrow \rightarrow -‘u$
 - $n \leftarrow \rightarrow -me$

In the case of subject relative nominals and event nominalizations, no genitive subject argument is present, so the nongenitive-assigning variant *-me* is used.

It is worth noting another difference between subject, object, and locative nominalizations, which use the gap strategy, and oblique nominalizations, which use a resumption strategy, as illustrated in (3), and further illustrated in (27) with a corpus example and an example from Álvarez González (2012):

(27) waka hekata vem aetuk nahkuakteka'u
waka heka-ta vem ae-tuk nah-kuakte-ka-'u
that.ACC canopy-ACC 3SG.GEN it-under around-move-PFV-O.NMLZ
'The shelter where they lived.' lit. 'The shelter that they lived under it.'

(28) waa yoeme nim amak yepsaka'u
Waa yoeme nim a-mak yepsa-ka-'u
That man 1SG.GEN he-with arrive-PFV-O.NMLZ
'That man that I came with.' (Álvarez González, 2012: 76)

The use of a resumptive pronoun for relativization of roles lower on Keenan and Comrie's (1977) hierarchy is typologically well attested. I hypothesize that this pattern in Hiaki does not suggest any modification of the movement-based approach outlined above for subject and object nominalizations. Instead I suggest that the resumptive pronominal clitics in oblique relative nominals are motivated by the affixal postpositions themselves—Hiaki does not permit adposition stranding. Pending further investigation, I assume that null operator movement creates these forms too.

We can also note that the present treatment brings Hiaki into the typological fold, in terms of Keenan and Comrie's (1977) accessibility hierarchy. In Martínez and Langendoen's (1996) proposal, according to which *-me* forms are nominalizers while *-u* forms are 'true relative clauses', Hiaki would be an outlier, with no subject relativization but with productive relativization of objects and obliques. Keenan and Comrie (1977) established that if a language permits relativization of any role on the subject>object>oblique hierarchy, it also permits relativization of all higher roles. Under Martínez and Langendoen's treatment, Hiaki would be a language with object and oblique relativization, but without subject relativization, counter to the hierarchy.

9.5 Outstanding issues and problems

There are two primary types of example which pose problems for the analysis, having to do with copular and unaccusative verbs.

Certain unaccusative verbs, besides permitting subject relative nominals with the predicted *-me* suffix, also permit subject relative nominals with *-‘u*, despite having no genitive-marked subject. Alongside the expected (29a), we find the unexpected (29b), apparently with the same meaning.

- (29) a. *yaha-ka-me*
arrive.PL-PFV-S.NMLZ
‘Those who arrived’
- b. *yaha-ka-‘u*
arrive.PL-PFV-O.NMLZ
‘Those who arrived’?

Similarly, in corpora we find the expected (30a) alongside the unexpected (30b), again with the same meaning.

- (30) a. **Kokokame** hiva aman kom woowota.
Koko-ka-me hiva aman kom woo-wota
die.PL-PFV-S.NMLZ only there down RED-throw
‘Only the ones who died were thrown down there.’
- b. Hunum te kaa hu’unea haikimsa **kokoka’u**
Hunum=te kaa hu’unea haikim-sa **koko-ka-‘u**
There-1PL not know how.many-FOC die.PL-PFV-O.NMLZ
‘We do not know how many died there.’

Although such forms are unexpected, in one respect they are perhaps not surprising, in that these apparent ‘object’ relative nominals are formed on unaccusative intransitives, which are independently argued to base-generate their single argument in object position (Harley, Haugen, & Tubino-Blanco, 2006). If further investigation shows that the optional use of *-‘u* in these forms is related to the ‘deep object’ status of the relativized argument, that could be independent verification of the class of unaccusative intransitives in Hiaki. However, it would not bode well for the allomorphic treatment of the *-me/-‘u* alternation proposed in Section 9.4, since it suggests that the choice of

nominalizer depends on the grammatical role being relativized, rather than on the presence of a genitive-marked subject argument.

On the other hand, these unexpected *-u* forms may also be related to the other class of challenging *-u* forms, created from perfective copular sentences. This construction is most frequently used with proper names in predicate position, and translates roughly as ‘the late *Name*’, or more literally, ‘the one who was *Name*’:

- (31) *uu Luis Tonopoa-tu-ka'u*
uu Luis Tonopoa-tu-ka-'u
the Luis Tonopoa-VBZ-PFV-O.NMLZ
‘The late Luis Tonopoa’, lit. ‘the one who was Luis Tonopoa’ (Leyva, 2019)

It is also used with regular predicate nouns, often denoting roles or professions, as in (32). Álvarez González (2016) also documents its use with predicate adjectives:

- (32) a. *kompae Rego komandantetuka'u*.
kompae Rego komandante-tu-ka-'u
compadre Rego commandante-VBZ-PFV-O.NMLZ
lit. ‘Compadre Rego who was commandante’
b. *uu uhyoli-tu-ka-'u* (Álvarez González, 2016)
uu uhyoli-tu-ka-'u
the pretty-VLZ-PFV-O.NMLZ
‘The one who was pretty.’

If the forms with unaccusative verbs in (29–30) require the use of perfective *-ka* with the *-u* suffix, that could suggest unifying those cases with the *-ka'u* ‘one who was’ cases in (31–32). Álvarez González (2016) argues that these descend from a separate construction in Old Cahita, and are a holdover in Hiaki; he reports that Mayo has either regularized these forms to *-me* (for the nondeath-related meanings) or innovated a novel construction (for the death-related meanings). I set these forms aside here for future investigation.

9.6 Conclusion

Although much remains to be done, certain conclusions seem to be supported. Filler-gap strategies for constructing relative-clause-like structure do not require CP; they can be implemented at lower levels of clause structure, like AspP.

Nominalization by a selecting *n* head can provide an account of why the subjects in these relative nominals are marked with genitive case.

The analytical picture of available nominalization types crosslinguistically has been significantly enriched by developments since *Remarks*, built on advances that were only made possible by discoveries arising from the proposals in that paper. However, this new understanding suggests that Chomsky's original arguments for expanding the base to accommodate nominalizations, rather than creating them via syntactic transformation, were perhaps off the mark. These Hiaki nominalizations are clearly created from inflected phrasal forms, not as separate neologisms in the lexicon. Our theory of UG does need a universal syntactic combinatoric operation, in the form of Merge, but instead of an X-bar template, Merge is constrained only by the selectional restrictions and interpretive possibilities of the specific lexical items involved. This analytical picture has a lot in common with the pre-*Remarks* framework, with its language-specific phrase-structure rules.