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15 Applicatives in Northern Uto-Aztecan languages

Abstract: Applicative constructions in Northern Uto-Aztecan (NUA) languages, although dissimilar in form, share many functional-semantic features and similar historical developments. All NUA languages carry a verb suffix signaling the addition of a benefactive argument to the organic valence. In most cases, they represent the only means for expressing a beneficiary as a core argument. Applicative suffixes in NUA appear in most cases to originate from a 'give' verb. Although not always noted as such in the available grammatical descriptions, NUA applicative constructions show causative-benefactive syncretism associated with semantic verb type. The benefactive function is quite consistent with transitive and active (agentive) intransitives, whereas with stative (or patientive) intransitive verbs, the suffix functions as a causative. In languages that have distinct applicative forms and morphological causatives, their frequency of use still follows this pattern.

1 Introduction

The focus of this chapter is to present a typological overview of applicative constructions (ACs) in the four genetic subunits that constitute the purported Northern branch of the Uto-Aztecan language family (NUA). The languages of these subunits constitute two genetic groupings, Numic and Takic, and two singletons within NUA, Pahka'anil (formerly known as Tübatulabal) and Hopi. Numic languages represented through examples in this paper include Northern Paiute, Shoshoni, Tümpisa, Southern Paiute, and Ute, while Takic languages cited in what follows include Cupeño, Luiseño, Acjachemem, Serrano, and Cahuilla. The unity of NUA itself as a genetic grouping remains in contention. Applying the rubric of "relative cognate density" Haugen, Everdell and Kuperman (2020) find no clear evidence for NUA, in line with work by Miller (1984) using the more traditional method of lexical correspondence. Others (for example, Manaster Ramer 1992) implicate NUA as a major branch of Uto-Aztecan.

Northern Uto-Aztecan languages occupy a mostly contiguous area that includes the Great Basin region of the western United States, along the eastern slopes of the Sierra

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Nevada mountain range, and including southern California and northern Arizona to western Colorado. Comanche, Shoshoni's closest relative in Central Numic, is the only language of the group found outside of this area, occupying portions of the southern plains of Texas and Oklahoma.

Whether unified as a major branch of Uto-Aztecan, a set of four distinct subgroups that parallel a southern branch (SUA), or something in between, it remains instructive to make comparisons across NUA as contributions to our understanding of historical developments within the family. There will be inevitable gaps in the discussion that follows due to the nature and extent of the available grammatical descriptions and searchable text data that pertain directly to properties of ACs across NUA. Beginning in Section 2, we offer a brief overview of some of the key features of the languages in question—verb structure (§ 2.1), participant coding (§ 2.2), voice (§ 2.3), and the secondary verb construction (§ 2.4)—in order to provide context for the description and discussion of ACs. We will then proceed with a discussion of the morphological, syntactic, and semantic properties of ACs (§ 3.1, § 3.2, and § 3.3, respectively) in each of the four branches included under NUA. These discussions will necessarily include a look at causatives, insofar as the two operations, causativization and applicativization, share important formal, functional, and historical features.

Discourse-functional considerations are taken up in Section 3.4. A unique construction type in Northern Paiute that combines a denominalizing construction with applicativization will be brought under consideration in Section 4. A summary overview of the typologically significant properties of ACs in the NUA languages with questions for further study is found in Section 5.

My own field experiences have informed an inevitable bias toward Numic (and Northern Paiute, in particular). Fortunately, however, there are some excellent descriptive materials for Takic (cf. Hill 2005; Hill and Hill 2019). Relevant materials drawn upon for the present study for Pahka'anil and Hopi are limited mainly to Voegelin (1935) and the Hopi Dictionary Project (HDP 1998) in addition to Jeanne (1971), yet even so, there is enough material to draw upon for comparison both to contribute to our understanding of developments within the family and to the interests of typology and grammaticalization theory more generally.

2 Morphosyntactic character of the languages

Generally speaking, NUA languages have a rich morphology—mostly concatenating and synthetic—particularly in the verb. They are strongly verb-final in constituent order and associated features and are characterized by a clitic complex in second position, consisting most typically of elements carrying pronominal information and features of modality and evidentiality (Thornes 2018). The following sub-sections are

meant to illustrate some basic properties of NUA languages in order to shed light on how these relate to the applicative constructions we encounter in this language group.

