

# The role of nominalization in Northern Paiute relative clause formation

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Northern Paiute (Numic, Uto-Aztecan: western United States) has two strategies for constructing nonsubject relative clauses. In INTERNALLY-HEADED RELATIVE CLAUSES, the head noun is contained inside the relative clause, while in EXTERNALLY-HEADED RELATIVE CLAUSES, it occurs outside of it. Why does Northern Paiute have precisely these two relativization strategies? I argue that both involve nonsubject nominalizations, which exist independently in the language. Using the syntax and semantics for nonsubject nominalizations that I propose elsewhere (Toosarvandani, submitted), I show that the internally-headed and externally-headed relative clause strategies found in Northern Paiute arise through the interaction of language-specific and universal principles.

## 1 Introduction

Languages avail themselves of a wealth of different syntactic strategies to express the semantics of relative clauses. In Keenan and Comrie's (1977:63f.) terms, a syntactic object is a relative clause 'if it specifies a set of objects (perhaps a one-member set) in two steps: a larger set is specified, called the DOMAIN of relativization, and then restricted to some subset of which a certain sentence, the RESTRICTING sentence, is true.' By this criterion, Northern Paiute (a Uto-Aztecan language from the Numic branch spoken across the Great Basin in the western United States) has at least one strategy for forming nonsubject relative clauses:<sup>1</sup>

- (1) **Isu**        **tsiadami i=bisabi-na**        wadzi-mia-hu.  
DEM.NOM girl        1SG.GEN=like-NMZ hide-go-PUNC  
'The girl that I like ran away.' (elicitation, MS, BP32-4-s40)

In (1), a common noun *tsiadami* 'girl' specifies a domain (the set of girls), and a clause-like constituent immediately following restricts that domain, here to the set of girls the speaker likes. This construction is usually described as an externally-headed relative clause, presumably because it so closely resembles English externally-headed relative clauses. The domain-specifying common noun (the head) precedes the

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<sup>1</sup>Northern Paiute is comprised of several closely related dialects (Babel et al., to appear). Much of the data presented here comes from my own fieldwork on the variety spoken at Mono Lake in eastern California and immediately to the north in Bridgeport and Coleville, California and Sweetwater, Nevada. Additional data comes from the Burns, Oregon variety (Thornes 2003), and to a lesser extent the McDermitt, Nevada variety (Snapp et al. 1982) and the Bannock variety spoken at Fort Hall, Idaho (Liljebblad 1966). For all dialects of Northern Paiute, there are probably no more than 300 fluent speakers today (Golla, to appear), and for the Mono Lake dialect, there are today around 5 speakers. I thank Grace Dick, Leona Dick, Morris Jack, Elaine Lundy, Edith McCann, and Madeline Stevens for teaching me about their language.

I use the following abbreviations in this paper: ACC = accusative, ADV = adverbial suffix, APPL = applicative, CAUS = causative, DEF = definite, DEM = demonstrative, DIM = diminutive, DL = dual, DOM = domain widener (with indefinite pronouns equivalent to English *wh-ever*), DUR = durative, EMPH = emphatic particle, EXCL = exclusive, F = feminine, GEN = genitive, IMPF = imperfective, INCH = inchoative, INCL = inclusive, INSTR = instrumental nominalizer, IP = instrumental prefix, IRR = irrealis, LOC = locative postposition, M = masculine, MOD = modal particle, MOT = motion suffix, NEG = negation, NOM = nominative, NMZ = nominalizer, NSP = nonspecific object, PASS = passive, PERF = perfect, PL = plural, PRO = resumptive pronoun, PLUR = pluractional, PTC = discourse particle, QUOT = quotative, REFL = possessive anaphor, SEQ = sequential marker, SG = singular, STAT = stative aspect.

domain-restricting clause, which looks just like a clause except that the object is gapped (Snapp et al. 1982:85, Thornes 2003:432–439).

As Andrews (2007:207) observes, though, languages often possess multiple strategies for creating relative clauses, and Northern Paiute is no exception. In addition to the externally-headed relative clause, it has another nonsubject relativization strategy, which has not, to my knowledge, been previously described:

- (2) Kai n̄ī        ka=i=bia                    kammi saa-na        t̄ika-kwi.  
 NEG 1SG.NOM DEF.ACC=1SG.GEN=mother rabbit cook-NMZ eat-IRR  
 ‘I won’t eat **the rabbit my mother cooked.**’ (elicitation, EM, BP32-4-s78)

The same basic pieces from the externally-headed relative clause in (1) are found in (2). There is a domain-specifying common noun, *kammi* ‘rabbit’, that is restricted by clause-like constituent. The obvious difference is that, here, the head occurs inside the restricting clause in canonical object position immediately preceding the verb) Similar INTERNALLY-HEADED RELATIVE CLAUSES are found in languages as diverse as Japanese, Korean, Lakota, Mojave, Navajo, and Quechua.

Why should Northern Paiute have these two ways of making nonsubject relative clauses? Thornes (2010) observes that externally-headed relative clauses, like the one in (1), closely resemble nonsubject nominalizations:

- (3) I=naa’a        saa-na        ne-hu.  
 1SG.GEN=father cook-NMZ burn-PUNC  
 ‘**What my father was cooking** burned.’ (elicitation, EM, BP32-9-s18)

The same nominalization suffix that turns a verb into a noun in (3), *-na*, appears on the verb of the externally-headed relative clause in (1). It also appears on the verb of the internally-headed relative clause in (2). I will argue that both types of relative clause are, in fact, deverbal nominalizations, with the syntax and semantics that I give deverbal nominalization in work elsewhere (Toosarvandani, submitted).

