

SYNTACTIC ASPECTS OF NOMINALIZATION IN FIVE TIBETO-BURMAN LANGUAGES OF THE HIMALAYAN AREA¹

Carol Genetti

University of California, Santa Barbara
Research Centre for Linguistic Typology

A.R. Coupe

La Trobe University

Ellen Bartee

SIL

Kristine Hildebrandt

SIUE

You-Jing Lin

UC Santa Barbara

The goal of this paper is to describe some of the syntactic structures that are created through nominalization processes in Himalayan Tibeto-Burman languages and the relationships between those structures. These include both structures involving the nominalization of clauses (e.g. complement clauses, relative clauses) and structures involving the nominalization of verbs and predicates (e.g. the derivation of nouns and adjectives). We will argue that, synchronically, clausal nominalization, structurally represented as [clause]_{NP}, is the basic structure underlying many of the nominalizing constructions in these languages, even though individual constructions embed and alter this structure in interesting ways. In addition to clausal nominalization, we will illustrate the presence of derivational nominalization, represented as [V-NOM]_N and [V-NOM]_{ADJ}, although some nominal derivations target the predicate, not the verb root as their domain. We will also demonstrate that derivational nominalization can be seen as having developed from clausal nominalization, at least for some forms in some languages, and that the opposite direction of development, from derivational to clausal structures, is also attested. We will conclude with some syntactic observations pertinent to recent claims made on the historical relationship between nominalization and relativization, demonstrating that there are various ways that these structures can be related. This study is based on data from five Tibeto-Burman languages of the Himalayan area: Manange, Dolakha Newar, Mongsen Ao, Dongwang Tibetan, and Zhuokeji rGyalrong.

Key words: Tibeto-Burman, derivational nominalization, clausal nominalization, relative clause, complement clause, converbal clause

¹ The overall analysis and writing is attributed to Genetti as first author and Coupe as second author; Bartee, Hildebrandt, and Lin contributed data and analysis of their languages of expertise as well as comments on the paper as a whole. Another paper (Genetti, to appear) addresses the same data but is aimed at typologists. The goals of that paper are to bring Tibeto-Burman nominalization to the broader audience, to illustrate the relationships between clausal and derivational nominalization, and to emphasize the role of the relative clause in the diachronic development of each type from the other. This paper was primarily written when Genetti was in residence at the Research Centre for Linguistic Typology at La Trobe University. Thanks to Professors RMW Dixon and Alexandra Aikhenvald for comments and support and the offer to present this research at RCLT. We would also like to thank Professor Jackson T.-S. Sun for valuable comments, Rebekka Siemens for invaluable assistance to this project and Lea Harper for excellent editorial contributions. Any errors or inconsistencies are entirely the fault of the authors.

1. TERMINOLOGICAL PREREQUISITES

We will use the term **nominalization** to refer to a general process by which non-nominal elements become grammatical nominals. Comrie and Thompson (1985: 349) define nominalization more narrowly as “turning something into a noun”, thus invoking a derivational process which references both the notion of wordhood and the lexical category of noun. This narrowly-defined notion of nominalization, essentially as a derivational process which creates lexical nouns from words of other lexical categories, we will refer to as **derivational nominalization**. Tibeto-Burman languages, however, are well known for their extensive use of **clausal nominalization**, a syntactic process which allows a clause to function as a noun phrase within a broader syntactic context. The two levels of nominalization differ both in terms of the domains to which they apply (lexical root versus clause) and in terms of the syntactic category of the resultant structures (single word versus noun phrase). These differences are summarized in Table 1:²

<i>Nominalization</i>			
	Applies to:	Results in:	Structure:
Derivational	Lexical root	Lexical noun	[V-NOM] _{NOUN} ³
Clausal	Clause	Noun phrase	[(NP)... V-NOM] _{NP}

Table 1: Two types of nominalization

It is important to note that clausal nominalizations do not always result in an entire clause appearing intact in a larger structure. As demonstrated below, particular syntactic environments often require the modification of these nominalized clauses in order to meet the functional needs of the construction. Thus the basic structure [clause]_{NP} gives rise to a variety of more specialized structures in the syntax of these languages.

Most of the general linguistic literature on nominalization has focused on derivational nominalization. Semantically, derivational nominalizations either refer to the action or state denoted by the verb (“action nominalizations”) or to an entity involved in that action or state (“participant nominalizations”). Syntactically, derivational nominalizations function as heads of noun phrases. This can be seen in the following example of derivational nominalization in Dongwang Tibetan. Here the derived noun *kr*⁵⁵*mo*⁵³ [steal-NOM] ‘thief’ co-occurs with a preceding demonstrative and a following numeral. The noun phrase as a whole carries the ergative clitic in accordance with the transitive verb:

² This two-way distinction is, in fact, idealized. In some cases the predicate appears to be the domain of derivational nominalization, and in one case the derivational structure appears to apply to a whole clause.

³ It should also be noted that not all derivational “nominalization” in Tibeto-Burman actually derives lexical nouns, but may also derive lexical adjectives. This is exemplified in §5.2.

(1) Dongwang Tibetan⁴

[wə⁵⁵tə ki⁵⁵mo⁵³ sō̃⁵³]_{NP} =ji ŋe¹³ dzɿ¹³ ki⁵⁵mo⁵³
 that thief three =ERG 1SGEN purse thief
 je¹³ tʃhi thi
 VBZR.do lead VIS.PFV
 ‘Those three thieves stole my purse.’

Note that this is a participant nominalization as it designates a participant involved in the action of the verb ‘steal’.

It is important to contrast clausal nominalizations with **action nominal constructions**. The latter contain “in addition to a noun derived from a verb, one or more reflexes of a proposition or predicate” (Comrie and Thompson 1985: 358). Action nominal constructions are thus multi-word phrases that have a derived noun as the head and that contain arguments or adjuncts associated with the proposition. There is considerable variation in the morphosyntactic mechanisms that languages employ to represent arguments within these constructions (Koptjevskaja-Tamm 1993, Comrie and Thompson 1985). Action nominal constructions are not attested in any of the five languages of this study. They are, however, found in other Tibeto-Burman languages of the Himalayas, such as Galo (Post 2007).

By contrast, **clausal nominalizations** are structures where nominalization targets an entire clause *without creating a derived noun as the head*. In the words of Comrie and Thompson, “the verb in such clauses typically has no nominal characteristics and often has such verbal characteristics as person and number, though it may be lacking in tense-aspect marking” (1985: 392). The difference between clausal nominalizations and action nominal constructions is the lexical category of the head and the concomitant categorial features of the dependents (this will be illustrated in (2) below). In action nominalizations, the head is a derived noun; in clausal nominalization the head is notionally a verb. In both structures, the clause as a whole functions as a noun phrase within a broader syntactic structure. These characteristics are summarized in Table 2:⁵

⁴ The Dongwang examples have been provided by Ellen Bartee. They follow the transcription conventions of Bartee 2007. Note that clitics and most particles are toneless, as are “secondary verbs” such as *tʃhi* ‘lead’ in this example.

⁵ Koptjevskaja-Tamm warns that one needs to be careful in distinguishing clause-like action nominal constructions from clausal nominalizations. She cites cases in the literature where some constructions described as clausal nominalizations are, by her criteria, action nominal constructions. She writes: “there is probably no sharp boundary between clausal nominalizations and [action nominal constructions]. Some languages have clausal nominalizations, some have both types, and finally, some do not distinguish between the two types” (1993: 52).

	<i>Action Nominal Construction</i>	<i>Clausal Nominalization</i>
Head:	derived noun	verb
Internal syntax:	from NP-like to clause-like	clause-like
External syntax:	functions as an NP	functions as an NP

Table 2: Action nominal constructions and clausal nominalizations contrasted

The following example from Dolakha Newar exemplifies clausal nominalization. In this example a nominalized clause functions as a subject complement of the lexicalized expression *ju-en con-a*, which expresses some surprise at the state of affairs expressed in the nominalized clause:

- (2) Dolakha Newar clausal nominalization with full clausal structure (Genetti 2007: 410)

[dhũ=n ān̄thi ān̄thi balyeŋ-an coŋ-gu]_{NP}
 tiger=ERG that.manner that.manner stalk-PART stay-NOM
 ju-en con-a
 be-PART stay-3SPST
 ‘It turns out a tiger was stalking me in that manner.’

The only way in which the nominalized clause differs from an independent clause is in the verb morphology; Dolakha Newar nominalized verbs are non-finite, the nominalizing suffix replacing the complex of tense, person, and number marking that is found on finite verbs. The verb, however, could still be negated or carry the causative affix. Note that the subject of the clause carries the ergative case marker reflective of the transitive verb *balyet-* ‘stalk’, and that the clause contains the repeated adverbial *ān̄thi* ‘in that manner’. There is no sense in which the nominalized verb is acting like a noun in this example; it cannot take nominal morphology and it functions as the head of a clause, not the head of a noun phrase.

While this example may be considered “highly clausal” in that it contains a number of morphosyntactic features of an independent clause, examples such as (1) above from Dongwang Tibetan may be considered “highly derivational” in that they contain a number of features of nominal heads. Some examples will be intermediate between the two.

It should be noted that although we will be discussing “clausal nominalization”, it is not unusual for the nominalized constituents to contain more than one clause. In the following example from Dolakha Newar, the nominalized constituent is a chain of three clauses linked by the converbal “participial construction” (Genetti 2005):

- (3) Dolakha Newar clause chain inside a complement clause (Genetti 2007: 431)

[thõsi=e kawāph dak-e hā-en ta-e]_{NP} khon-ai.
 meat=GEN ball make-PART bring-PART put-NOM see-3SPR
 ‘He saw that she had made, brought, and put meatballs.’

Such examples clearly indicate that nominalization is a syntactic, as opposed to a derivational, operation in this language.

2. NOMINALIZATION STUDIES IN TIBETO-BURMAN

Clausal nominalization functions as a core element of the syntax of most, if not all, Tibeto-Burman languages. In addition, nominalization in Tibeto-Burman appears to be always plurifunctional, making for complex and interesting patterns well worthy of description. For these reasons, the number of papers on nominalization in Tibeto-Burman languages is remarkable, and continues to grow by the year. The following list of articles (which excludes descriptions in reference grammars) is extensive, but is unlikely to be complete: Bickel 1995, 1999, Chalise 2005, DeLancey 1986, 1999, 2002, Ebert 1994, Genetti 1992, Herring 1991, Kölver 1977, Lahaussais 2002, 2003, LaPolla 2006, Matisoff 1972, Noonan 1997, 2005, O'Rourke 2000, Regmi 2005, Watters, this volume.

These papers, taken together, attest to both the pervasiveness and the complexity of clausal nominalizations in Tibeto-Burman. The most commonly noted structures in which nominalized clauses are found are the following (cf. Noonan 1997, 2005):

- (Verbal) complement clauses
- Converbial clauses
- Relative (sometimes called participial) clauses
- Nominal complement clauses (gapless adnominal clauses)
- Non-embedded, independent clauses

In addition, some degree of derivational nominalization is also attested in most (perhaps all) Tibeto-Burman languages. This is especially true of participant nominalizations. Interestingly, some languages also use nominalization to derive lexical adjectives (as described below), while other languages suffix nominalizers to other dependent elements of the noun phrase (e.g. demonstratives and time words [Watters, this volume]).

Most of the studies, following the seminal work of Matisoff (1972), are especially focused on the use of nominalization for the production of relative clauses. The very strong tendency to form relative clauses with nominalizations has been termed the “nominalization-relativization syncretism” by DeLancey (2002). In addition to this ubiquitous structural correlation, some Tibeto-Burman languages also show an interesting axis between nominalization and genitivization. In some languages, such as Lahu, the nominalizer itself functions as the genitive morpheme. In others, such as some dialects of Tibetan, the nominalizer co-occurs with the genitive morpheme in some constructions. Finally, the ability for nominalized clauses to occur as independent utterances has also been widely discussed in the literature (yet it is still poorly understood; Watters this volume provides a useful discussion). Bickel (1999: 272) gives the label “Standard Sino-Tibetan Nominalization” to “the morphological convergence of

[these] syntactic functions” (i.e. nominalization, relativization, genitivization, and non-embedded nominalization).

Most of the studies on nominalization in Tibeto-Burman have been descriptions of the phenomenon in a single language. The papers that have taken a comparative approach (Herring 1991, Genetti 1992, Bickel 1995, DeLancey 2002, Watters this volume, Noonan 2005) have primarily been focused on comparing and contrasting the forms and structures, often with an eye to the historical reconstruction of particular nominalizers and/or the postulation of a historical scenario that sheds light on the how these particular patterns are related.

Our goals here are somewhat different. First, by presenting data on five geographically and genetically distant Tibeto-Burman languages, we hope to illustrate the diversity of structures and sets of structures that are found across Tibeto-Burman. Second, we hope to show that despite this diversity there are certain syntactic commonalities and we will discuss these with respect to the synchronic and historical literature on nominalization in Tibeto-Burman. Specifically, we will present a syntactic analysis of various structures in which nominalizers are found in these languages and demonstrate how they are related synchronically. We will then provide evidence that derivational nominalization can arise out of clausal nominalization structures, but that the opposite is also true. We will close by considering recent claims about the historical relationship of nominalization and relativization, and show that an explicit characterization of the syntax allows us to see more clearly relationships among patterns and possible avenues of development.