2.1 Verb structure

The verb complex in the NUA languages includes a variety of morphologically marked valence-changing operations, including those that increase valence, such as causatives and applicatives. As a sample template, consider the following diagram of Northern Paiute (Western Numic) verb structure (Thornes 2009):

(1)	Object=	[Phasal	[[Valence	[IP[1]	[Root]]	Valence]	DIR/ASP]	SUB/NMLZ]
	PRO=	AUX	Theme	Stem		Theme	Prefinal	Final

The Northern Paiute verb's morphological inventory includes stem-forming affixes known as "instrumental prefixes" (IPs) (a particularly salient derivational process in the Numic subgroup[2]), valence-changing operators (both prefixes and suffixes) that form the theme, an array of directional and aspectual (prefinal) suffixes, subordinating and nominalizing (final) suffixes, and a small set of phasal auxiliary elements that appear between the direct object pronominal proclitic and the remainder of the verbal complex. These elements express adverbial notions like 'nearly', 'easily', 'only', and 'truly'.

Cupeño (Takic) shares much in common with Northern Paiute verb structure, with some (mostly) minor differences, in particular the scattering of subject agreement forms. Consider the following schema of the verb in Cupeño, adapted from Hill (2005: 106):

(2)	Object=	(Subject')	Root	(Subject")	Valence	Tense-Aspect
	PRO=	(SBJ AGR)	Stem	(SBJ AGR)[3]	Theme	Final

By way of comparison, Northern Paiute object pronominals also appear as proclitics, whereas there appears little trace of subject agreement as there is in Cupeño or in Hopi (see below). The appearance of subject forms as both prefixes and suffixes in Cupeño is

1 The actual semantic contribution of instrumental prefixes to the resulting verb root can be quite idiosyncratic.

2 Remnants of the instrumental prefix construction may be found in the other NUA languages, but generally consist of lexicalizations.

3 By Hill's analysis, there are two subject positions here, yet thus far I haven't encountered a context where both positions are filled in a single verb.

dependent upon formal verb class considerations described in Hill (2005). Within the thematic and final zones of verb structure, in particular those relating to valence or tense-aspect, there may appear one or more suffixes. The thematic suffixes include both a morphological causative marker and a benefactive applicative. As elsewhere in NUA, these always appear closest to the stem and in that order.

Verb structure for Pahka'anil is described in Voegelin (1935: 96–97) as consisting of suffixes only, appearing in two groupings, medial and final. Included in the medial set are the causative and benefactive suffixes in closest proximity to the verb stem, as with Northern Paiute and Cupeño. As discussed below, these two valence-increasing devices in Pahka'anil are near homophones and are favored with particular verb types. Final suffixes include some tense and aspect forms, while, in common with Northern Paiute, also are found subordinating and clausal nominalizing suffixes.

Bound pronominals in Pahka'anil, both nominative and accusative, are second position enclitics, which in narrative (see, for example, the narratives presented in Marean et. al. 2021) bind them to verb forms (following, of course, the final suffixes), and also to adverbials. Where both are present, the nominative precedes the accusative pronoun.

2.2 Coding properties for grammatical relations

Considering word order, case-marking, and verb agreement, the NUA languages demonstrate a robust nominative-accusative alignment for grammatical relations. The languages are verb-final (AOV/SV) in the majority of instances both in recorded, spontaneous speech and in responses to direct elicitation.

Case-marking shows some variation of expression. All NUA languages express three case distinctions—nominative, accusative, and genitive, with some degree of formal syncretism between the latter two. The nominative is most generally the unmarked case. These distinctions are manifested in the form of pronouns and demonstratives and, to a less predictable extent, through case suffixes on nominals and NP dependents. Secondary cases in the form of bound postpositions express a range of locative, temporal, and instrumental semantic roles, among others.

The following examples demonstrate the variety of core case (nominative subject, accusative object) formations in NUA. In Shoshoni (Central Numic), we find case marking on both head nouns and their dependents. Consider:

(3) Gosiute Shoshoni (Miller 1996: 706)[4]
*s-u-**tɨn*** *sɨmmɨn* *tu:pihtɨn* *punku* *nukkimia*
PROX[5]-that-**NOM** one.NOM black.NOM horse[NOM] running
'That one black horse is running.'

(4) Gosiute Shoshoni (Miller 1996: 706)
nɨ *u-**kka*** *sɨmmɨ-**a*** *punku-**i*** *puikka*
I that-**ACC** one-**ACC** horse-**ACC** see
'I see that one horse.'

In (3) and (4), we see contrasting nominative and accusative case forms on the demonstrative, numeral, and head noun, respectively. Nominative case is unmarked on nouns as NP heads. Accusative object case suffixes on head nouns are varied and only partly predictable on the basis of specific morphophonological properties. The reader is referred to Miller (1996) and Crum and Dayley (1993) for further explication of allomorphic variation in the marking of syntactic objects in Shoshoni.