My argument proceeds as follows. First, in §2, I outline my assumptions about the structure and interpretation of nonsubject nominalizations like (3). Then, in §3, I show how this account predicts the existence of internally-headed relative clauses like (2). In §4, I go on to argue that externally-headed relative clauses like (1) have the internal structure of nonsubject nominalizations. Finally, in §5, I discuss the consequences of my proposal for our understanding of the larger typology of relative clauses. Before moving on, I should observe that I will not be discussing subject relative clauses. Northern Paiute does, of course, have a way to form relative clauses in which the subject argument of the restricting clause constrains the domain specified by the head:

- (4) N̄ī        ka=kammi        o’o aataa-di        punni.  
 1SG.NOM DEF.ACC=rabbit there sit.PL-NMZ see.DUR  
 ‘I see **the rabbits that are sitting over there.**’ (elicitation, EM, BP32-4-s68)

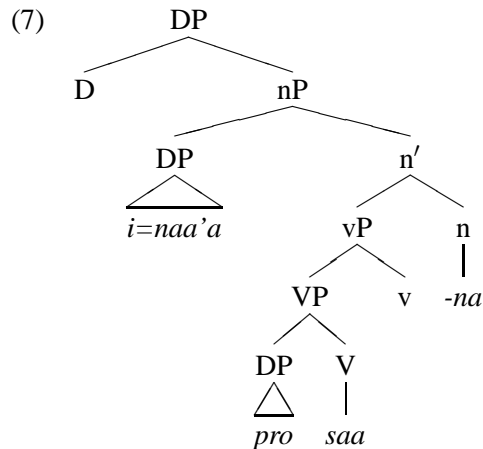
- (5) N̄ī        ika        kutsu patsa-di        yadu’i.  
 1SG.NOM DEM.ACC cow kill.SG-NMZ talk.DUR  
 ‘I am talking to **the cow killer.**’ (elicitation, EM, BP14-2-s3)

The same verbal suffix, *-di*, that creates subject relative clauses, such as (4), also creates subject nominalizations, as in (5). So, while I may not be able to discuss subject relative clauses here, I believe that the approach I take for nonsubject relative clauses should be extended to them as well.

## 2 The structure and interpretation of nonsubject nominalizations

In earlier work (Toosarvandani, submitted), I propose that the nonsubject nominalization in (6), repeated from (3) above, has the structure in (7).

- (6) **I=naa'a**        **saa-na**    ne-hu.  
**1SG.GEN=father cook-NMZ burn-PUNC**  
 ‘What my father was cooking burned.’ (elicitation, EM, BP32-9-s18)



The nominalizer is the overt realization of a nominal functional head, *n*, which introduces the possession relation in possessive descriptions. When it is realized as *-na*, *n* takes a *vP* complement, here one headed by the verb *saa* ‘cook’. The external argument *i=naa'a* ‘my father’ is merged in the specifier of this functional projection, Spec-nP—the same position that possessors occupy.

How do we know that the external argument in nonsubject nominalizations occurs in the same structural position as possessors? To start, agents and possessors never cooccur (in a corpus of about 600 nominalizations), a complementary distribution that follows if they are introduced in the specifier of the same head. There are three more reasons. First, the external argument in nonsubject nominalizations does not receive nominative case. Instead, it receives the same morphological realization as the possessor in a possessive description:

- (8) a. **I=babi'i**                    oo    habi-nimmi.  
**1SG.GEN=older.brother** there lie-around  
 ‘My older brother is lying over there.’ (elicitation, MS, BP32-4-s54)

- b. **I=saa-na**                    ne-hu.  
**1SG.GEN=cook-NMZ burn-PUNC**  
 ‘What I was cooking burned.’ (elicitation, EM, BP32-9-s15)

- (9) a. **Nika**    **babi'i**            o'o.  
**1SG.GEN older.brother** there  
 ‘My older brother is over there.’ (elicitation, MS, BP32-4-s52)

- b. **Nika**    **di-batsa-na**        o'o.  
**1SG.GEN NSP-kill.SG-NMZ** there  
 ‘My kill is over there.’ (elicitation, MS, BP32-3-s50)

Just as the possessor in a possessive description can be realized as a proclitic genitive pronoun (8a), so too can the external argument of a nonsubject nominalization (8b). They can also both be a strong genitive pronoun, as shown in (9a–b). I assume that both the possessor in possessive descriptions and the external argument in nonsubject nominalizations receive genitive case from D.<sup>2</sup>

<sup>2</sup>In fact, only strong pronouns and full DPs receive genitive case in situ in Spec-nP. As in many other languages, the genitive proclitic pronouns in Northern Paiute are in complementary distribution with overt determiners. Following

Second, even when the external argument is a full DP, we can tell that it receives genitive case because of the realization of adjectives. Adjectives contained within a genitive-marked DP are realized with the case-marking, not of the immediately dominating DP (since there is no genitive case for adjectives), but of the maximal DP. When the possessor DPs of nonsubject nominalizations contain an adjective, we find exactly the same pattern:

- (10)a. [DP [DP **Mi=waha-’yu** momoko’ni] saa-na] pisa kamma.  
**PL=two-NOM** women cook-NMZ good taste  
 ‘The two women’s cooking tastes good.’ (elicitation, EM, BP32-8-s4)
- b. [DP Su=[DP **tiitsi-’yu** nana] ti-batsa-na] o’o.  
**DEF.NOM=small-NOM** man NSP-kill.SG-NMZ there  
 ‘The little man’s kill is over there.’ (elicitation, EM, BP32-8-s5)
- (11) Niï [DP ka=[DP **waha-ggu** momoko’ni] saa-na] pisapi.  
**1SG.NOM DEF.ACC=two-ACC** women cook-NMZ like.DUR  
 ‘I like the two women’s cooking.’ (elicitation, EM, BP32-8-s9)

The adjectives *waha* ‘two’ in (10a) and *tiitsi* ‘small’ in (10b) are both realized with nominative case since the DPs they are immediately contained within are themselves the possessors of nominalizations in subject position. And, when the nominalization occurs in object position, as in (11), an adjective contained inside the possessor DP is realized with accusative case.

Third, Northern Paiute has an obligatorily bound pronominal proclitic *ti=* that only occurs as the possessor in possessive descriptions. In (12), *ti=* is bound by the subject DP *su=naatsi’i* ‘the boy’.