3. LANGUAGE SAMPLE

The five languages chosen for this study, listed from east to west, are Zhuokeji rGyalrong,⁶ Dongwang Tibetan, Mongsen Ao, Dolakha Newar, and Manange. Each co-author has actively conducted research on one of these five languages: Kristine Hildebrandt for Manange, Carol Genetti for Dolakha Newar, Alec Coupe for Mongsen Ao, Ellen Bartee for Dongwang Tibetan, and You-Jing Lin for Zhuokeji rGyalrong.

The five languages are well distributed as regards geographic and genetic distinctness, and were chosen with this in mind. Geographically, the languages for this study range from central Nepal to north-eastern India to Yunnan and Sichuan provinces in China, as shown in Figure 1.

⁶ Also referred to as Cogtse Gyarong by Nagano (2003).



Figure 1: Geographic positions of the five languages of this study

Genetically, the five languages belong to at least three, if not four, distinct branches of Tibeto-Burman.⁷ The higher-level subgrouping of Tibeto-Burman languages remains largely controversial. While there are some tight clusters and well-defined genetic groupings (e.g. Lolo-Burmese and Tamangic), scholars have not yet reached consensus on the structure of the family at the higher level, the relations between branches (or even the names of the branches), or the affiliation of certain languages. The positions of the five languages of the study within two models of the family are given in Figures 2 and 3:⁸

⁷ Noonan (2005) places Newar, Tibetan, Manange, and rGyalrong under a single branch, Bodic. However, footnote 1 of that paper refers to a great lack of certainty about this classification and illustrates the general confusion that currently permeates the discussion of sub-grouping of Himalayan Tibeto-Burman languages. If all five of these languages are to be put together into a “super-branch” of Tibeto-Burman, the relationships would still be distant and the language which gave rise to them spoken thousands of years in the past.

⁸ LaPolla (2000, 2005) places rGyalrong under a “Rung” subgroup, which, in addition to Qiangic, contains the Kiranti languages, Dulong-Rawang-Anong, the Kham varieties, and Western Himalayish. He does not address the position of Newar with respect to this group, but it would be a possible candidate. Nevertheless, both the temporal, areal, and genetic distance between Newar and rGyalrong would be great.

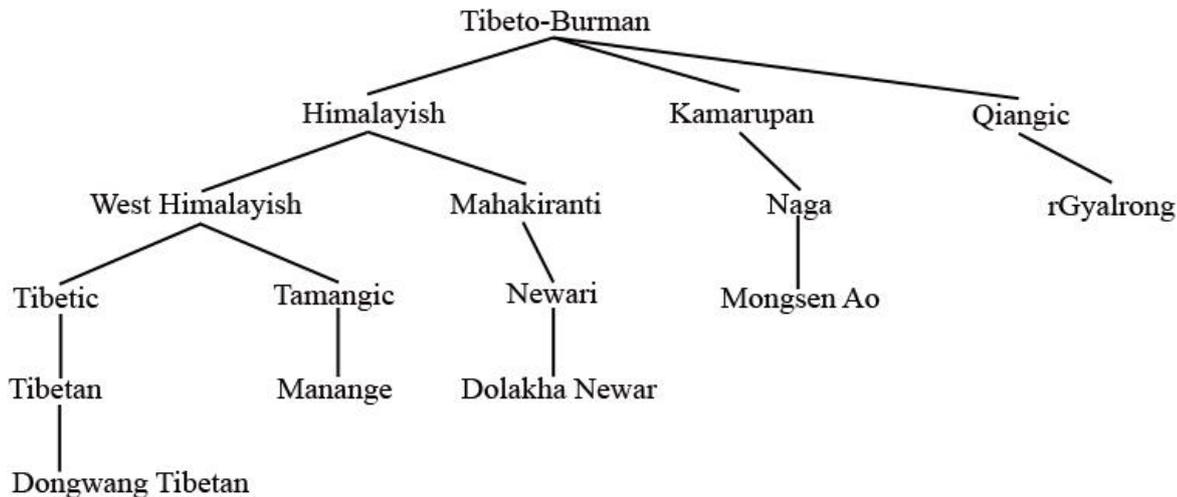


Figure 2: Genetic affiliation of five languages of this study according to Matisoff (2003)

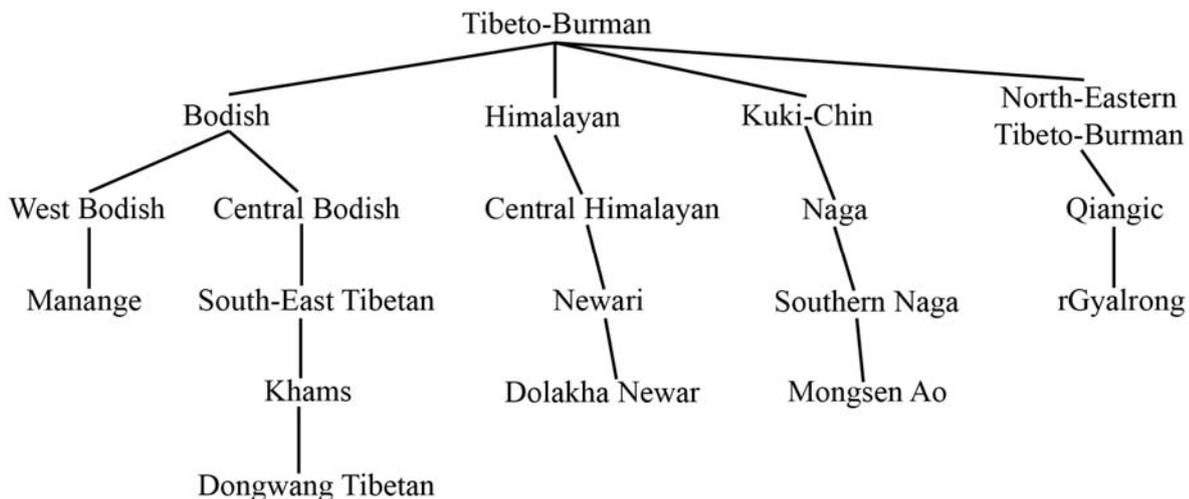


Figure 3: Genetic affiliation of five languages of this study according to Bradley (1997)

The grouping given in Matisoff (2003) assigns the five languages to three distinct branches of the family: Himalayish, a very large and complex branch, with Manange, Dolakha Newar, and rGyalrong assigned to distinct sub-branches; Kamarupan, with the Naga languages including Mongsen Ao under Naga; and Tangut-Qiang, with rGyalrong.

By contrast, Bradley (1997) assigns the five languages to four distinct branches: Bodish, with Manange and Dongwang Tibetan placed in distinct branches; Himalayan, under which Newar is an isolate; Kuki-Chin, with Mongsen Ao; and North-Eastern Tibeto-Burman, with rGyalrong under the sub-branch of Qiangic.

The important point to note is that under either system, none of the languages shows a close genetic relationship to any of the others. The two languages that are placed together in both classifications are Manange and Dongwang Tibetan, yet even these two come from branches which have been separated for at least fifteen

hundred years and probably considerably longer. They are also distant geographically and have had entirely distinct histories of contact (cf. Hildebrandt 2004, Bartee 2007).

4. BACKGROUND INFORMATION ON MORPHOSYNTACTIC STRUCTURES

As one would expect of Tibeto-Burman languages outside of Karenic and Bai, the languages of this study are quite strongly verb-final. Dependent clauses (including adverbial, converbial, and complement clauses) in these languages typically precede the matrix, or final, clause. Complex sentences are usually formed by one or more non-final clauses with non-finite morphology followed by a final clause with finite morphology.

For this paper, we will use the term “finite” to refer to verbs which have marking typical of that of a sentence-final declarative clause in an unmarked context. Finite verbs in the five languages under discussion are characterized either by distinct morphology that marks tense-aspect-modality or person and number, or by their ability to be directly followed by auxiliary verbs or particles that indicate aspect, evidentiality, or related semantic dimensions. “Non-finite” verbs will refer to those found in sentence-medial contexts; they typically carry suffixes that indicate the nature of the syntactic and/or interpropositional relationship between clauses. These usually include nominalizers, converbs (general and specific, e.g. purposive), and infinitives.

Noun-phrase elements in the five languages include numerals (sometimes with classifiers), demonstratives, quantifiers, adjectives, and relative clauses. Headless noun phrases are possible in each of the languages studied. The relative ordering of noun phrase elements varies across the languages. An important point is that in all five languages, case markers (and in some languages, number markers) are not suffixes bound to a lexical noun, but are clitics, phonologically bound to the last element of the noun phrase (see Genetti 2007: 103-104, Bartee 2007: 257ff, Coupe 2007: 213, Hildebrandt 2004: 98, 66-67). If the noun phrase is headless, the final element may be a member of any number of lexical classes, e.g. a demonstrative, a numeral, or an adjective. This morphosyntactic characteristic of the five languages means that *we cannot use case or number morphology to argue that a given word is a lexical nominal*.

The languages of this study differ in the number of morphemes they have which can be used for nominalization. For languages with more than one nominalizer, they also differ in their range of uses and in the independent categories that they index (cf. Genetti 1992). Table 3 lists the nominalizers found in each language:

<i>Language</i>	<i>Forms</i>	<i>Comments</i>
Manange	1. <i>-pɿ</i>	Used in all environments
Dolakha Newar	1. <i>-ku~gu~u</i> 2. <i>-a~e</i> 3. <i>-iuri</i>	The nominalizer <i>-iuri</i> is used with irrealis predicates in limited environments; the other two have complicated distributions related to transitivity (Genetti 2007: 403-407).
Zhuokeji rGyalrong	1. <i>ka~kɸ-</i> 2. <i>kə-</i> 3. <i>sa- ~ sɸ-</i>	The morpheme <i>sa-</i> , <i>sɸ-</i> functions only in the formation of place and instrument nominalizations and locational and temporal relatives; <i>ka~kɸ-</i> is used in the derivation of patientive nouns, as well as in infinitive citation forms (if the verb takes a human subject), and in converb forms.
Mongsen Ao	1. <i>tə-</i> 2. <i>tə...-pàʔ</i> 3. <i>(tə)...-əɿ</i> 4. <i>-pàʔ</i> 5. <i>-əɿ</i> 6. <i>-tʃən</i> 7. <i>-ɿù</i> 8. <i>-tʃhən</i>	All forms are plurifunctional. Functions will be discussed below where relevant.
Dongwang Tibetan	1. <po> 2. <ba> 3. <mo> 4. <pa> 5. <ma> 6. <sa> 7. <myi> 8. <i>-mi-nə</i>	Forms in angled brackets represent Written Tibetan orthography; phonetic forms vary considerably. The nominalizers vary in their productivity and range of functions.

Table 3: List of nominalizers in the five languages of the study

Manange is parsimonious with only one nominalizer. Dolakha Newar has three; the irrealis nominalizer is quite restricted in distribution and will not be further discussed. rGyalrong also has three, with the prefix *kə-* being the most general. Mongsen Ao has six distinct nominalizing morphemes, two pairs of which can combine to make two additional nominalizing strategies. Dongwang Tibetan has eight nominalizers; however, five have quite limited productivity.

5. DERIVATIONAL NOMINALIZATION: THE DERIVATION OF ADJECTIVES AND NOUNS

5.1. The derivation of nouns

The five languages of this study differ noticeably in the extent to which nominalization is used derivationally, that is, to derive lexical nouns which can function as heads of noun phrases.

The language with the least evidence of derivational nominalization is Manange, which has only a handful of examples. Hildebrandt lists only the following in her grammar: *kyo-pA*²² [mourn-NOM] ‘lungs’ (place from which mourning/melancholy comes); *phol-pA*⁴² [roll-NOM] ‘frog’ (one who rolls/jumps in a rolling fashion); *nA-pA*⁴⁴ [sick-NOM] ‘sickness/disease’. Hildebrandt notes (2004: 44) that such nouns are unanalyzable to most speakers.

In connected Manange discourse, nominalized verbs can only be used in referential noun phrases if accompanied by a head noun.⁹ Often the noun chosen is the generic *mi* ‘person’ (e.g. *se-pA*²² *mī*⁵² [kill-NOM person] ‘murderer’), but other nouns are also attested (e.g. *se-pA*²² *nAkyu*²³) [kill-NOM dog] ‘dog that kills’; ‘killer dog’). Thus we cannot say that *mī*⁵² ‘man’ is functioning as a nominalizer in this construction; it is simply heading a noun phrase. Syntactically, this construction is that of a relative clause modifying a head, which we will represent for the moment as [[clause]_{REL} N]_{NP}; a more detailed syntactic analysis will be given in §6.3. Thus the nominalizer is not used productively for the derivation of lexical nouns in Manange.