In Northern Paiute (Western Numic), we see a complete absence of distinct core case suffixes on head nouns as one finds elsewhere in Numic. Instead, we find case-sensitive determiner proclitics in a straightforward nominative-accusative alignment pattern, as in the following examples.

(5) Northern Paiute: proclitics (Thornes 2003: 145)
***su**=panɨɨnadɨ* *tɨasɨ-pɨ*
NOM=lake freeze-PERF
'The lake is frozen.'

4 The Shoshoni examples from Miller (1996) and Dayley (1989) are represented phonemically to accommodate four distinct consonant grades—simple unaspirated (lenis), geminate (fortis), prenasalized, and preaspirated. Four grades of alveolar stop, for example, are written <t> (phonetically [d] or [ɾ]), <tt> (phonetically [t:]), <nt> (phonetically [nd]), and <ht> (phonetically [ð]).

Northern Paiute has just two grades of obstruent—simple unaspirated (lenis) and voiceless geminate (fortis). "Lenis" forms are typically perceived as voiced (and lightly fricativized) in both languages, especially word-medially, in which position they are in contrast with "fortis" in Northern Paiute. In this paper, the lenis forms in Northern Paiute are represented as voiced and the fortis as voiceless obstruents. Word-initially, consonant grades across Numic neutralize to simple voiceless.

Suffix-initial consonants are prone to variation across consonant grades depending upon a preceding morpheme, whether affix or root, and have traditionally been termed "final features" whose effect has scope only on the following consonant. Interestingly, the rare exception is the pan-Numic applicative suffix, whose initial consonant grade is impervious to final feature affects.

5 Crum and Dayley (1993: 25) use the term *proximate* to refer to a referent functioning as a definite and continuing topic.

(6) Northern Paiute: proclitics (Thornes 2003: 145)
su=*tsɨaʔa* ***ka***=*tɨpi* *mayɨ-u*
NOM=girl **ACC**=rock find-PNC
'The girl found the rock.'

The case-sensitive determiner proclitics, *su*= and *ka*=, do not attract stress, as do prefixes, and are bound to the first element of a noun phrase.

Determiner proclitics most likely developed from contracted demonstrative forms in Northern Paiute and may have arisen under the wide variation and erosion we witness in core case-marking elsewhere in Numic. Case distinctions also appear on dependent modifiers, however. The following examples illustrate the nominative-accusative alignment pattern instantiated in formal properties of noun phrase dependents.

(7) Northern Paiute: case suffixes (Thornes 2003: 149)
su=*udɨ-**ʔyu*** *naatsi* *kima-u-gi-na*
NOM=tall-**NOM** boy come-PNC-CISL-PTCP
'The tall boy is coming this way.'

(8) Northern Paiute: case suffixes (Thornes 2003: 149)
nɨ ***u***=*punni* ***ka***=*udɨ-**u*** *naatsi*
1SG.SBJ **3SG.OBJ**=see **ACC**=tall-**ACC** boy
'I see him, the tall boy.'

The conflation of determiner proclitics and modifier case suffixes results in the apparent double-marking of nominative and accusative case in these examples. Subject pronouns are independent words, whereas object pronominals usually appear as proclitics attached to verbs, as in (8) above. These forms are identical to possessor pronominal proclitics on possessed nouns as well as on nominalized verbs in some subordinate clause constructions.

Recall from (2) above that the Takic language Cupeño has plural subject agreement distributed over two (or three) distinct position classes in the verb depending upon verb class distinctions in what appears to be a highly idiosyncratic system. As in Northern Paiute, objects, indirect objects, and applied benefactive objects appear as verbal proclitics in Cupeño. Consider:

(9) Cupeño: pronominal object proclitics (Hill 2005: 113)
Em-em=qwe=me ***chimi***=*mixaan* *me* ***chimi***=*meqan-**max***
2PL.SBJ-PL=can=2PL.ERG **1PL.OBJ**=do.HAB and **1PL.OBJ**=kill-**BEN.HAB**
hunwe-t *pe'* *aya* ***chimi***=*tul-qa*
bear-NPN the now **1PL.OBJ**=finish-PRS
'You all must do something for us, and kill for our sake the bear who is now finishing us off.'

The first person plural proclitic appears in (9) to encode both direct and applied objects, the latter licensed by the benefactive-applicative suffix, *-max*. As is also the case for Northern Paiute, only one object proclitic can appear with a particular verb. In such a case with two pronominal objects, the benefactive pronominal takes precedence.