- (12) Su=naatsi’i; bino’o **ka=ti;=ddoogga** haani kuyaa o=dda-yaggwine’e-hu tabbu’a.  
**DEF.NOM=boy PTC DEF.ACC=REFL=dog** scold far **3SG.ACC=IP.foot-kick-PUNC** look.like  
 ‘The boy<sub>i</sub> is scolding his<sub>i</sub> dog, and then he kicks him to go away.’ (prompted narrative, MS, BP24-1-t3, 41)
- (13) Su=nana; yaisi **ka=ti;=ti-batsa-nna** yaisi tika-hu...  
**DEF.NOM=man PTC DEF.ACC=REFL=NSP-kill.SG-NMZ PTC** eat-PUNC  
 ‘The man<sub>i</sub> ate his<sub>i</sub> kill...’ (elicitation, EM, BP33-3-s7)

The external argument of a nonsubject nominalization can also be instantiated as this anaphoric pronoun. Consequently, in (13), the agent of the killing is identified with the man, the subject of the matrix verb *tika* ‘eat’.

Two comments about the structure in (7) are in order. First, *v* does not project a specifier. Since there is no T in these nominalizations, a DP merged in Spec-vP would be unable to get nominative case.<sup>3</sup> So an agent argument is just not merged at all. The traditional view, of course, is that such optionality should not be possible since *v* should c-select (or subcategorize) for a DP. But, as Pesetsky (1982:180–205) proposes, since a verb’s c-selectional properties often simply duplicate its s-selectional (or lexical semantic) properties, c-selection should be eliminated altogether (see also Chomsky and Lasnik 1993:517). The distribution of arguments can then be derived from s-selection and the theory of abstract case, which

Cardinaletti (1998), I take genitive proclitic pronouns to be deficient, and so unlike full DPs they cannot receive genitive case in their base-merged position. They consequently raise to head-adjoin to the determiner, which they can do since they are heads themselves.

<sup>3</sup>A DP merged in Spec-vP also cannot raise to Spec-nP to get genitive case. As I will discuss below, Spec-nP is, like Spec-vP, an argument position, and so movement into Spec-nP is banned. Semantically, this is because a DP that has raised out of Spec-vP will, after trace-conversion and  $\lambda$ -abstraction, saturate the agent argument of *v*, and so will not be able to serve as the argument to *n*.

independently regulates the distribution of DPs. This approach, while not uncontroversial, has essentially been adopted and extended within Minimalism to allow structure building (by merge) to occur freely whenever it can, so long as the well-formed syntactic structure that results is semantically interpretable (2008:144). While, in a TP, *v* can project a specifier containing the agent argument, in a nonsubject nominalization, it cannot, because this DP would not be case-licensed. (The task then is to show that the resulting structure is interpretable, which I do below.)

Even though, in (7), *v* does not project a specifier, it does license accusative case. The verb in (14a), *tiiikwi* ‘tell’, takes two internal arguments: a theme (what is told) and a recipient. In a regular clause, like (15a), the recipient is realized with accusative case. (The content of the telling, in this example, is contributed by the quotative marker *mi*, which is anaphoric to an earlier utterance in the discourse.) The verb in (14b), *kuhani* ‘cook’, is monotransitive, but the applicative suffix adds a benefactive argument, which in a regular clause, such as (15b), is realized with accusative case.

(14)a. Ni u=naka-oičikiiti, ka=naatsi nika tiiikwi-na.  
 1SG.NOM 3SG.ACC=hear-believe DEF.ACC=boy 1SG.ACC tell-NMZ  
 ‘I believe what the boy told me.’ (elicitation, Thornes 2003:446)

b. Su=miidi imi i=kuhani-ki-na sida mani-pi.  
 DEF.NOM=meat 2SG.ACC 1SG.ACC=cook-APPL-NMZ bad do-PERF  
 ‘The meat I cooked for you has spoiled.’ (elicitation, Thornes 2003:432)

The accusative case assigned to the recipient of *tiiikwi* ‘tell’ and the benefactive argument of *kuhaniki* ‘cook for’ is still available in nonsubject nominalizations, as we can see in (14a) and (14b) respectively. This follows if *v* is present in nonsubject nominalizations, though it might not project an agent argument position.

(15)a. Mi mi=diikwi.  
 QUOT 2/3PL.ACC=tell  
 ‘This they told them.’ (narrative, Liljeblad 1966:65)

b. Imi miidi i=kuhani-ki.  
 2/3PL.NOM meat 1SG.ACC=cook-APPL  
 ‘They’re cooking meat for me.’ (elicitation, Thornes 2003:285)

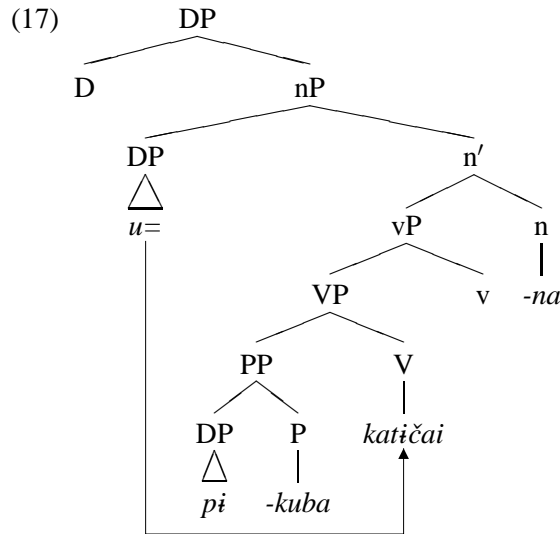
Now for my second comment about the structure in (7). I am proposing that, when the nonsubject nominalization describes an object argument, a null resumptive pronoun is merged as an argument of *V*. In this position, the resumptive pronoun may not have any phonological form, but its presence affects the realization of any other objects. Northern Paiute allows only one object argument to be appear as an accusative pronominal proclitic on the verb, which as we just saw can be a recipient (15a) or a promoted benefactive argument (15b). The verb’s other object argument, if it is pronominal, can only be realized as a strong accusative pronoun (Thornes 2003:304f.). When the nonsubject nominalization describes the patient or theme, though, these arguments no longer have access to the proclitic position. The recipient in (14a) and the benefactive argument in (14b) are both realized as strong accusative pronouns. This is, I submit, because the pronominal proclitic position in these nominalizations is occupied by a null resumptive pronoun.<sup>4</sup>

Additional evidence that there is a resumptive pronoun in nonsubject nominalizations comes from the example in (16b).