A relationship between relative clause constructions and derivational nominalization is also found in Dolakha Newar. In that language occupational terms appear to involve a noun-verb compound where the noun represents the semantic patient and the verb is nominalized:

- (4) Dolakha Newar derived occupational terms
- | | | |
|----------------------|------------------|--|
| <i>hāluwā chuk-u</i> | ‘haluwa cook’ | < <i>hāluwā</i> ‘haluwa’ <i>chut-</i> ‘cook’ |
| <i>wāsti hi-u</i> | ‘laundress’ | < <i>wāsti</i> ‘clothes’ + <i>hir-</i> ‘wash’ |
| <i>tisā dake-u</i> | ‘jeweler’ | < <i>tisā</i> ‘jewelry’ + <i>daker-</i> ‘make’ |
| <i>jā chu</i> | ‘cook’ | < <i>jā</i> ‘rice’ + <i>chur-</i> ‘cook’ |
| <i>ḍoli bu</i> | ‘litter carrier’ | < <i>ḍoli</i> ‘litter’ + <i>bur-</i> ‘carry’ |

All of these are participant nominalizations, representing the agent of the nominalized predicate. Interestingly, it is always possible with such terms to follow them with a head noun, e.g. *wāsti hi-u misāmi* ‘the woman who washes clothes’, which suggests that such terms are, in fact, lexicalized headless relative clauses. Consider the three syntactic structures in (5):

⁹ Hildebrandt notes that while she was able to elicit some examples from some speakers of referential nominalized verbs without a head noun, such examples were not attested in connected speech and other speakers downright disapprove of such constructions.

- (5) a. $[[\emptyset \text{ NP V-NOM}]_{\text{REL}} \text{ N}]_{\text{NP}}$ Noun phrase with head and subject relative clause
 b. $[[\emptyset \text{ NP V-NOM}]_{\text{REL}} \emptyset]_{\text{NP}}$ Headless noun phrase with subject relative clause
 c. $[[\emptyset \text{ NP V-NOM}]_{\text{N}}]_{\text{NP}}$ Compound N-V expression with verb nominalized

The structure in (5a) represents a noun phrase with a simple head noun and an embedded relative clause containing a nominalized verb and another NP. The unexpressed argument in the relative clause is coreferential with the head noun, and so has been “gapped”. The structure in (5b) is identical, but with an unexpressed head noun, hence the relative clause is “headless”. The structure in (5c) illustrates a single compounded expression created from a patient noun and a nominalized verb. The fact that this type of structure can be analyzed as either a headless relative clause or a compound noun-verb nominalization creates the very conditions under which a headless relative clause structure can be simultaneously viewed as a lexical nominalization. Such structural ambiguities pave the way for a reanalysis of function.

Interestingly, the phonologically instantiated elements of the compound in (5c) are identical to those in (5b), with the headless relative clause. To our knowledge, there is no evidence to argue on purely structural grounds that a given use of these terms uniquely instantiates one or the other syntactic structure. Instead, sequences such as *wāsti hi-u* are bistructural (Genetti 2005, 2007: 375 *inter alia*) and allow both structural interpretations simultaneously. The extent to which particular collocations are considered to be derived nouns is connected to their degree of lexicalization, stemming from their frequency of use.

In Mongsen Ao there is considerably more evidence for derivational nominalization as a process distinct from relativization or other structures based on clausal nominalization. First, the nominalizing prefix *tə-* is found on a handful of verbs creating abstract nouns:

(6) Mongsen deverbal nouns (Coupe 2007: 256)

<i>sə</i>	‘die’	<i>tə-sə</i>	‘death’
<i>tʃəsi</i>	‘be distressed’	<i>tə-tʃəsi</i>	‘anger, distress’
<i>thəm</i>	‘finish’	<i>tə-thəm</i>	‘end’
<i>tsəpha</i>	‘fear’	<i>tə-tsəpha</i>	‘fear’
<i>məɪak</i>	‘lie’	<i>tə-məɪak</i>	‘lie’

Coupe (2007: 256) notes that this strategy is not fully productive and cannot be used to derive nouns from all verbs. He states that “these derivations, based on rather disparate verb classes, are all used as heads of noun phrases in texts” (2007: 256); he thus confirms that *tə-* prefixation is a derivational process which created a limited number of lexical nouns from verb stems. The only type of clausal nominalization that can be formed by just the nominalizing prefix on a verb stem is the purposive complement (Coupe 2007: 265–266); prefixation is otherwise limited to the process of lexical derivation.

There are four common types of participant nominalizations in Mongsen. These are: agentive nominalization, constructed with the suffix *-əɪ*,¹⁰ instrumental nominalization, constructed with the prefix *tə-* plus the general nominalizer *-pàʔ*, patientive nominalization, constructed with the prefix *tə-* and the irrealis suffix *-i*, and locative nominalization, constructed with the suffix *-tʃən*. These are exemplified in (7):

(7) Mongsen participant nominalizations (Coupe 2007: 257–265)

Agentive:	<i>ni-si</i>	‘lead’	<i>tə-ni-si-əɪ</i>	‘leader’
Patientive:	<i>tʃàʔ</i>	‘eat’	<i>tə-mə-tʃàʔ-i</i>	‘that which is not to be eaten’
Instrument:	<i>nəmphaŋ</i>	‘covered’	<i>tə-nəmphaŋ-pàʔ</i>	‘cover’ (n.)
Locative:	<i>jip</i>	‘sleep’	<i>jip-tʃən</i>	‘bed’

The fact that the derived lexemes can function as heads of noun phrases is amply attested by a variety of behaviors, including their ability to take determiners and to occur as head nouns of compounds. Derived nouns are syntactically distinguishable from relative clauses by a number of criteria, including their inability to co-occur with a head noun. A detailed discussion of these constructions can be found in Coupe (2007: 256–259; 263–265).

Dongwang Tibetan has eight different nominalizing affixes, seven of which are used to derive lexical nouns. Of these, five have little or no productivity and are not found with nominalizing functions outside of lexical derivation. Examples are given in (8); Written Tibetan forms in Romanized orthography are given in angled brackets:

(8) Dongwang examples of lexical nominalizations (Bartee 2007: 100ff)

<po>	<rgyal.po>	<i>dzæ¹¹bu⁵⁵</i>	‘king’
<ba>	<kha.ba>	<i>k^ha¹³</i>	‘snow’
<mo>	<zhwa.mo>	<i>ʃo¹¹wa⁵⁵</i>	‘hat’
<pa>	<sman.pa>	<i>mã³⁵ba⁵⁵</i>	‘doctor’
<ma>	<rku.ma>	<i>ki⁵⁵mo⁵³</i>	‘thief’

The first three of these five nominalizers are the least productive and the resulting lexemes are often unanalyzable to all but the historical linguist. Bartee (2007: 100) describes the last two nominalizers of this group (<pa> and <ma>) as “marginally productive”, stating that they only occur with a small handful of words, but all are found on fully analyzable and modern verb stems.¹¹

¹⁰ Participant nominalizations formed with the agentive nominalizer are found to occur both with and without the nominalizing prefix, e.g. *si* ‘know’ > *tə-si-(ə)ɪ* ‘knowledgeable person,’ and *mətəm* ‘be like’ > *mətəm-əɪ* ‘friend’. The former possibly reflects a derivation from a derived adjective, and the latter a derivation from a verb root.

¹¹ All of these words are found elsewhere in Tibetan, which raises the possibility that they were all borrowings. We do not know of any Dongwang-unique words with these morphemes which

All five of these nominalizers are fully derivational, creating true lexical nouns which co-occur with dependent noun-phrase elements, as demonstrated in example (1), repeated here for convenience:

(9) Dongwang Tibetan

[wə⁵⁵tə ki⁵⁵mo⁵³ sɔ̃⁵³]_{NP} =ji ŋe¹³ dzY¹³ ki⁵⁵mo⁵³
 that thief three =ERG 1SGEN purse thief
 je¹³ tʃhi thi
 VBZR.do V2lead VIS.PFV
 ‘Those three thieves stole my purse.’

Further evidence that the five nominalizers in (8) derive true lexical nouns is that these nouns “have one primary stress per word *and can function as any other noun*” (Bartee 2007: 100; emphasis added).

Dongwang has two other nominalizers which are used productively for lexical nominalization and which are also found in other syntactic environments. One is <sa> -*sa*, which is used for either place or instrument nominalization, and the other is <myi> -*nə*, which is used for agentive nominalizations. Bartee provides the following examples:

(10) Dongwang place/instrument and agentive nominalizations (Bartee 2007: chapter 3)

Place/instrument nominalizations with -*sa*:

sã ¹³ zu ³⁵³	‘to cook food’	sã ¹³ zu ²² sa ¹¹	‘kitchen, cooking utensil’
tɕ ^h ə ⁵⁵ pæ ⁵³ təo ⁵³	‘to take a photo’	tɕ ^h ə ⁵⁵ pæ ⁵³ təo ³³ sa ¹¹	‘camera’
ɲa ¹³ k ^h o ¹³	‘to catch fish’	ɲa ¹³ k ^h o ³³ sa ¹¹	‘fishnet, fishing tool’
ʃ ^h ɪ ⁵⁵ mǎ ⁵³	‘to plough’	mǎ ⁵³ jɛ ¹³ sa ¹¹ ~ ʃ ^h ɪ ³³ mǎ ⁵³ sa	‘plough’

Agentive nominalizations with -*nə*:

sã ¹³ zu ³⁵³	‘to cook food’	sã ¹³ zu ²² nə ¹¹	‘cook’
tɕ ^h ə ⁵⁵ pæ ⁵³ təo ⁵³	‘to take a photo’	tɕ ^h ə ⁵⁵ pæ ⁵³ təo ³³ nə ¹¹	‘photographer’
ɲa ¹³ k ^h o ⁵³	‘to catch fish’	ɲa ¹³ k ^h o ²² nə ¹¹	‘fisherman’
ʃɪ ⁵⁵ mǎ ⁵³	‘to plough a field’	ʃɪ ⁵⁵ mǎ ⁵³ nə ¹¹	‘ploughman’

would indicate productivity. However, Dongwang speakers still readily analyze the last two words (and others like them) as consisting of the <pa> and <ma> affixes and independent stems.

One thing to note is that while the other five nominalizers have as their domain single verb roots, these two nominalizers frequently have a target domain of a two-word phrase, including a verb and its semantic patient, presumably in a compound structure (similar to *letter carrier* in English). Thus the domain of nominalization here appears to be the predicate, not the verb root.¹²

The fact that these nominalizations are indeed derivational (not clausal), creating nominal heads of noun phrases, can be seen by their ability to co-occur with noun-phrase elements, as demonstrated in (11):¹³

(11) Dongwang derived patient/locative noun as noun-phrase head

[tə ⁵⁵	tɕ ^h ə ⁵⁵	pæ ⁵³	təo ³³	sa ¹¹	nə ¹¹	na ⁵³]	n _{NP}	ŋe ¹³	zĩ
that	camera				black				1SGEN	COP.SELF
‘That black camera is mine’										

In addition, these lexemes may not co-occur with a head noun, thus they are clearly distinct from the constructions found in Manange and Dolakha Newar.

Finally we turn to the case of Zhuokeji. In this language, there are three nominalizers which are used in the derivation of lexical nouns. As in Dongwang Tibetan, the nominalizer *sə-* can be used for either place or instrument nominalization:

(12) Zhuokeji rGyalrong place/instrument nominalization

<i>ka-rtʃi</i>	‘to wash’	<i>sə-rtʃi</i>	‘somewhere to wash’;
			‘something used to wash’
<i>ka-za</i>	‘to eat’	<i>sə-zê¹⁴</i>	‘somewhere to eat’;
			‘something used to eat’
<i>ka-mot</i>	‘to drink’	<i>sa-môt</i>	‘somewhere to drink’;
			‘something used to drink’

¹² Nominalized two-word phrases are also found in some lexicalized Mongsen examples, e.g. *a-jim ku li-əɪ* (NRL-village LOC stay-ANOM ‘villager’, and *tsəhŋi tʃhuwa-tʃən* (sun emerge-LNOM) ‘east’ (Coupe 2007: 245). In the latter case, the domain of nominalization is not just a predicate, as it includes the S argument of the verb.

¹³ One of the reviewers of this paper suggested that these may be relative clauses, with *-sa* or *-mi* functioning as relative-clause heads. To our view, the significant restriction of the “heads” to only two morphemes suggests that this is not a periphrastic construction. Relative clause structures can typically occur with any number of lexical heads. The restriction to two possible morphemes suggests that the construction has grammaticalized into one of nominal derivation.

¹⁴ The Zhuokeji rGyalrong tone system shows a binary contrast between falling tone and zero. Lexically, a word is either prelinked with a falling tone (to the final syllable in most cases) or toneless. In this paper, toneless words in Zhuokeji rGyalrong are left unmarked, while falling tone is marked with a circumflex (^) on the falling-toned syllable.