<sup>4</sup>In (14b), there is a genitive proclitic pronoun on the verb, which blocks the appearance of an accusative proclitic. But, in (14a), the verb’s external argument is a full DP, which by hypothesis remains in Spec-nP. The absence of an accusative proclitic in this example can unambiguously be attributed to the presence of a null resumptive pronoun.

- (16) Usu      **pi-kuba u=kati-čai-na**                      yaisi oo-tu      patsa-u.  
 DEM.NOM 3SG-LOC 3SG.GEN=sit.SG.DUR-IMPf-NMZ PTC there-LOC kill.SG-PUNC  
 ‘The one he was riding, (Porcupine) killed there.’ (narrative, Thornes 2003:478)

The entire nominalization refers to the individual Porcupine is riding, but this is an activity that in Northern Paiute is described using a collocation of the verb *kati* ‘sit (sg. durative)’ and the postposition *-kuba* ‘on’. The patient of the riding is projected as the argument of this postposition, which means that the resumptive pronoun must be merged as its complement. In this syntactic configuration, the resumptive pronoun, *pi*, is overt—ostensibly, since the postposition, as a bound suffix, must have something to attach to.<sup>5</sup> The structure, then, for (16b) is quite parallel to that for (16a), except for the difference in the phonological realization of the resumptive pronoun:



How is it possible for all possessors to be introduced in the specifier of the same functional projection, Spec-nP? And, how is it possible for the external arguments of nonsubject nominalizations also to be introduced in Spec-nP? The possession relation—the relation between the possessor and the possessee—is notoriously variable, depending on what the possessee is as well as on contextual factors. For inherently relational nouns, such as *mother* or *birthday*, the possession relation is usually determined by the head noun itself: e.g. in an out-of-the-blue context, *Mary’s birthday* refers to the day on which Mary was born. For nonrelational nouns, such as *cloud* or *female*, the possession relation is entirely pragmatically determined. *Mary’s cloud* can describe the cloud Mary picked out, or (somewhat unrealistically) the cloud she owns, etc.

Despite this variability, possessive descriptions can, as Barker (to appear) suggests (p. 7), be given a uniform syntactic treatment. The functional head *n* would introduce a free variable over two-place relations that would get its meaning from the context and that would relate the possessor in Spec-nP with the possessee:

$$(18) \quad \llbracket n \rrbracket = \lambda f \lambda y \lambda x (f(x) \wedge R(x)(y)) : \langle \langle e, t \rangle, \langle e, \langle e, t \rangle \rangle \rangle$$

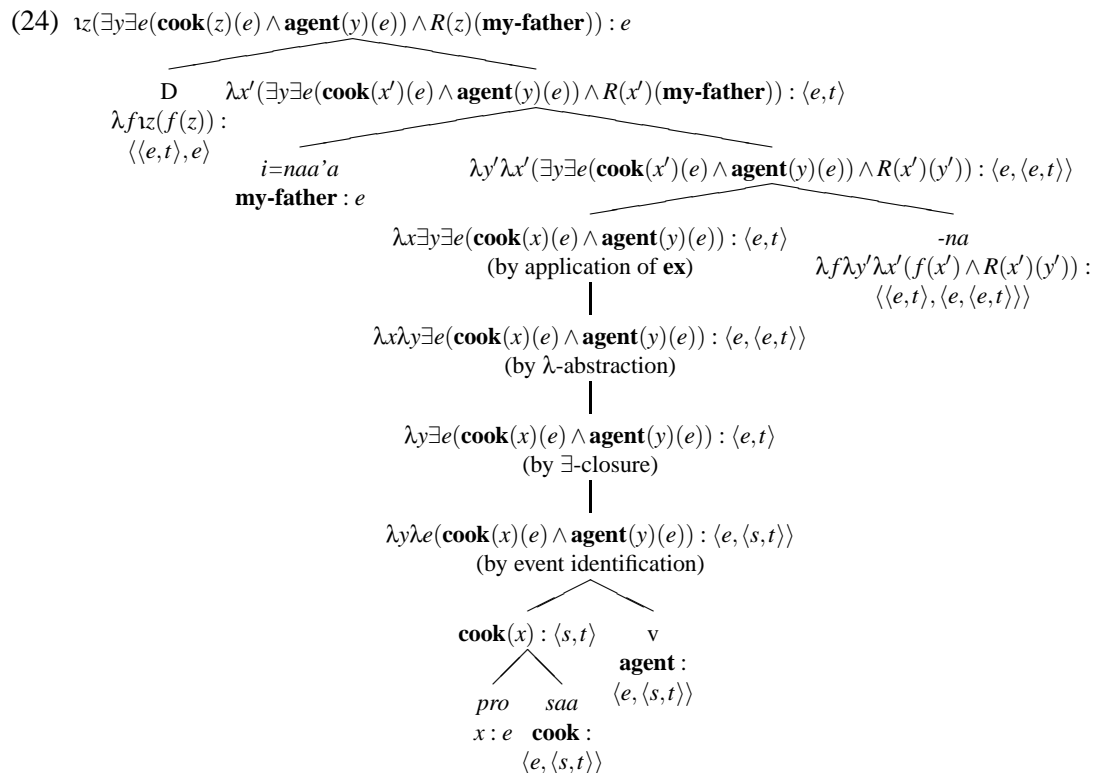
In other words, *n* would take a property—denoted by the NP—and an individual-type argument—the possessor in Spec-nP—to yield the set of individuals that have that property and stand in some contextually salient relation to the possessor. Nonrelational nouns, of course, already denote properties, but relational nouns, as their name suggests, denote two-place relations. We must assume, as Barker does, that, unless it is saturated, one of the relational noun’s two arguments is existentially bound by a type-shifting operator called **ex**, defined as follows:

<sup>5</sup>The resumptive pronoun *pi* can also be used for emphasis, all by itself or with an enclitic like *=simi* ‘alone, only’. Thornes (2003:171f.) observes that *pi* is resumptive since ‘it corefers to another noun phrase in the same clause.’ In this respect, it differs from other pronouns, which cannot be coreferential with other clausemate noun phrases.



a function of type  $\langle e, \langle s, t \rangle \rangle$ . In essence, event identifications combines two predicates of events by abstracting over each of their event arguments.

The interpretation of (7), then, can be given in the following parsetree:



The VP denotes a function from events to truth values, and  $v$  a relation between individuals and events. The two are, following Kratzer, combined by event identification to produce another relation between individuals and events. As we saw above, there is nothing in the specifier of  $v$ , so the agent argument stays unsaturated, though the event argument does not. In (neo-)Davidsonian event semantics, the meaning of a sentence is an existential statement. The event variable introduced by the verb must be existentially bound (by an operation  $\exists$ -closure) in order to produce a truth value. In this case, binding the event variable in this way actually produces the property of being the agent of cooking something. The free variable introduced by the resumptive pronoun must be abstracted over, yielding a relation between individuals. This relation cannot combine with  $n$  as it is, just like relational nouns. The second of these individual-type arguments is existentially bound by the type-shifting operation **ex** to produce a property—the property of being what my father cooked. Once the nominalizer has combined with this property and the possessor DP has been folded in, the nP denotes a property that can serve as the argument for the determiner.

In all of these nonsubject nominalizations, the possessor is construed as the agent of the event described by the verb. This relation is not, however, encoded directly. Recall that, with the meaning I have given *-na*, it introduces a free variable over relations between the possessor and the possessee. The nominalization from (7) has, as we have seen, the translation in (25).

(25)  $\llbracket i=naa'a \text{ saana} \rrbracket = \iota z(\exists y \exists e(\mathbf{cook}(z)(e) \wedge \mathbf{agent}(y)(e)) \wedge R(z)(\mathbf{my-father})) : e$

This nominalization describes the unique maximal individual that is cooked by someone and that stands in a relation  $R$  to my father. Much as with relational nouns, the value of  $R$  comes from the verb, since, when a nonsubject nominalization is uttered, it encodes the most salient relation between the possessor and possessee. In (25), my father is understood as the agent of the event in which the possessee is cooked. One might think, though, that since the possession relation is pragmatically determined, it should be possible, given the right context, to resolve  $R$  as some other relation. But even derived nominals in English strongly



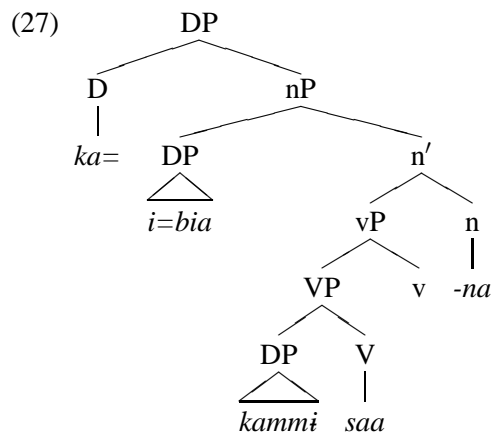
favor the lexical possession relation. Say that we, along with my father, are adjudicating a cooking competition. Each of us has been served a different dish from a different chef, though the identity of these chefs has been withheld from us. It would seem strange for me to say: *I tasted some of my father's cooking, and I didn't like it*—to mean, I tasted some of the food that has been given to my father to judge (of which, crucially, he was not the cook). Rather, I might say: *I tasted some of my father's dish*. It seems that the derived nominal heavily biases an agent interpretation for the possession relation because, unlike *dish*, it explicitly describes a cooking event.

### 3 The internally-headed relative clause

Nonsubject nominalizations in Northern Paiute describe individuals bearing a nonsubject semantic role because there is a resumptive pronoun located inside the verb phrase complement of the nominalizer that is abstracted over. This resumptive pronoun is licensed in an internal argument position by accusative case. But there is nothing in this proposal that requires this be a resumptive pronoun. The verb's internal argument could, for instance, be a bare noun. In this case, the same machinery that derives nonsubject nominalizations would derive internally-headed relative clauses.<sup>6</sup>

The internally-headed relative clause in (26), repeated from the introduction, has the structure in (27).

- (26) Kai ni*i*      ka=i=bia                      kammi saa-na      tika-kwi.  
 NEG 1SG.NOM DEF.ACC=1SG.GEN=mother rabbit cook-NMZ eat-IRR  
 'I won't eat **the rabbit my mother cooked.**' (elicitation, EM, BP32-4-s78)