The nominalizers *kə-* and *ka-* are used for agentive and patientive nominalizations respectively:¹⁵

(13) Zhuokeji rGyalrong participant nominalization

kə-rjûk ‘the runner’
kə-dzêk ‘the chaser’ *ka-dzêk* ‘the chased’

Interestingly, when the nominalized verb is transitive, the derived nouns usually occur with an overt noun referring to the other argument of the transitive verb. This argument is indexed on the derived noun by a possessive prefix which indexes a dependent element. Again we see that *kə-* indexes the agentive noun phrase in (14), while *ka-* indexes the patientive morpheme in (15):

(14) Zhuokeji rGyalrong agentive nominalization with attendant nominal argument

rjalpô wə-kə-nəmfi
king 3S.POS-NOM-know₁¹⁶
‘the one who knows the king’

(15) Zhuokeji rGyalrong patientive nominalization with attendant nominal argument

rjalpô wə-ka-nəmfi
king 3S.POS-NOM-know₁
‘the one whom the king knows’

The prefixes are also found occurring with oblique nominalizations; again they index verbal arguments, the notional subject in (16) and the agentive argument in (17):

(16) Zhuokeji rGyalrong locative nominalization with possessive prefix indicating subject

ŋə-sə-rmø
1S.POS-NOM-sleep₁
‘The place where I sleep; my sleeping place’

¹⁵ Note that the nominalizer *ka-* is also used for infinitival citation forms of dynamic verbs that take human subjects. When used for patientive nominalization, the form always occurs with a possessive prefix that indexes the agent of the verb; thus the infinitival and nominalization uses can be distinguished.

¹⁶ Most Zhuokeji rGyalrong verbs distinguish Stem₁ and Stem₂, employing segmental and/or tonal devices. Stem₂ co-occurs with modally unmarked perfective, past imperfective (imperfect) and self-person present imperfective prefixes, as opposed to stem₁, which occurs elsewhere.

- (17) Zhuokeji rGyalrong locative nominalization with possessive prefix indicating arguments

ʎamo = kə tʂafi = ndʒêʂ wə-sə-mtô
 Lamo=ERG Trashi=DUAL 3SPOS-NOM-see
 ‘Where Lamo saw Trashi (and the other one).’

The clearest evidence that the nominalized element is a derived noun is the presence of the *wə-* prefix, which is commonly found on nominals. However, this construction is clearly transitional between derivational nominalization and clausal nominalization, as it incorporates arguments of the verb. This is reminiscent of action nominalizations, such as *his sleeping* in English; however, semantically it is clearly a participant nominalization. Syntactically, these constructions are similar to but still distinct from the primary relative clause construction, which uses different morphology and does not involve possessive affixes (see below).¹⁷ Sun and Lin (2007) analyze (17) as a headless nominalized non-finite relative, but acknowledge (personal communication) its transitional nature.

In sum, the five languages of this study vary considerably in the extent to which nominalization is used to derive lexical nouns. We can see a cline, from languages like Manange and Dolakha Newar where derivational nominalization seems a subspecies of relativization, to languages like Mongsen and Dongwang, where multiple derivational nominalizers create nouns that function fully as heads, to Zhuokeji, where the derived forms carry nominal morphology, but still co-occur with clausal arguments. In the latter case, as in the former, the domain of nominalization can vary from a single verbal root, to a verb plus notional arguments, to an entire clause.

We have also shown that headless relative clause structures can underlie the lexicalization of collocations and lead to the interpretation of such forms as derivational nominalizations. Thus derivational nominalization, the creation of lexical nouns that can serve as heads of noun phrases, can arise from clausal nominalizations through the mechanism of relativization. The opposite direction of development, from derivational nominalization to clausal nominalization will be illustrated in §7.

5.2. *The derivation of adjectives*

We now turn to a commonly cited function of nominalizers in Tibeto-Burman, the derivation of words which denote attributes of nouns. These are sometimes referred to as “attributive nominalizations” or “participles” (Watters this volume). The domain of nominalization here is the verb root, and not the predicate or the clause.

¹⁷ There are some cases where these nominalizations can be used to modify nouns in relative clauses. See §7 for exemplification and discussion.

Genetti and Hildebrandt (2004) and Genetti (2007) have demonstrated that nominalized adjectival verbs in Manange and Dolakha Newar respectively have unique morphosyntactic behavior which is clearly distinct from that of nouns, partially shared with that of verbs, and partially shared with that of non-derived adjectives. In addition, in Dongwang Tibetan (Bartee 2007: 150), some members of the distinct lexical class of adjectives derive historically from nominalized verbs, although all traces of the connection to the lexical verb is lost in the modern language. This piece of evidence, with others, suggests that nominalized verbs that function as adjectives in these languages can be lexicalized as such, in other words, that nominalization can derive adjectives. It is the unique morphological, syntactic, and semantic properties of this class of terms that make this possible.

In all five languages of this study, deverbal adjectives have distinct morphosyntactic behavior when compared to members of other classes, especially non-adjectival verbs. A full description of the behavior of deverbal adjectives in each language is beyond the scope of this paper. Here we will demonstrate the types of argument that can be used to show that adjectival predicates have behavior which is distinct from that of other verbs, and the types of argument that can be used to show that nominalized adjectival verbs function as lexical adjectives.¹⁸ For further discussion of this topic in each language, see Genetti and Hildebrandt (2004), Genetti (2007: Chapter 7), Coupe (2007: 208ff.), and Bartee (2007:148ff).

In Manange, Mongsen Ao, Dongwang Tibetan, and Zhuokeji rGyalrong, when adjectival verbs carry a nominalizer and are used attributively, they must be positioned directly after the noun within the noun phrase. In all four languages, this positioning is unique to verbs with adjectival meanings. Other verbs can only be used attributively through the construction of relative clauses, which are either strictly pre-head (Manange), or have variable positioning (Mongsen Ao, Dongwang Tibetan, Zhuokeji rGyalrong). Critically, attributive adjectival verbs cannot be placed in pre-head position. This shows that adjectival verbs have distinct syntactic behavior from other verbs.

Both Manange and Dongwang Tibetan have a separate class of lexical adjectives which are not derived from verbs synchronically. These adjectives are obligatorily positioned after the noun, just like the derived adjectives. We thus see that derived adjectives and non-derived adjectives share this syntactic behavior. This point can be illustrated with examples from Manange: (18) shows the post-verbal positioning of a simple (non-derived) adjective; (19) shows the obligatory post-head ordering of a deverbal adjective; and (20) shows how this contrasts with the ordering of a relativized non-adjectival verb, which must be pre-verbal even though it is a single word and attributive in function:

¹⁸ As noted by Genetti and Hildebrandt (2004: 95), whether this is considered a subclass of verbs, a subclass of adjectives, or a class on its own depends upon one's theoretical perspective and is in some ways immaterial. The important point is to recognize and describe the distinct morphosyntactic behavior which is unique to these terms.

- (18) Manange simple adjective with post-nominal positioning (Hildebrandt 2004: 60)
 khye⁴² tArkyΛ=ri²²
 road white=LOC
 ‘on the white road’
- (19) Manange deverbal adjective with post-nominal positioning (Hildebrandt 2004: 60)
 kyu⁴⁴ thyΛ-pΛ = ri²²
 water big=NOM=LOC
 ‘in the big water’
- (20) Manange pre-verbal relative clause with non-adjectival verb (Hildebrandt 2004: 60)
 ηwo-pΛ⁵² shΛ²²
 fry-NOM meat
 ‘fried meat’

There are several ways to show that deverbal adjectives are not lexical nouns. Their ability to occur attributively within the noun phrase is an obvious one; such ordering is not typically found with other nouns.¹⁹ In Dolakha Newar, we can show that deverbal adjectives are distinct from nouns in the fact that deverbal adjectives cannot function referentially in the absence of further morphology; they refer to property concepts, e.g. *cicā-u* ‘small’, *hēga-u* ‘red’, and not to nouns denoting them. To use the terms referentially one must add the individuating clitic =(*u*)*ri*, e.g. *cicā-u=ri* ‘the small one’, *hēga-u=ri* ‘the red one’.²⁰ Thus the “nominalizer” derives deverbal adjectives and not lexical nouns.

The derivation of lexical adjectives from verb roots can be represented as [V-NOM]_{ADJ} or [NOM-V]_{ADJ}, depending on whether the nominalizer is prefixed or suffixed. As an adjective, it may modify a noun within a noun phrase, i.e. [N [V-NOM]_{ADJ}]_{NP}.²¹

¹⁹ One might argue that compounding allows two nouns to occur together in the noun phrase. Compounding is clearly distinct, however, as both nouns must be present to create a compound, while noun phrases with attributive modifiers, such as deverbal adjectives, may be headless. In addition, compounds create a single grammatical word, which is more restricted with regard to interruptibility and scope than a phrase (Fabb 2001).

²⁰ This raises the question of whether the individuating clitic is itself a nominalizer. As with the occupational terms, such forms are ambiguous between headless relatives and derived nouns. They could always occur with an accompanying head, in which case the clitic again moves to the right, e.g. *cicā-u muca=ri* ‘the small child’.

²¹ An alternative analysis might posit that the postposed nominalized verb is actually a separate noun-phrase which is in apposition to the preceding noun. However, this analysis is not tenable for two reasons: first, these deverbal adjectives share the syntactic behavior of simple adjectives (Genetti and Hildebrandt 2004), a fact that cannot easily be explained if one analyzes them as

When we consider other structures involving nominalization, once again we find that the closest related structure is a noun phrase containing a relative clause. A relative clause with an adjectival verb will have no expressed arguments, the argument shared with the head noun necessarily being “gapped”: $[[\emptyset \text{ V-NOM}]_{\text{REL}} \text{ N}]_{\text{NP}}$. This is due to the inherent intransitivity of adjectival verbs, which denote states as opposed to activities. Therefore, relative clauses with adjectival verbs are likely to occur as single-word phrases. This then allows for their reanalysis as deverbal adjectives and their assumption of the syntactic properties of other adjectives, if there are any.

In sum, the use of nominalizers in Tibeto-Burman languages to derive lexical adjectives shares both syntactic and functional properties with the use of nominalized relative clauses to modify nouns. Given the strong parallels between these structures, it seems likely that relative clauses were the historically prior structure that set the stage for the derivation of adjectives.

5.3 Summary of derivational nominalization

We have seen that all five languages of the study use nominalization to derive deverbal adjectives but that the languages vary in the extent to which nominalization derives lexical nouns and in the morphosyntactic and semantic details of those nominalizations. The syntactic structures underlying the derivation of adjectives and nouns are given below:

$[\text{V-NOM}]_{\text{ADJ}}$	Derivation of adjectives
$[[(\text{NP}) \text{ V-NOM}]_{\text{N}}$	Derivation of nouns

Both structures share syntactic features with NPs containing nominalized relative clauses. These features allow for the reanalysis of headless relative clauses as either derived nouns or derived adjectives.

6. SYNTACTIC ENVIRONMENTS FOR CLAUSAL NOMINALIZATION

The syntactic essence of clausal nominalization is a clause that functions as a noun phrase in the broader syntax. This can be schematized as $[\text{clause}]_{\text{NP}}$. We can then represent the clause-internal structure in more detail, as exemplified in (21):

(21) Syntactic schema of a nominalized clause

$$[\text{NP}_{0-n} \dots \text{V-NOM}]_{\text{NP}} (= \text{CASE})$$

Here the internal structure of the clause is represented as having zero or more noun phrases, other elements such as adverbials or postpositional phrases

nouns; and second, the pre-nominal elements, the noun, and the post-nominal adjective together form a single coherent noun phrase that follows a set structural template and may end with an enclitic case marker.

(represented by ellipsis), and a verb carrying a nominalizing affix (here represented as a suffix, although prefixes are also found, e.g. in Zhuokeji rGyalrong). Since case markers in these languages are clitic on the noun phrase, they have scope over the entire noun phrase and so are represented as being external. Clitics serve to mark both the terminus of the noun phrase and its semantic and grammatical relations to the verb.

This structure can be seen as basic to all clausal nominalizations in these languages, although particular environments in which nominalized clauses are used may significantly require morphosyntactic modifications of the structure. Such modifications will be discussed in detail in the following sections.

Every language of this study uses clausal nominalization in a unique set of syntactic environments. The following environments were found for all five languages:

- Complement clauses
- Relative clauses
- Nominal complement clauses

In addition, all the languages except Dongwang Tibetan use nominalization in the formation of adverbial or converbial clauses. The same four languages also use nominalized clauses as independent utterances. Given that this pattern is not as widely established in the sample as the others, and the fact that our understanding of this pattern in the languages in which it is attested is not thorough, it will not be fully discussed. We will note only that this is clearly a syntactic pattern that targets a clause or clause combination as a whole; such constructions are clearly felicitous with all noun phrase arguments and adjuncts. The interesting question of the external syntactic status of this construction will need to await more detailed study.

6.1. Complement clauses

A clause which functions as an argument of a verb is generally called a **complement clause**. It should be noted that this term refers to a **verbal complement clause**, i.e. clauses which complement verbs, and that these are distinct from **nominal complement clauses** where verbs complement nouns (see §6.3). In the general typological literature, complementation is described as a structure involving a **complement-taking predicate**, the matrix verb, which has a clause, sometimes reduced, functioning syntactically as one of its noun-phrase arguments. Thus complement clauses conform to the [clause]_{NP} structure underlying clausal nominalization.

Given this structural congruence, it is not surprising that nominalized clauses are found as complement clauses in each of the five languages surveyed. However, it is important to note that not all complement clauses are nominalized clauses. Some complement clauses may be full finite clauses (“sentential complements” (Givón 1980, Noonan 1985), and some may be infinitival or

reduced. (For exemplification of these structures in Dolakha Newar, see Genetti 2007: 415-420.)

The five languages of this study differ in: the range of complement-taking predicates which select nominalized complements; the argument status of the complement clause (core argument of intransitive verb (S), non-agentive argument of transitive verb (O), topic of a verbless clause (VLESS.CL.TOP), complement of a verbless clause (VLESS.CL.COMPL); and whether arguments are obligatorily shared by the complement clause and the complement-taking predicates and, if so, the syntactic repercussions of this fact.

Table 4 lists the complement-taking predicates in each language which selects nominalized complements and specifies the argument role assumed by the complement in each of the five languages:²²

<i>Language</i>	<i>Complement-taking predicate</i>	<i>Argument Role of Complement</i>
Manange	<i>saŋ</i> ⁵² <i>khΛ</i> ²² ‘want’	O
Dolakha Newar	<i>khon-</i> ‘see’, <i>sor-</i> ‘watch’, <i>tār-</i> ‘hear’ (perception verbs) <i>khyañ</i> , <i>ma-khe</i> ‘be/not be the case that’ <i>ju-en con-a</i> ‘turn out that’ <i>sa</i> ‘say’	O S S O
Dongwang Tibetan	<i>ta</i> ⁵³ ‘look; watch’, <i>thū</i> ⁵³ ‘see’ (verbs of visual perception)	O
Zhuokeji rGyalrong	<i>mto</i> ‘see’	O

Table 4: Complement-taking predicates which select nominalized complements

We can see that these languages are quite limited in the number of complement-taking predicates that select nominalized clauses as complements, and that they vary both in the semantics of the complement-taking predicate and in the grammatical role of the complement. Examples of each type of complementation from each language are given below; the grammatical role of the complement clause in the larger syntactic structure of the sentence is indicated in the subscript following the clause:

²² Mongsen Ao differs from the other languages by virtue of the fact that it has no well-defined class of complement-taking predicate. A nominalized clause functioning as an NP can fill any argument role of the predicate in verbal clauses, and can also function as a verbless clause topic or verbless clause complement in verbless clauses. Other languages differ in this; for example, in Dolakha Newar only a handful of predicates can take nominalized clauses as arguments, unless the nominalized clause is a headless relative referring to a participant.

- (22) Manange complement of *saŋ*⁵² *khΛ*²² ‘want’ (Hildebrandt 2004: 113)²³

ŋΛ²² [ya⁵² shΛ²² tsΛ-pΛ²²]_{NP,STIM} saŋ⁵² khΛ²² mo²²
 1(SG) [yak flesh eat-NOM] desire come COP
 ‘I want to eat yak meat.’

- (23) Dolakha Newar complement of *tār* ‘hear’ (Genetti 2007: 396)

jaba jin [u jāŋal hal-gu]_{NP,O} tār-agi
 when 1SERG this bird cry.out-NOM1 hear-1SPR
 ‘When I hear this bird cry out ...’

- (24) Dolakha Newar complement of *khyañ/ma-khe* ‘be/not be the case’ (Genetti 2007: 279)

[chana nimtiŋ chuŋ-a]_{NP,S} ma-khe
 2SGEN benefit cook-NOM2 NEG-COP
 ‘It is not the case that (it) was cooked for your benefit.’

- (25) Dolakha Newar complement of *ju-en con-a* ‘turns out that’ (Genetti 2007: 398)

[āmu si-ku]_{NP,S} ju-en con-a
 3s die-NOM1 be-PART stay-3SPST
 ‘It turns out she died.’

- (26) Dongwang Tibetan complement of *t^hũ*³⁵³ ‘see’

[k^hui⁵⁵ khø⁵⁵ dō³⁵³-sa]_{NP,O} ŋe¹³ t^hũ³⁵³ sō
 3SERG 3SABS hit-nom 1SERG see EGO
 ‘I saw him hit him.’

- (27) Zhuokeji rGyalrong complement of *mtō* ‘see’

ŋa [wətə wə-mŋok kə-tə-zə-w]_{NP,S}
 1SG that 3SG:POS-bread NOM-2-eat₂-TR
 na-ta-mtô-n
 PV-1AGENT:2PATIENT-see₂-2SG
 ‘I saw you eat the bread.’

Some complementation structures entail obligatory or optional co-reference between an argument of the complement-taking predicate and an argument of the complement clause. In this study, which limits itself to nominalized complement clauses,²⁴ the Manange desiderative construction is the only case where co-

²³ Note that this is a noun-verb compound meaning ‘want’ which takes an absolutive argument indicating the experiencer and a second noun phrase indicating the stimulus.

²⁴ Some infinitive complements have this requirement in Dolakha Newar; see Genetti 2007: 419-420.

reference is required between the “subjects” of the complement-taking predicate and the nominalized complement. In this construction the subject of the complement is obligatorily unexpressed in the complement clause. The fact that the unexpressed argument is the subject of the complement clause can be seen in examples (28) and (29). These differ in the transitivity of the complement verb, yet show identical case marking on the surface argument. If the surface argument was the grammatical subject of the complement clause, we would expect to see variation in the case marking between ergative and absolutive:

(28) Manange transitive complement clause

khi²² [siki²² tsΛ-pΛ²²]_{NP,O} saŋ⁵² khΛ²² mo²²
 3s food eat-NOM desire come COP
 ‘He likes/wants to eat food.’ (transitive)

(29) Manange intransitive complement clause

khi²² [phro-pΛ⁴²]_{NP,O} saŋ⁵² khΛ²² mo²²
 3s walk-NOM desire come COP
 ‘He likes/wants to walk.’ (intransitive)

Although the embedded nominalized clause necessarily lacks the expression of one argument, it is still possible to see that the element is indeed a syntactic clause. In addition to a verb, complement clauses may take an O argument, as exemplified in (22) and (28), and may also include adverbial elements, as in (30):

(30) Manange intransitive complement clause (Hildebrandt, personal communication)

ŋΛ²² [tosŋ⁵² nu-pΛ⁴²]_{NP,O} saŋ⁵² a-khΛ²²
 1s now sleep-NOM desire NEG-come
 ‘I don’t want to sleep now’

Thus we can see that while the basic structure underlying nominalized complement clauses in Tibeto-Burman is [clause]_{NP}, the structure may be altered when used in language-particular grammatical constructions.

Another type of co-reference that one finds between complement clauses and complement-taking predicates is between the S or A (subject) of the complement clause and the object of the complement-taking predicate. In such cases, the subject of the complement clause may be grammatically represented as the object of the matrix clause in a structure commonly referred to as “raising”. An example of raising in Dolakha Newar is presented in (31):

(31) Dolakha Newar complementation with raising (Genetti 2007: 409)

cilā = n ninpatti [āmta kho-en coŋ-gu]_{NP,O} khon-ai
 Goat=ERG daily 3SDAT cry-PART stay-NOM1 see-3SPR
 ‘The goat sees her crying every day.’

Here the dative case on the third-person singular pronoun construes the referent of the pronoun as the object of the matrix verb *khon-ai* ‘sees’. Essentially, the referent of the girl plays a double role in this sentence, simultaneously being the one who cries and the one who is seen crying. In this language raising is optional; in other words, it can index either one of the two roles by adjustments in the case marking. For a further discussion of raising in Dolakha Newar, see Genetti (2007: 409-410).²⁵

Dolakha Newar appears to be the only language in the sample that allows raising. The structure serves as a further indication that language-particular grammatical constructions can alter the basic structure of a clausal nominalization.

In all of the examples exhibited to this point the nominalized complement clause consists of a single grammatical clause. However, it is possible for complement clauses to be internally complex, specifically to consist of more than one clause combined by any of a number of clause-combining strategies in a language. Thus complement clauses may contain relative clauses, converbal clauses, or even other complement clauses. The latter structure is found in the following example from Mongsen Ao:

(32) Mongsen Ao double-complementation (Coupe 2007: 238)

[anu-tʃaŋ nə [wàzàʔ-sàʔ tə-són-úʔ]_{NP.O}
 child-MAN AGT bird-meat NZP-be.sour-DEC
 tə sa-pàʔ tʃu]_{NP.VLESS.CL.TOP} sitak
 thus say-NOM DIST correct
 ‘The boy’s saying that the bird-meat is sour is correct.’

Here the complex sentence ‘the boy said that the bird-meat is sour’, which contains a quotative complement ‘the bird-meat is sour’, is nominalized with the suffix *-pàʔ* and functions as the topic of the verbless clause ‘it is correct’. Thus we find a quotative O complement structurally embedded into another complement which is a verbless clause topic.

Another example of a nominalized complement with internal complexity is the following from Dolakha Newar:

²⁵ There are a number of interesting syntactic issues in raising structures and various syntactic analyses could be posited for this and similar examples. These go beyond the scope of the current paper. The point here is simply that the languages of the sample differ in that some allow raising and others do not.

- (33) Dolakha Newar clause chain inside a complement (Genetti 2007: 411-412)

[sācā cumṭu ṭikre-ke bwaṅ-an bwaṅ-an
 calf tail straight-CAUS.PART run-PART run-PART
 kho dupān swaṭṭa morlu-en ye-ene dudu toṅ-a]_{NP-O}
 river inside EXPR bathe-PART come-PART milk drink-NOM2
 khon-ju
 see-3SPST

‘(They) saw the calf run and run with its tail sticking out, bathe inside the river, come out, and drink milk.’

Here a sequence of three clauses combined into a clause chain with the participial construction are embedded as a single unit as grammatical object complement of *khon-* ‘see’. From this we see another way in which the basic structure [clause]_{NP} may be modified; it may be expanded into a multi-clausal constituent. We may represent this as [clause_n]_{NP}. This structure can be found in any syntactic environment where nominalized clauses are used; thus clausal nominalization is a highly flexible and powerful syntactic mechanism that allows for an infinite number of embedded structures.

6.2. *Converbal clauses*

The languages of this study, like most languages of the area, exhibit a set of dependent clause types which are typically non-finite and bear affixes that indicate a dependency relationship with the final clause in the chain, but which do not function as noun phrases or refer to participants (i.e. complements or headless relatives). Most of the affixes specify the semantic relationship which holds between clauses (e.g. conditional, immediate sequential). Other affixes are vague in their meanings and allow for a range of semantic interpretations based upon the semantics of the predicates and pragmatic processes. Clauses whose verbs bear these general affixes are frequently combined into strings, which are referred to as **clause chains**.

The linguistic terminology for the morphological and syntactic distinctions that are made in combining clauses with such affixes is variable, complex, and sometimes contradictory. Probably the most common terminological tradition in the region refers to clauses with semantically-specific affixes as **adverbial** (sometimes **subordinate**) **clauses** and those with semantically-vague affixes as **medial clauses**, **(conjunctive) participial clauses**, or **non-final clauses**. The term **converb** has come into the general typological literature relatively recently (Haspelmath and König 1995, Bickel 1998, Genetti 2005). As with other linguistic terminology, the term is interpreted differently by different practitioners. Most would agree that both the semantically-specific and the semantically-vague affixes would qualify as converbal; the former are given labels that reflect their semantic content (e.g. **conditional converb**) and the latter are given the label **general converbs**. In the works surveyed for this paper, both

sets of terminology are used; to simplify here, we will refer to all dependent clauses which are not arguments of verbs as converbial clauses.²⁶

It is important to note that converbial clauses are **syntactically dependent**, that is, they must be linked to a following clause (“distributional dependency”),²⁷ and they depend on a following clause for the specification of tense, aspect, or other categories signaled by finite verbs in the language (“morphological dependency”).²⁸

The question for the current study is the extent to which clausal nominalization interacts with clause-linkage of this type. For Dongwang Tibetan, there is no evidence that any of the converbial affixes are synchronically or historically related to a nominalizer. In the remaining languages, nominalized clauses (either alone or affixed) may be used for this type of clause linkage.

One language which uses nominalization converbally in the absence of further affixation is Manange. There, a causal converb is formed by simply suffixing the verb with the nominalizer *-pΛ*:

(34) Manange nominalized causal converb (Hildebrandt 2004: 83)

[ŋΛ = tse ²²	mwi ⁴²	phrΛ ⁴²	kyΛ = ri ⁵²	pim-pΛ ²²]	CNV.CL
1=ERG	money	100	2s=LOC	give-NOM	
nese ²²	kyΛ ⁵²	kola ⁵²	kyu-pΛ ⁵²		
tomorrow	2s	clothes	buy-NOM		

‘Because I gave you 100 rupees, you will buy a dress tomorrow.’

Another example of a nominalized clause being used converbally without further affixation is found in Mongsen Ao. There the agentive nominalizer *-əɿ* functions as a sequential converb (glossed SEQ):²⁹

²⁶ The term “converbial clause” thus subsumes Genetti’s “adverbial” and “participial” clauses (but cf. Genetti 2005), the “non-final” clauses of Bartee, and the “chained” clauses of Hildebrandt. Coupe uses the term “converb clause” throughout his work. Lin has yet to write on this construction and glosses such clauses simply as “nominalized”.