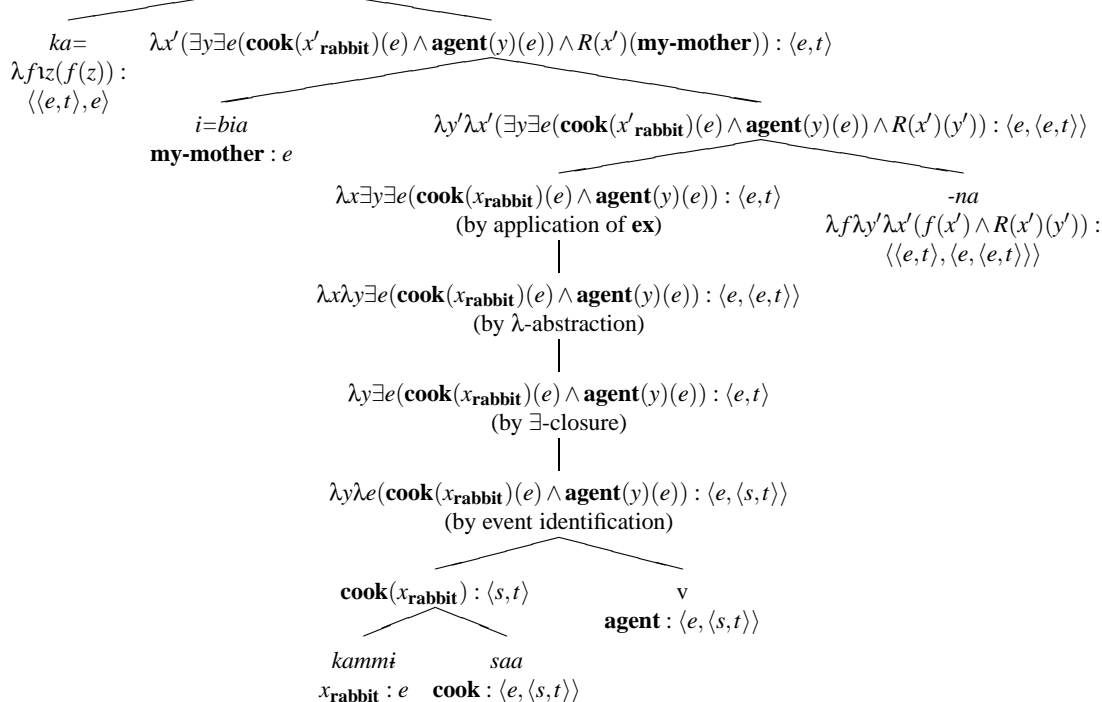


The heads of internally-headed relative clauses in Northern Paiute are, as far as I can tell, obligatorily bare nouns, like *kammi* 'rabbit' in (26). This parallels the restriction found in other languages, such as Lakhota, Mojave, Mooré, and Northern Athabaskan, that the head of the internally-headed relative clause be indefinite (Basilico 1996). Northern Paiute only has definite and demonstrative determiners; indefinites are realized as bare nouns.

As in Heim's (1982) theory of indefinites, the bare head noun of internally-headed relative clauses can be interpreted as a restricted free variable. The correct meaning for the entire internally-headed relative clause then arises because this free variable can be abstracted over, just as the resumptive pronoun was abstracted over in nonsubject nominalizations. The composition of the internally-headed relative clause in (26) is given in the following parsetree (the restriction on the free variable is represented informally with a subscripted property constant):

<sup>6</sup>And, as I show in Toosarvandani, submitted (pp. 29–32), when all of the verb's arguments are saturated, the entire nominalization ends up describing an event—using exactly the same machinery described in §2.

(28)  $\lambda z(\exists y\exists e(\mathbf{cook}(z_{\text{rabbit}})(e) \wedge \mathbf{agent}(y)(e)) \wedge R(z)(\mathbf{my-mother})) : e$



The head of the internally-head relative clause contributes a restricted free variable that saturates the internal argument of the verb. After *v* has been folded into the meaning of the predicate and existential closure of the event variable, this free variable can be abstracted over to yield a relation between individuals—between a cooker and a rabbit being cooked. Since the nominalizer suffix, like other *n* heads, combines with a property, the type shifting operation **ex** applies, and the resulting property is related to the DP *i=bia* ‘my mother’ in Spec-nP. After combining with a definite determiner, the entire internally-headed relative clause refers to the rabbit that the speaker’s mother cooked.<sup>7</sup>

As an aside, these internally-headed relative clauses in Northern Paiute have what Grosu and Landman (1998) call RESTRICTIVE semantics, as opposed to the MAXIMALIZING semantics of internally-headed relative clauses in Japanese, Korean, Navajo, and Quechua (see Grosu 2002:153f.). That is, internally-headed relative clauses receive a definite interpretation when they are embedded under an overt definite determiner, as in (26). When there is no overt definite determiner, they receive an indefinite interpretation:

(29) **Madeline opo ti-madabbui-na** pisapi.  
**basket NSP-make-NMZ** like.DUR

‘(I) like a basket that Madeline made.’ (elicitation, EM, BP32-9-s3)

This is just like regular noun phrases, which without an overt definite determiner are interpreted as indefinites.

Restrictive internally-headed relative clauses in Northern Paiute do not, however, allow stacking, as Basilico (1996:514–518) observes they do in Lakhota, Mojave, Mooré, and Northern Athabaskan. Since they can be interpreted as indefinites, internally-headed relative clauses should be able to serve as the head of another internally-headed relative clause. So far, I have not observed or been able to elicit any unambiguous examples of stacking with internally-head relative clauses in Northern Paiute. In the languages Basilico considers, though, the head raises to a left- or right-peripheral position while staying

<sup>7</sup>Alternately, we might think that the indefinite object denotes a property that combines with the verb by Chung and Ladusaw’s (2004) Restrict operation, as Salanova (2007:80–85) proposes for Mëbengokre internally-headed relative clauses.

inside the relative clause (see p. 516f. on Mojave, for instance). In contrast, in Northern Paiute, the head stays in situ so that embedding one internally-headed relative clause inside another would produce multiple central embedding: [<sub>NP</sub> DP [<sub>VP</sub> [<sub>NP</sub> DP [<sub>VP</sub> DP V]-*na*] V]-*na*]. Two agent DPs would be followed by a single indefinite NP (the head of the innermost relative clause) followed by two *-na* marked verbs. But, Chomsky (1961) observes that multiple central embedding results in unacceptability: e.g. *The rat the cat the dog chased killed ate the malt*. And, as Karlsson (2007) shows in a survey of seven European languages, all with strong written traditions, any degree of multiple central embedding is vanishingly rare in spoken language. I attribute the fact that I have been unable to identify stacked internally-headed relative clauses in Northern Paiute, a purely spoken language, to the general unacceptability of multiple central embedding.

Internally-headed relative clauses exhibit the same case properties as nonsubject nominalizations. The entire internally-head relative clause is marked with the case corresponding to the grammatical relation holding between the head and the matrix verb:

- (30) [<sub>DP</sub> **Su**            **tiitsi-'yu**    **nana miiddi timi-na**] pisa kamma.  
           DEF.NOM **little-NOM** **man** **meat**    **buy-NMZ** good taste  
 'The meat the little man bought is delicious.' (elicitation, EM, BP32-8-s13)

- (31) Nii            [<sub>DP</sub> ka            [<sub>DP</sub> **waha-ggu** momoko'ni] opo    ti-madabbui-na] nii            timi-hu.  
 1SG.NOM        DEF.ACC        **two-ACC** woman.PL    basket NSP-make-NMZ 1SG.NOM buy-PUNC  
 'I bought the basket the two women made.' (elicitation, EM, BP32-8-s17)

In (30), the internally-headed relative clause occurs under the nominative determiner *su*; in (31), it occurs under the accusative determiner *ka*. Moreover, an adjective modifying the agent of the embedded event in Spec-nP receives the same case that adjectives modifying possessors do. Since, in (30), the internally-headed relative clause is the subject, the adjective *tiitsi* 'small' appears in the nominative; and, since, in (31), it is the object, the adjective *waha* 'two' appears in the accusative.

#### 4 The externally-headed relative clause

The externally-headed relative clauses resemble nonsubject nominalizations in which a nonsubject argument has been gapped. In (32), the verb *pisabi* 'like' bears the nominalizer suffix *-na*, and it has no overt direct object. Instead, the domain specified by the head noun *tsiadami*—the set of girls—is restricted to those girls that the speaker likes.

- (32) **Isu**            **tsiadami i=bisabi-na**            wadzi-mia-hu.  
           DEM.NOM **girl**        1SG.GEN=**like-NMZ** hide-go-PUNC  
 'The girl that I like ran away.' (elicitation, MS, BP32-4-s40)

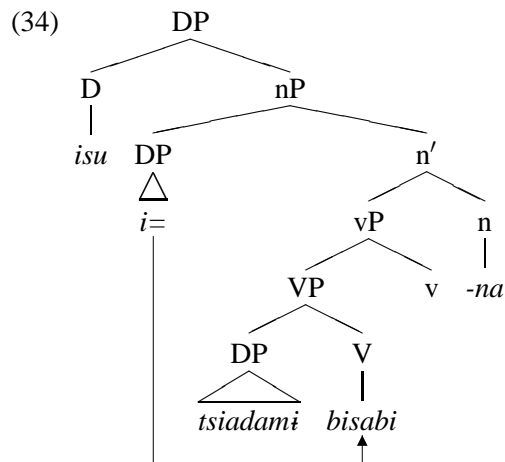
In addition, like the external argument of a nonsubject nominalization, the external argument of the relative clause receives genitive case, since it can be realized as a genitive pronominal proclitic (32). And, as in nonsubject nominalizations, when the gap in the relative clause is the complement of a postposition, the overt resumptive pronoun *pi* occurs:

- (33) Usu        **ka=nana**        **pi-noo**    **i=ti-howai-yai-na**            tua kuma-du.  
           that.NOM DEF.ACC=**man** PRO-with 1SG.GEN=NSP-hunt-IMPf-NMZ son husband-make  
 'She married the son of the man I used to hunt with.' (Snapp et al. 1982:83)

In (33), the domain specified by the head noun is *nana* 'man', which is restricted by the relative clause to just those men with whom the speaker used to hunt. It is the complement of the postposition *-noo* 'with' that is being relativized on, and this position is filled by the pronominal element *pi*.

At first blush, (32) looks unambiguously to be an externally-headed relative clause. A head noun is followed by a relative clause that contains an agent and other verb-phrase-internal material, as previous

authors have observed (Snapp et al. 1982:85, Thornes 2003:432–439). But, since the agent is realized as a genitive pronominal proclitic on the verb, it is not implausible to parse the head noun inside the nominalization. That is, (32) might actually be nothing more than an internally-headed relative clause with the following structure:



There is at least one reason, however, to think that (32) is not an internally-headed relative clause. In Northern Paiute possessive descriptions, when the possessor is a genitive pronominal proclitic, no overt determiner is possible, cf. Italian and other languages (Cardinaletti 1998):

- (35)a. Su=nana      **i=buggu**      patsa-hu.  
 DEF.NOM=man **1SG.GEN=horse** kill.SG-PUNC  
 ‘The man killed my horse.’ (elicitation, EM, BP32-3-s24)
- b. Niï      **ka=nana**      **puggu** patsa-hu.  
 1SG.NOM **DEF.ACC=man horse** kill.SG-PUNC  
 ‘I killed the man’s horse.’ (elicitation, EM, BP32-3-s22)

If (32) were an internally-headed relative clause with the structure in (34), then a genitive pronominal proclitic (merged in Spec-nP) would cooccur with an overt determiner, a collocation that is not otherwise attested in the language.

Rather, the correct structure for the externally-headed relative clause in (32) seems to involve the juxtaposition of two full DPs—one containing the head noun and another containing a nonsubject nominalization. There are two supporting pieces of evidence. First, when the agent of the nonsubject nominalization is a full DP, an overt determiner can intervene between it and the head noun:

- (36)a. [DP **Su=tsia’a**]      [DP **ka=naatsi’i** **pisabi-na**] yaisi niïmma.  
 DEF.NOM= **girl**      DEF.ACC=**boy like-NMZ** PTC feel  
 ‘The girl the boy likes is sick.’ (elicitation, EM, BP32-8-s11)
- b. [DP **Su=tihidda**]      [DP **ka=nana**      **nagi-gga-na**] namatsatsipoggi.  
 DEF.NOM=**deer**      DEF.ACC=**man chase-MOT-NMZ** escape  
 ‘The deer the man was chasing escaped.’ (elicitation, MS, BP32-9-s27)

Second, since the head noun and the relative clause are each contained within their own DP, they can, in addition to having their own determiner, have their own possessor:

- (37) [DP **I=gaadzi**]      [DP **i=dimi-na**]      oo kati.  
 1SG.GEN=**car**      1SG.GEN=**buy-NMZ** there sit.DUR  
 ‘My car that I bought is sitting over there.’ (elicitation, EM, BP32-7-s19)

If genitive case is assigned by D, then the presence of separate possessors for the head noun and the relative clause suggests that they are contained within distinct DPs.