²⁷ It is possible for a single utterance to consist only of a converbial clause, however, the presence of another proposition is inferred. For example, once when a Dolakha Newar speaker was about to tell a story for my tape recorder, she picked up the microphone and said: *u joŋ-an* [this hold-PART] ‘holding this?’ It was easy to discern the inferred proposition, something like “shall I tell it?”.

²⁸ The extent to which they are also considered to be “subordinate” or “cosubordinate” varies by language and by linguist. See Genetti (2005) for discussion.

²⁹ An interesting question that arises in both the Manange and the Mongsen case is how particular nominalizers, in the absence of further affixation, come to take on their particular meanings. Why should the general nominalizer signal a causal interpropositional relationship in Manange and the agentive nominalizer signal a sequential relationship in Mongsen? To what extent do language-particular details, such as the presence of a unique set of competing forms, influence the interpretation of such constructions? We leave these questions open for future consideration. See Coupe (in prep.), which explores the diachronic development of converb suffixes from nominalizers and case markers in Mongsen Ao and related languages.

- (35) Mongsen Ao sequential converb clause with *-əɪ* suffix (Coupe 2007: 423)

[tə-tʃhà-əɪ tʃhuwa-əɪ]_{CNV.CL} a-ki thùŋ
 thus-do-SEQ emerge-SEQ NRL-house reach.PST
 ‘And then, [he] came out [of the jungle] and reached home.’

Simple nominalized clauses also function as chained converb clauses in Zhuokeji rGyalrong. Zhuokeji places nominalized clauses into chains when they express a semantically coherent set of ideas. The tense-aspect of the entire chain is conveyed by the final finite verb. Thus in the following chain, the past imperfective meaning of the finite verb extends to both of the nominalized clauses:

- (36) Zhuokeji rGyalrong clause chain with nominalized verbs

... [ʃəkp^hû spo-j ptʃerə kə-gô]_{CNV.CL} ptʃerə
 ... tree bottom-LOC then NOM-go.eastwards then
 [wə-spo-s stô = mənəŋorə ʃamdu kə-lêt]_{CNV.CL} ptʃe
 3SPOS-bottom-ABL upward=TOP gun NOM-put₁ then
 wətəpsôk ʃô tɛ-rwək kə-pa na-ŋôs
 that.way usually N-hunting NOM-do IPV.PST-COP₂
 ‘He used to go under the tree then shoot upward from the bottom; in that way he usually hunted.’

Chained nominalized clauses in Zhuokeji are not semantically specific, but allow for a wide range of interpropositional meanings. In example (36), the first clause is in a sequential relationship to the second, but the third serves as a summary of the other two. Thus in this language the nominalizer is functioning as a general converb.

More common than the use of bare nominalizers for converbal clauses is the use of a nominalizer which carries an additional affix, usually related to a nominal case marker or topic marker. An example of this is found in Dolakha Newar, which, like Manange, uses nominalized clauses for causal converbs. However, in Dolakha Newar the nominalized verb carries an additional suffix, *-lāgin*, which explicitly encodes the causal meaning:

- (37) Dolakha Newar causal converbal clause (Genetti 2007: 475-476)

[mula = ku tuŋ khīga-e-lāgin]_{CNV.CL}
 road=LOC FOC dark-NOM-because
 ām thi-gur chē = ku bās con-da on-a
 3s one-CL house=LOC shelter stay-PURP go-3SPST
 ‘Because it was dark on the road, he went to a house to shelter.’

The suffix *-lāgin* is syncretic with the postposition ‘for the sake of’, e.g. *santān = e lāgin* [heir=GEN sake.of] ‘for the sake of heirs’ (Genetti 2007: 463).

This pattern of grammaticalization, whereby affixes marking converbal clauses are historically derived from case markers bound to nominalized verb forms, is found in a number of Tibeto-Burman languages (Genetti 1986, 1991, Chelliah 1997, LaPolla 2006, Matisoff 1972, Herring 1991, Noonan 1997, 2005), as well as in other parts of the world (Aikhenvald 2008).

This process is also seen in the derivation of converbal affixes in Mongsen Ao. As noted by Coupe (2007), the Mongsen general nominalizer *-pàʔ* is etymologically part of three converbal suffixes: the causal *-pànə* (from the nominalizer plus the instrumental case marker *nə*); the conditional *-pàla* (from the nominalizer plus the topic marker *la*); and the concessive *-pàkukàʔ* (from the nominalizer plus the locative case marker *ku* plus the final syllable of *anukàʔ* ‘also, even, yet’).³⁰ An example follows:

(38) Mongsen Ao causal converbal clause (Coupe 2007: 443)

[pa tə-ləm ku tsə-pànə]_{CNV.CL} tə-ləm tʃu apak-tʃuk
 3SG RL-head LOC peck-CAUSAL RL-head DIST flat-PFV.PST
 ‘Because [the other birds] pecked on her head, [Owl’s] head became flat.’

The basic morphosyntactic structure which allows for the affixation of clauses by nominal case or topic markers is [clause]_{NP}, the simple structure underlying clausal nominalization. Since case markers (and topic markers) are NP-level enclitics, they directly follow the noun phrase. If the noun phrase consists of a clause, then the clitic will be bound to the final element, which in these languages is consistently the verb in dependent clauses, allowing for affixation and grammaticalization.³¹

An interesting question is the extent to which converbal clauses are still syntactically noun phrases. While it is clear that historically we can trace these constructions to old nominalized clauses, frequently combined with a case marker, to what extent is it appropriate to posit this structure synchronically? It is clear that these clauses function as converbal clauses, to signal semantic and rhetorical relations that occur between propositions. It is also clear that these clauses work within a larger set of clause-linkage morphemes and structures, and that it is partly the paradigmatic role of the (sometimes case-marked) nominalizers with respect to other affixes that allow them to take on their specialized meanings. Thus on both functional and systemic grounds, these

³⁰ For full discussion of the semantic aspects of this development, see Coupe (2007: 446-447).

³¹ Coupe (2007: 443-444) presents an alternative scenario for the morphosyntactic development of the Mongsen Ao nominalizer plus instrumental clitic into the marker of a causal adverbial clause. In Mongsen, the nominalizer and the instrumental are not entirely fused; it is possible to separate them and interpose a nominal demonstrative. This suggests that this particular concatenation is derived from a noun phrase with a post-nominal relative clause. See Coupe (2007) for a full discussion.

clauses are converbal. The question is whether they have been reanalyzed as such syntactically.

To answer this, we can consider the morphology itself. In Mongsen, the case markers have fused with the nominalizer to create a set of independent suffixes; they are no longer analyzable as carrying case clitics. This reanalysis of the clitics into affixes must have co-occurred with the reanalysis of the clausal nominalizations from noun phrases into dependent clauses. This type of argument cannot be applied to cases where the nominalizer remains as a clitic, as in Dolakha Newar, where at least some speakers are clearly aware of the syncretism between the nominal and clausal functions of *lāgin*. In this case, speakers are aware that the nominalized clause co-occurs with noun-phrase level morphology, so it seems justifiable to consider it a noun phrase. To our knowledge, there are no clear syntactic arguments that can be used to answer this question definitively.

Thus the syntactic structure underlying the use of nominalized clauses in converbal structures can be seen as either (39) or (40). The latter represents the case of a language with a grammaticalized converbal affix and the former a true converbal clause:

(39) [(NP)... V-NOM]_{NP} (=CASE)

(40) [(NP)... V-NOM/CNV]_{CNV.CL}

6.3 Nominal complement and relative clauses

In all of the languages of this study, nominalized clauses can be embedded into noun phrases in order to modify nouns.³² There are two related but syntactically-distinct constructions of this type: nominal complement clauses and relative clauses.

In **nominal complement clauses**, a nominalized clause can be embedded directly into a noun phrase without any further alterations of its structure. These can be thought of as “gapless adnominal clauses” (Jackson Sun, personal communication). The nominalized clause may have all of its arguments present, and the head noun does not have an argument role in the nominal complement clause:

(41) Dolakha Newar nominal complement clause (Genetti 2007: 388)

[[kwākerbeŋ = na kisi na-e]_{NOM.COMP} khã]_{NP}
 frog=ERG elephant eat=NOM2 talk
 ‘The talk of the frog eating/that ate an elephant.’

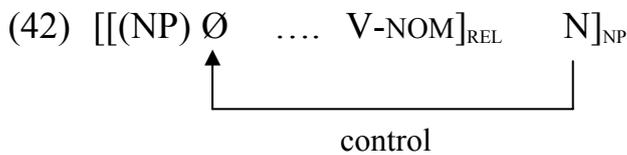
As in this example, heads of nominal complement constructions are usually abstract, referring to elements that are spoken or understood (e.g. news, story, fact, idea, plan). It is clear that this structure simply involves the embedding of a

³² There are some examples from Dongwang Tibetan of relative clauses where the verbs are not nominalized; however these seem to be rare.

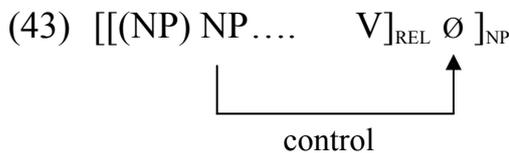
clause into a noun phrase, e.g. $[[\text{clause}]_{\text{NP}} \text{N}]_{\text{NP}}$; no further syntactic adjustments are necessary.

Gapping-type **relative clauses**, which are most commonly attested in these languages, have a quite distinct syntactic property that differentiates them from nominal complement clauses as well as other types of clausal nominalizations, since gapping relative clauses, like some complement clauses, undergo syntactic adjustments in the process of relativization and noun-phrase-internal embedding.³³

The defining feature of a relative clause is the existence of a shared (co-referential) argument between the relative and matrix clauses. In pre-head relative clauses, this argument is obligatorily absent from the relative clause, creating a gap in the structure, and is controlled by the head noun. This structure is represented in (42):



Internally-headed relative clauses are more complicated. Probably the simplest analysis is to posit a constraint against the presence of two heads in a single noun phrase. The presence of the head inside the internally-headed relative clause then prohibits the presence of another specification of the head external to the clause. The head noun is obligatorily absent or “gapped”, and then controlled by the NP within the relative:



In both cases the resulting structure is syntactically complex and highly integrated.

There are several typological dimensions which differentiate relative clauses in these languages: ordering with respect to the head noun, headedness, and the indexation of the relative as a dependent element, either by a genitive affix or by possessive marking on the head noun. The languages also differ in the semantic distinctions made by different nominalizers. As these distinctions do not have ramifications for the syntactic analysis, they will not be fully described.

There are three logically-possible orderings for the head noun and the relative clause: the relative clause may precede the head noun, forming a **pre-head relative clause**; the relative clause may follow the head noun, forming a **post-head relative clause**; and the head noun may be placed in a position internal to

³³ For the remainder of the discussion all relative-clause structures discussed will be of the gapping type, so the term “gapping” will not be overtly expressed. It should be assumed.

the relative clause, forming an **internally-headed relative clause**. All three types are found in Mongsen Ao, as the following examples illustrate (the head noun is represented in bold throughout this section):

- (44) Mongsen Ao pre-head relative clause (Coupe 2007: 225)

[[sənti-pàʔ nə hən-pàʔ]_{REL} **kákót** tʃu]_{NP}
 Senti-M AGT carry-NOM book DIST
 ‘The book that Senti carried’

- (45) Mongsen Ao post-head relative clause (Coupe 2007: 225)

[**kákót** [sənti-pàʔ nə hən-pàʔ]_{REL} tʃu]_{NP}
 book Senti-M AGT carry-NOM DIST
 Idem.

- (46) Mongsen Ao internally-headed relative clause (Coupe 2007: 225)

[[sənti-pàʔ nə **kákót** hən-pàʔ]_{REL} tʃu]_{NP}
 Senti-M AGT book carry-NOM DIST
 Idem.

While all three types of ordering are attested in Mongsen, there are significant differences in the relative frequency of the orders. Coupe (2007: 223) reports that internally-headed relative clauses are quite rare, and that post-head relative clauses frequently have a non-restrictive meaning. For further discussion, see Coupe (2007: 219–229).

Both Dongwang Tibetan and Zhuokeji rGyalrong also allow internally-headed relative clauses. Bartee observes that these are relatively infrequent in Dongwang and that they are semantically restricted to relative clauses where the head noun is coreferential with the patient of the relative clause:

- (47) Dongwang internally-headed relative clause (Bartee 2007)

[k^hui⁵³ **kui**¹³ ʂæ̃³³ k^hə de-nə]_{REL} = kī
 3SERG clothes wear V2 CONT-NOM = PL
 ŋe¹³ zæ̃¹³ re
 1SGEN belonging COP.OTHR
 ‘The clothes she is wearing are mine.’ (literally, ‘are my belongings’)

It should be noted that relative clauses are frequently headless in all of the languages except Manange,³⁴ as the following examples illustrate:³⁵

³⁴ An interesting point, made by Randy LaPolla, is that the lack of headless relatives in Manange is likely to be directly tied to the lack of lexical nominalizations in this language (§5.1), as the headless relative structure is the most common historical source for lexical nominalization.

(48) Zhuokeji rGyalrong headless relative clause

[[kərts^hɛs sɐ-dô-j]_{REL} Ø]_{NP} = tə
 deer NOM.OBL-there.be-LOC = TOP
 ‘At (the place) where there are deer’

(49) Dongwang Tibetan headless relative clause (Bartee 2007: 455)

[[wu¹¹ly⁵⁵ =ji tɕha¹³-mi⁵³]_{REL} Ø]_{NP}
 cat=ERG eat-NOM
 ‘(the place) where the cat ate’

(50) Mongsen Ao headless relative clause (Coupe 2007: 228)

tə-əɪ [zək-pàʔ]_{REL} Ø]_{NP} ənti-ɹəm ku sə-tʃuk
 thus-SEQ send-NOM path-middle LOC die-PFV.PST
 ‘And then, [the one who was] sent died in the middle of the road.’

(51) Dolakha Newar headless relative clause (Genetti 2007: 393)

[kār-a oŋ-gu]_{REL} Ø]_{NP} = pen
 take-PURP go-NOM1 =PL
 ‘(The ones) who went to take (it)’

Perhaps the most interesting syntactic distinction that one finds in the relative structures attested in the five languages is whether or not relative clauses can or must be explicitly marked as dependent elements within the noun phrase, either through the affixation of the genitive case marker, or through the cross-indexing of the relative clause by possessive affixes on the head noun.³⁶ The appearance of genitive case marking on relative clauses is especially well known for dialects of Tibetan (DeLancey 1999), and is also attested in some Tamangic languages, such as varieties of Gurung (Glover 1974: 99-100; Hildebrandt in preparation).³⁷ Therefore it is not surprising to find that this pattern is most strongly attested in Dongwang Tibetan and that there is a suggestion that such a structure was present historically in Manange. Cross-indexing of the relative clause by a possessive

³⁵ It is worth noting that in some languages nominal complement clauses may also be headless, e.g. Dolakha Newar: *gōgar khēja tho-e* [rooster egg lay-NOM2] ‘(The one about) the rooster who laid an egg’.

³⁶ In some Tibeto-Burman languages, e.g. Lahu (Matisoff 1972), the nominalizer itself functions independently as a genitive case marker. In Mongsen, syncretism between the genitive case marker and the agentive nominalizer suggest they come from the same etymological source (Coupe 2007: 252–256); however, they are distinct synchronically. Clearly the syntactic implications will be different if the nominalizer is the actual genitive case marker (as in Lahu) than if a nominalized element is case-marked as genitive.

³⁷ There are also complex relationships between nominalizers and the genitive in the Kathmandu dialect of Newar; however, these do not affect relative clauses. See Kölver 1977, DeLancey 1986, 1990.

prefix on the head noun is found in Zhuokeji rGyalrong. There is no evidence of explicit marking of dependency in either Dolakha Newar or Mongsen.³⁸

Beginning with Dongwang Tibetan, pre-head relative clauses constructed with any nominalizer may be suffixed by the genitive case marker, but only if the head noun is present. In this environment, the genitive case marker is optional. Examples (52) and (53) illustrate Dongwang relative clauses with and without the genitive suffix respectively:

(52) Dongwang relative clause with *-sa* nominalizer

[[shi³⁵hui⁵⁵ sa⁵³-sa]_{REL} =ji **dong**¹³]_{NP}
 limestone burn-NOM =GEN hole
 ‘The hole where limestone is burned’

(53) Dongwang pre-head relative clause (Bartee 2007: 247)

[[pə¹¹sə⁵⁵ tʂ^hi⁵³-nə]_{REL} **ɲə**¹³]_{NP}
 spouse lead-NOM man
 ‘The man (my parents) brought to be a husband’

Bartee notes that there are differences across speakers in their acceptance of examples with and without the genitive, and that some speakers clearly prefer or disprefer it in certain contexts. In addition, speakers state that there is no meaning difference contingent on the presence or absence of the genitive.

Turning to Manange, the single nominalizer *-pa* is used in the formation of relative clauses. However, Hildebrandt (2002: 113) notes: “At times in relativised contexts the quality of /ʌ/ fronts and sounds like [pe] or [pœ]. This phonetic alternation does not appear to correlate with any functional difference, however”. DeLancey (2002) attributes this fronting to the presence of an old genitive marker *-i*, however, as Noonan (2005) points out, the modern Manange genitive is *-la*. DeLancey’s postulation of the *-i* is based on the presence of a genitive *-e* in the related language Gurung and the genitive *-i* found in some dialects of Tibetan. Given the pattern of genitive marking of relative clauses in Gurung (DeLancey 2002: 63), this seems like a plausible hypothesis. However, what we find in modern Manange is at best the dim remnants of an old historical pattern. The fact that the current genitive marker has a very different form argues that from a synchronic viewpoint, Manange relative clauses do not carry the genitive case marker.

In Zhuokeji rGyalrong, a different syntactic pattern, but with a similar functional basis, is attested. Zhuokeji is typologically different from the other languages of this study in that it has a strong tendency towards head-marking morphology. This difference can be seen by comparing the dependent-marking pattern found in the possessive construction of Dongwang (the same structure

³⁸ As suggested in footnote 36, this assumes that the syncretism between the agentive nominalizer and the genitive morpheme is historical and not synchronic.

would be found with the other three languages), with the head-marking pattern found in the possessive construction of Zhuokeji:

- (54) Dongwang Tibetan possessive construction with dependent marked by genitive

a¹¹ka⁵³ =ji ba³⁵³
 child =GEN father
 ‘the child’s father’

- (55) Zhuokeji rGyalrong possessive construction with head marked by possessive prefix

ta-pu wə-pê
 NPR-child 3SPOS-father
 ‘the child’s father’

In both languages, the possessed noun ‘father’ is the syntactic head of the noun phrase, while the possessor ‘child’ is the dependent element. The languages differ in whether the semantic relationship of possession and the syntactic dependency of the possessor is indicated by a genitive clitic on the dependent noun (Dongwang Tibetan) or the possessive prefix on the head (Zhuokeji rGyalrong).

It is interesting that the same syntactic patterns are found with relative clauses. In Dongwang Tibetan, relative clauses are marked with the genitive, while in Zhuokeji rGyalrong, head nouns obligatorily carry the third-person-singular possessive prefix which indexes the relative clause:

- (56) Dongwang Tibetan relative clause with genitive clitic (Bartee 2007: 247)

[[çi⁵⁵ ŋa¹³ te⁵³ -nə]_{REL} =ji tə¹¹ki⁵⁵ hũ⁵⁵hũ¹¹ wə⁵⁵tə¹¹]_{NP}
 2SERG 1SABS give NOM =GEN coat blue that
 ‘That blue coat you gave to me’

- (57) Zhuokeji rGyalrong relative clause with possessive marking on head

[[k^habzi kə-pa]_{REL} wə-mi]_{NP}³⁹
 song NOM-do 3SPOS-woman
 ‘The woman who sings’

The fact that both languages use identical structures for nominal possession and relative clauses, despite the fact that the structures are typologically distinct, suggests that there is an intrinsic structural connection between the syntax of possession and that of relativization. This intrinsic connection can be found in the fact that in both constructions a noun phrase is put into a dependent relationship with a following head noun. In both Dongwang and Zhuokeji, the dependency can be explicitly encoded, with the genitive clitic in Dongwang and with the third-

³⁹ Note that, unlike many other Tibeto-Burman languages, the noun *mi* in Zhuokeji rGyalrong indicates a female, woman or girl. The generic noun for person is *mi*.

person-singular possessive prefix in Zhuokeji. These structures are represented in (58) and (59) respectively:

(58) Dongwang: [[NP]_{=GEN} N]_{NP}

(59) Zhuokeji: [[NP]_{POS-N}]_N

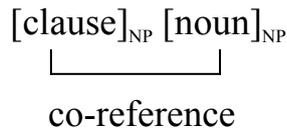
The fact that a noun phrase can contain a nominalized clause allows for the embedding of the clause within a noun phrase. This basic analysis of the genitive marking of relative clauses has been presented in the work of DeLancey (1986, 1999, 2002) Noonan (1997, 2005), and LaPolla (2008). However, it is important to recognize that this analysis, while nicely capturing the parallelism between the syntax of possession and the syntax of relativization, does not fully capture the syntactic complexities of relative clauses. This is because it does not recognize the integration of the head noun and the relative clause that results from the obligatory shared argument, the gap in the structure, and the control relationship which exists. Diagrams representing the full syntactic structure, including the necessary syntactic adjustments involved in relativization, are given below. Again we can see the highly integrated nature of such noun phrases.

(60) Dongwang: [[(NP) ... \emptyset V-NOM]_{REL=GEN} N]_{NP}

(61) Zhuokeji: [[(NP) ... \emptyset V-NOM]_{REL} POS-N]_{NP}

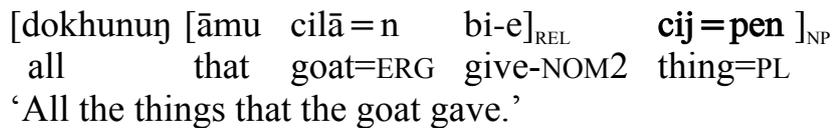
What then of the relative clauses in Dongwang and the other languages that do not carry a genitive clitic or other explicit marking of dependency? DeLancey (1986, 1999, 2002) and Noonan (1997, 2005), both argue for an appositional analysis of such cases. In other words, they argue that a relative clause that lacks genitive marking is simply a nominalized clause, followed by a coreferential noun. What neither makes clear is the syntactic status of the elements in such a construction. The heart of the problem is the term “apposition”, which refers to the juxtaposition of two elements at the same level of structure which are coreferential (Matthews 1997: 22). If the nominalization of a clause produces a syntactic noun phrase, then, if the following element is in apposition, it must too be a noun phrase and the two would co-refer. This can be illustrated as in (62):

(62) An analysis of apposition for relative clauses



The most serious problem for this analysis is that the syntactic structure created through relativization constitutes only one noun phrase. This can be seen in the fact that relative clauses are often positioned between the head noun and other NP elements:

(63) Dolakha Newar noun phrase with quantifier and relative clause



The relative clause in this example is clearly embedded into the noun phrase, and is not placed in linear sequence in a structure of apposition. A second problem with the apposition analysis is that apposition is considered to be distinct from modification “in that there is no true tendency for either element to qualify the other” (Matthews 1997: 22). Clearly relative clauses modify (usually by restricting the reference of) the head noun. Finally, the apposition analysis does nothing to capture the criterial features of relative clauses, the gapped argument and the control relationship with a head noun.^{40,41}

It is preferable to recognize that relative clauses are dependent elements of the noun phrase, whether or not the language encodes them as such with explicit morphology, such as a genitive affix or a cross-reference to a possessive morpheme on the head noun. Languages vary in whether such explicit marking of dependency is possible and/or required. The structure of noun phrases with relative clauses that lack any such marking is best represented as in (42) above.

⁴⁰ It is worth noting that both DeLancey (2002) and Noonan (1997, 2005) were significantly concerned with the historical motivations for the use of nominalized clauses in relatives and, given the propensity for nominalizers to develop from nouns, apposition may have been a structure which contributed historically to this pattern. Fuller discussion of this point is provided below.

⁴¹ A reviewer has pointed out that post-head relative clauses in Tibetan are not marked with the genitive and suggests that this might imply that these are in apposition. In our view, the inability of genitive-marked elements to follow the head noun is more likely to be due to word-order constraints on noun-phrase structures (genitive elements necessarily precede the noun). The only language of our study that has post-head relatives is Mongsen Ao. (Dongwang does not, even though it is Tibetan.) We note that post-head relative clauses in Ao can be followed by the demonstrative, indicating a tightly integrated noun phrase structure. Post-head relatives do tend to be non-restrictive, but it does not necessarily follow that they are also non-dependent.

This structure clearly entails a nominalized clause, but with further important structural modifications.

7. SUMMARY AND DISCUSSION

This study has shown that nominalization in these languages involves four separate syntactic structures and two separate derivational structures. These are represented in Table 5. It should be kept in mind that all of the clausal nominalizations can be expanded into multi-clause combinations:

<i>Clausal Nominalizations: Domain is clause or clause combination [clause]_{N, NP}</i>	
[(NP)... V-NOM] _{NP}	Complementation
[(NP)... V-NOM] _{NP} (=CASE) OR [(NP)... V-NOM/CNV] _{CNV.CL}	Converbal clauses
[[(NP)... V-NOM] _{NP}] N] _{NP}	Nominal complement clauses
[[(NP) Ø ... V-NOM] _{REL} N] _{NP} ↑ control	Relative clauses
<i>Derivational Nominalization: Domain is verb or predicate</i>	
[V-NOM] _N / [NP V-NOM] _N	Derivation of lexical nouns
[V-NOM] _{ADJ}	Derivation of lexical adjectives

Table 5: Structures underlying clausal and derivational nominalization

The first four of these structures clearly arise from variations on the basic structure [clause]_{NP}. The differences between the structures result from the external syntactic contexts into which nominalized clause are put and to historical changes that may allow for the reinterpretation of a nominalized clause into another category, such as a converbal clause.