Externally-headed relative clauses in Northern Paiute seem, then, to involve the juxtaposition of two full DPs. It remains a mystery what precisely the relationship between these two DPs is. An adequate analysis would have to explain several properties of externally-headed relative clauses. First, the head noun and the nonsubject nominalization form a constituent together, since they can occur in a right-dislocated position together:

- (38) Kai nīi tika-kwi [DP **ka=kammi**] [DP **i=bia** **saa-na**].  
 NEG 1SG.NOM eat-IRR DEF.ACC=rabbit 1SG.GEN=mother cook-NMZ  
 ‘I won’t eat the rabbit my mother cooked.’ (elicitation, MS, BP32-4-s76)

Second, the two DPs can be embedded together, as, for instance, the possessor of a possessive description:

- (39) Usu [DP **ka=nana**] [DP **pi-noo i=ti-howai-yai-na**] tua kuma-du.  
 DEM DEF.ACC=man PRO-with 1SG.GEN=NSP-hunt-IMPf-NMZ son husband-make  
 ‘She married the son of the man I used to hunt with.’ (elicitation, Snapp et al. 1982:83)

Finally, the relative clause DP—which is just a nonsubject nominalization—gets accusative case:

- (40) [DP Su=miiddi] [DP **ka**=[DP **tiitsi-ggu nana timi-na**] pisa kamma.  
 DEF.NOM=meat DEF.ACC=small-ACC man buy-NMZ good taste  
 ‘The meat the little man bought is delicious.’ (elicitation, EM, BP32-8-s14)

When the nonsubject nominalization has an overt determiner, as in (40), it is the accusative case determiner *ka*. And, when the possessor (or agent) is modified by an adjective—*tiitsi* ‘small’ in (40)—it bears the accusative case suffix.

One possible analysis for the externally-headed relative clause is that the nonsubject nominalization DP stands in apposition to the head noun DP. The intonation of appositive DPs in Northern Paiute is distinctive. As shown in (41), the first DP, *ka=ti=dduisi* ‘his pet’, forms its own intermediate intonational phrase with an H– accent, while the second DP, *ti=ddoogga* ‘his dog’, forms its own intermediate intonational phrase with an L– accent.

- (41) H\*H– H\* L–  
 ... [DP **ka=ti=dduisi**] [DP **ti=ddoogga-tsi**] ti=ddane-we yaa tsa-ddaggwi-pinni.  
 DEF.ACC=REFL=pet REFL=dog-DIM REFL=net-LOC there IP.fingers-carry-STAT  
 ‘...but he is carrying his dog, his pet, in the net.’ (prompted narrative, MS, BP24-1-t3, 57)

- (42) H\*H– H\*L–  
 [DP **I=gaadzi**] [DP **i=dimi-na**] oo kati.  
 1SG.GEN=car 1SG.GEN=buy-NMZ there sit.DUR  
 ‘My car that I bought is sitting over there.’ (elicitation, EM, BP32-7-s19)

This is the same intonational contour found in the externally-headed relative clause. In (42), the DP containing the head noun forms an intermediate phrase with an H– phrasal accent, while the DP containing the nonsubject nominalization forms an intermediate phrase with an L– phrasal accent.

Of course, if externally-headed relative clauses are formed through the apposition of a nonsubject nominalization to a regular DP, why is the nonsubject nominalization assigned accusative case? We see this in both the form of the determiner that takes the nominalization as complement and in the form of adjectives modifying the external argument of the nominalization. There is some evidence that accusative case is the default in Northern Paiute. All DPs except for the subject receive accusative case. This includes direct objects, of course, as in (43), but also recipients, as in (44), and the objects of postpositions, as in (45). Crucially, adverbs can also occur under a determiner, which shows in the accusative case, as in (46).

- (43) Yaisi **ka=paa'a** ma puni-ggwinni.  
 PTC DEF.ACC=**water** there see-CONT  
 'Then he's standing there looking at the water.' (prompted narrative, MS, BP24-1-t3, 12)
- (44) Nii ka=tibbi **ka=nana** kia.  
 1SG.NOM DEF.ACC=rock DEF.ACC=**man** give  
 'I gave the rock to the man.' (elicitation, MS, BP12-4-s45)
- (45) ..**ka=iditi** **tiipi**-nno u=mabina-hu-si.  
 DEF.ACC=**hot dirt**-with 3SG.ACC=bury-PUNC-SEQ  
 '...then you bury it with the hot dirt.' (procedural text, MS, BP13-4-t9, 31)
- (46) **Ka=idzi'i** nii nabagi'a.  
 DEF.ACC=**yesterday** 1SG.NOM bathe.DUR  
 'Yesterday, I was swimming.' (elicitation, MS, BP12-4-s2)

I have not been able to obtain the relevant data yet, but it is not implausible that the DP apposed to a subject DP is not able to get nominative case and that therefore it bears default accusative case. If so, then the nonsubject nominalization in externally-headed relative clauses would also receive accusative case.

## 5 Conclusion

Northern Paiute has two ways of forming nonsubject relative clauses. In the internally-headed relativization strategy, the domain-specifying noun occurs inside the domain-restricting relative clause. In the externally-headed relativization strategy, the domain-specifying nouns occurs before, and hence outside, the domain-restricting relative clause. Both superficially resemble nonsubject nominalization—in the nominalizer suffix *-na* that appears on the verb, in the types of elements they contain, and in the case realization of the verb's arguments.

This superficial resemblance, I argued, reflects a deeper similarity. Relative clauses in Northern Paiute, of both the internally-headed and externally-headed varieties, ARE nonsubject nominalizations. The internally-headed relative clause differs from a nominalization in that it contains a bare noun (the head), which as an indefinite contributes a variable to be abstracted over. The externally-headed relative clause is constructed through the apposition of a DP containing a nonsubject nominalization to another DP (the head).

So, to return to the question I raised in the introduction, why does Northern Paiute have these two ways of making nonsubject relative clauses? The answer is that Northern Paiute has a way of making nonsubject deverbal nominalizations that, given other properties of the language, yields constructions with the semantics of relative clauses. Nonsubject nominalizations form internally-headed relative clauses because Northern Paiute has bare nouns that serve as indefinites. They also form externally-headed relative clauses because Northern Paiute allows one DP to be apposed to another DP. These strike me as plausibly universal properties of all languages, so that the profile of relativization found in Northern Paiute arises because of how these universal properties interact with language-specific ones.

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