Derived nouns have two representations, depending on whether the domain is the single verb root or the predicate. In the latter case, the noun indicating the patient can be compounded with the nominalized verb, e.g. Dongwang *ɲa¹³k^ho³³sa¹¹* [fish catch-NOM] ‘fishnet, fishing-tool’. In Zhuokeji, on the other hand, derived nouns can occur in constructions with two nominal arguments, indexed as dependents on the nominalized verb, in a structure reminiscent of an action nominal construction. This construction takes the clause as its domain, yet still produces a derived noun with adjuncts.

The most complex structures are also the most prevalent, the most discussed, and the most debated. These are the clausal structures embedded into the noun phrase, especially relative clauses. To begin with, it is clear that the domain of nominalization in such constructions is the clause, as these structures can

frequently involve the overt expression of case-marked arguments and adverbial elements. They can also be larger than the clause, and involve clause combinations. The syntactic question is whether, once they are embedded as dependents of nouns, they are really noun phrases themselves or some other type of structure. The answer to this question can be found in the parallelism between the syntax of possession and the syntax of nominal complement and relative clauses. This parallelism can be easily explained if we posit that NP-internal clauses have the same syntactic status as possessed nouns, in that they are both dependent noun phrases embedded within a noun phrase as dependents to a head (DeLancey 2002, *inter alia*, Noonan 1997, 2005). Since nominal complement clauses do not share an argument with a head noun, no further adjustments to their structure is needed in the process of embedding. However, the embedding of a relative clause involves the formal integration of the two, resulting in the complex structure schematized in Table 5. This is true whether or not the language requires the relative to be formally marked as a dependent.

We have suggested that clausal nominalization structures can be historically prior to derivational nominalization. This was seen in the fact that both derived nouns and derived adjectives can arise from the reanalysis of headless relative-clause structures. The opposite direction, from derivational to clausal nominalization, will be demonstrated, with data from Zhuokeji rGyalrong, below.

We turn now to the question of whether providing an analysis of the synchronic structures underlying nominalization can contribute to our understanding of their historical development. In the recent literature on the topic, there have been what at first appear to be conflicting opinions about whether nominalization is historically prior to relativization or *vice versa*. According to DeLancey, “the nominalization function is chronologically and systematically prior to relativization ... merely one specialized function of nominalization” (2002: 66). On the other hand, LaPolla states that “we reconstruct ... a relative clause structure, not a nominalization structure ... as it is the former that developed the function of the latter” (2006: 17). The two are, however, talking about different historical stages, as DeLancey is discussing cases where there is already an established nominalizer and LaPolla is discussing the rise of nominalizers from nouns (see below).

We would like to address the historical relationships of these structures that we can find evidence for in the languages of this study. In this endeavour we will continue to differentiate clausal and derivational nominalization, as general statements about “nominalization” mask the significant syntactic variation across nominalized constructions and the fact that distinct historical processes give rise to them.

Let’s begin with derivational nominalization. We have already seen that relative clause structures underlie terms which function as derived nouns in Dolakha Newar. Note that in this case it is relative structures with established nominalizers which give rise to derivational nominalization. Thus DeLancey’s comment that nominalization is “chronologically and systematically prior to

relativization” does not always hold. Established relativization patterns can give rise to derivational structures.

There is also evidence that relative clauses allow for the development of nominalizers, as seen in the noted tendency for Tibeto-Burman nominalizers to be derived from lexical nouns (Matisoff 1972, DeLancey 1986, *inter alia*, Noonan 1997, 2005, LaPolla 2003, 2006, Coupe 2007). Oft cited etymons for Tibeto-Burman nominalizers include **pa* ‘father’ or ‘male’, *mi* ‘man’, and **sa* ‘earth, ground; place’.⁴² All three of these appear to be attested in the current study: **pa* in Manange, Dongwang Tibetan, and Mongsen Ao, **mi* in Dongwang Tibetan <myi> -*nə*, and **sa* in Dongwang Tibetan and Zhuokeji rGyalrong. Note that we can’t assume that these all started their journeys into nominalizers as full nouns in each language in which they are attested. It is possible that they became nominalizers at some earlier stage of the language and were inherited into the daughter languages as such (e.g. the case of the ubiquitous *-pa* in modern Tibetan dialects, which can be reconstructed for Proto-Bodic (Noonan 2005)), or that they had other functions, e.g. as classifiers (Simpson 2005), at the time they began to function as nominalizers.

However it is clear that for such nouns to have grammaticalized as nominalizing verbal affixes, then at some point in their history they must have been directly adjacent to verbs. Relative clause structures are one structure that would allow for such adjacency. LaPolla (2003: 223-227; 2006) suggests that nouns develop into nominalizers in just such structures, when they occur adjacent to relative verbs.⁴³ He argues that a semantically-general head noun in such a position would be used with sufficient frequency in this construction to allow it to develop into a derivational affix, creating an actor nominalization. Once such a reanalysis took place, the form could then be used to modify another noun (LaPolla 2003: 223–227; 2006; 2008). Presumably the fact that the derived noun had a verb as its core would then allow for reanalysis and the expansion of the domain of nominalization from a verb stem to a full clause, and the incorporation of other arguments and adverbials. Without this step, full clausal nominalizations would never be attested and we wouldn’t find relative clauses with multiple internal arguments and adjuncts. These steps can be represented schematically as follows:

⁴² Other nominalizers, however, derive from other sources such as demonstratives, copulas, or classifiers (LaPolla 2006). The Dolakha Newar individuating clitic, discussed in §5.2, is another source.

⁴³ LaPolla (2003: 430, fn 96) asserts: “Cross-linguistic comparison points to the original Sino-Tibetan relative clause structure being of this type, that is, a clause directly modifying a noun without nominalization or relative marking.” However he does not provide comparative evidence to justify this claim.

(64) Noun to nominalizer via relative clause

- a. [NP 0 ... V]_{REL} N Relative clause (w/ bare verb?); general head noun
- b. [(NP) V-NOM]_{NP} Derivational nominalization (e.g. actor nominalization)
- c. [(NP)... V-NOM]_{REL} N Relativization; ‘the one who CLAUSE’

Another possibility would be to see the first step as a compounding structure, where a generic noun such as *man*, *thing*, or *place* would be compounded with a verb. Under the right conditions, this could be reinterpreted as a structure of verb root plus derivational affix, producing, for example, ‘V-man’, ‘V-thing’, ‘V-place’. At this point the structure would be one of derivational nominalization. Given that it is the nature of verbs to take arguments and adjuncts, the domain of nominalization could then be expanded from verb to clause. This result would be something like ‘one/thing/place who X-ed’ which could then modify a noun. These steps are schematized in (65):

(65) Noun to nominalizer via compounding and derivation

- a. [V N] Compound (grammatical word)
- b. [V-NOM] Derivation (phonological word) ‘V-NOM’; ‘V-one’
- c. [(NP) ... V-NOM]_{REL} (N) Relativization; ‘the one who CLAUSE’

The two scenarios are identical in steps b and c, but differ in their postulation of the initial structure. Most importantly for our current purposes, both analyses posit derivational nominalization leading to relativization.

It seems likely that this occurred with the Dongwang nominalizer *-nə*, Written Tibetan <myi>, from the noun <myi> ‘man’. This morpheme is used narrowly for agentive nominalization when used derivationally, but is semantically general when forming relative clauses; it can be used with patientive and even locative head nouns. If it was a general relativizer first, then there is no reason for it to specialize into an agentive nominalizer specifically. However, if it started out narrowly as an agentive nominalizer, then was used with relative clauses, its extension to other relative-clause types would entail semantic bleaching, a common component of grammaticalization. Thus this appears to be a specific instance where derivational nominalization preceded relativization.

Another example is found in Zhuokeji rGyalrong. Recall that in this language, the prefix *sv-* is one of three nominalizing prefixes that create deverbal nouns. Semantically, it is used to indicate a place or instrument involved in the state or activity denoted by the verb, e.g. *sv-rtʃiŋ* [NOM-wash] ‘soap’. It is, however, possible to index an argument of the nominalized verb with the third-person singular possessive prefix, as in (66):

- (66) Zhuokeji rGyalrong derived nominal with possessive prefix referencing argument

[ji-wə wə-sə-rtʃi̯] _{NOM}
 1pPOS-clothes 3sPOS-NOM-wash
 ‘Soap of/for our clothes’; ‘what we wash our clothes with’

It turns out that this entire nominal can then modify a noun, such as the Chinese borrowing *féizào* ‘soap’, resulting in a relative clause, both functionally (it restricts the reference of ‘soap’) and structurally (as with other relative clauses, the head noun carries the possessive prefix that indexes the modifying clause):

- (67) Zhuokeji rGyalrong relative clause with derived nominal

[ji-wə wə-sə-rtʃi̯] _{REL} wə-fejtsaw = tə
 1pPOS-clothes 3sPOS-NOM-wash 3sPOS-soap=TOP
 ‘The soap applied to wash our clothes’

That the embedded clause is based on derivational nominalization can be seen in the use of the *sə-* prefix and the cross-indexing of the argument ‘clothes’. Normally Zhuokeji relative clauses are formed with the *kə-* prefix and do not have cross-referencing. The fact that it is a relative clause in this example can be seen from its NP-internal embedding, the cross-referencing of the relative by the possessive prefix on the head noun, and the fact that it shares an argument with the head noun which is absent from the embedded clause. Thus we can see that a structure based on derivational nominalization has been drafted into a relative-clause construction. Hence derivational nominalization is here historically and systematically prior to relativization.

So far, we have seen that relative clause structures appear to underlie derivational nominalization in Dolakha Newar and that derivational nominalizations appear to have given rise to relative clauses in Dongwang Tibetan and in Zhuokeji rGyalrong. Thus, when we limit ourselves to derivational nominalization, it appears that nominalization and relative clauses can each give rise to the other. But what of clausal nominalizations? How does either a relative clause or a derivational nominalization get extended to mark nominalized clauses more generally, so they may be used as complement clauses, converbial clauses, or even non-embedded clauses?

We have one piece of evidence that suggests that relative clauses may give rise to this type of nominalization as well. This would require a functional reanalysis from referring to a participant in the nominalized clause to referring to the action of the clause more broadly. Again we turn to Dongwang Tibetan, where the morpheme *-sa*, originally a noun meaning ‘place, earth’ is used for oblique relative clauses. It is also used for complements of perception verbs, as exemplified in (26) above, repeated here as (68):

(68) Dongwang Tibetan complement of $t^{h\tilde{u}^{353}}$ ‘see’

[k^hui⁵⁵ khə⁵⁵ dō³⁵³-sa]_{NP.O} ŋe¹³ t^hũ³⁵³ sō
 3SERG 3SABS hit-NOM 1SERG see EGO
 ‘I saw him hit him.’

This sentence is actually syntactically and semantically ambiguous. It could mean ‘I saw (the place) he hit him’, where the nominalized is a headless relative, or ‘I saw him hit him’, where the nominalized clause is a complement. The semantic extension from the place of an action to an action itself is a matter of metonymic extension, a common semantic process in grammaticalization. So it appears that relativization can give rise to a more general type of clausal nominalization. This grammaticalization path has been attested cross-linguistically (e.g. Lehmann 1980; Heine and Kuteva 2002: 254).

This study has illustrated a variety of structures created by nominalizations in Tibeto-Burman languages of the Himalayas. By providing an explicit characterization of the syntax of such structures, we have been able to more clearly assess and further claims about how they may be related. Specifically, we have provided evidence that derivational nominalization can both arise from and give rise to relativization and that relativization can give rise to at least one more general nominalizing structure: complementation.

Contacts:

Carol Genetti
 University of California, Santa Barbara
 Department of Linguistics
 Santa Barbara, CA 93106-3100
 (805) 893-3574
 [cgenetti@linguistics.ucsb.edu]

[a.coupe@latrobe.edu.au]
 [ellen_bartee@sil.org]
 [khildeb@siue.edu]
 [youjing@mail.ucsb.edu]

ABBREVIATIONS

1	first person	CAUS.PART	participial form of causative
1(SG)	first person singular	CL	classifier
1P	first person plural	CNV	converb
1S	first person singular	CONT	continuative
1SG	first personal singular	COP	copula
2	second person	COP.OTHR	copula other
2S	second person singular	COP.SELF	copula self
2SG	second person singular	DAT	dative
3S	third person singular	DEC	declarative
3SG	third person singular	DIST	distal demonstrative
ABS	absolutive	DUAL	dual
ABL	ablative	EGO	egodeictic
ADJ	adjective	ERG	ergative
ADV	adverb	EVID	evidential
AGT	agentive case	EXPR	expressive vocabulary

FOC	focus particle	PL	plural
GEN	genitive	POS	possessive
LOC	locative	PR	present
MAN	'MAN' agentive nominalizer	PST	past
M	masculine gender	PURP	purpose
N	noun	PV	perfective
NEG	negative	REL	relativizer
NOM	nominalizer	RL	relational prefix
NOM.OBL	nominalizer.oblique	SEQ	sequential converb
NP	noun phrase	TOP	topicalizer
NRL	non-relational prefix	TR	transitive
NPR	noun prefix	V	verb
NZP	nominalizing prefix	V2	secondary verb
PART	participle	VBZR	verbalizer
PFV.PST	perfective past	VIS.PFV	perfective visual evidential

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