In Hopi we find accusative case marking on both noun phrase heads and dependents, like the demonstrative, in the following:

(10) Hopi (Hill 2013)
umu-mi *pu-**t*** *maana-**t*** *peonakna*
2PL-to that-**ACC** girl-**ACC** mention
'(She) mentioned that girl to you.'

This is identical to the situation we saw in Shoshoni, where we find accusative case affixes on both head nouns and modifiers in contrast to unmarked nominative forms.

Distinct case forms can also be illustrated for Pahka'anil, as in the following set of examples.

(11) Pahka'anil (Voegelin 1935: 149–151)
yi'xpa'l *leca't*
the.door.NOM is.opening
'The door is opening.'

(12) Pahka'anil (Voegelin 1935: 149–151)
ta'twa'l *lecci'ina't* *yipala'*
the.man.NOM is.opening.CAUS the.door.ACC
'The man is opening the door.'

(13) Pahka'anil (Voegelin 1935: 149–151)
ta'twa'l *ha'maca't*
the.man.NOM is.sad
'The man is sad.'

These examples show distinct nominative and accusative case forms of nouns. Consider the distinct forms for 'door' in (11) and (12), whereas the forms for 'man' in (12) and (13) are identical as subjects of transitive and intransitive verbs, respectively.

Aside from object proclitics (recall the Northern Paiute and Cupeño examples above), verb agreement is of limited distribution in NUA. In Pahka'anil, Voegelin (1935) distinguishes free pronouns from those that operate as 'conjunctive particles', but are perhaps best classed together with a variety of second position enclitics. Clitics in second position carry a host of modal, evidential, and pronominal information in Pahka'anil as they do in most other Uto-Aztecan languages.

In Hopi, only plural subject agreement marking is present. Note the following examples from Hill (2013):

(14) Hopi (Hill 2013)
*pu-**t*** *koyaanisqatsi-**t*** *peonakna-**ya***
that-**ACC** corrupt.life-**ACC** mention-**PL**
'They brought up the matter of the corrupted life.'

(15) Hopi (Hill 2013)
soosovik *sinom* *pas-va-**ya***
all.around people field-DIFF-**PL**
'All the people around are farming (lit. are in the fields).'

According to Hill (2013), the *-ya* marker for plural subject is really an enclitic to the final constituent of the clause. In (14), we see it following the verb, whereas in (15), it follows a postpositional phrase serving as a verbless predicate, and so again it represents a marginal case of verb agreement.

2.3 Valence and voice

As we have seen, grammatical relations in basic intransitive and transitive verbs show nominative-accusative alignment through overt coding properties (word order, case marking and verbal agreement). In ditransitive clauses, both non-agentive participants are encoded as accusative case-marked noun phrases:

(16) Hopi (HDP 1998: 880)
taaqa *wuuti-**t*** *sami-**t*** *maka*
man woman-**ACC** fresh.corn-**ACC** gave
'The man gave fresh corn to the woman.'

Derived ditransitives follow the same pattern of case marking on the two objects. Compare the transitive clause in (17) with its derived causative counterpart in (18):

(17) Hopi (HDP 1998: 880)
nï' *hopilavayi-**t*** *tïtïqayi*
1SG.SBJ Hopi.language-**ACC** learn
'I am learning the Hopi language.'

(18) Hopi (HDP 1998: 880)
nï' *pahan-mï-**y*** *hopilavayi-**t*** *titiqay-**na***
1SG.SBJ white.people-PL-**ACC** Hopi.language-**ACC** learn-**CAUS**
'I am teaching (i.e. causing to learn) white people Hopi.'

Passive voice renders ditransitive verbs transitive as in the following:

(19) Hopi (HDP 1998: 881)
itam *siiva-**t*** *mak-**iw**-ni*
1PL.SBJ money-**ACC** give-**PASS**-FUT
'We're going to be given money.'

Throughout NUA, passive constructions operate equally well, whether with base objects or applied objects as subject of passive:

(20) Northern Paiute (Thornes 2003: 307)
a. *su=miidɨ* *nɨ-**ka*** ***na**-kuhani-**kkɨ**-winɨ*
NOM=meat 1SG-**ACC** **PASS**-cook-**APPL**-PROG.SG
'The meat is being cooked for me / (s.o.) is cooking the meat for me.'
b. ***ka**=miidɨ* *nɨ* ***na**-kuhani-**kkɨ***
ACC=meat 1SG.NOM **PASS**-cook-**APPL**
'I am being cooked the meat.'

Intransitive verbs are rendered impersonal, as in the following Hopi and Northern Paiute examples:

(21) Hopi (HDP 1998: 881)
pay *angqe?* *took-**iwa***
PRT all.around go.to.sleep-**PASS**
'(They) have gone to sleep.' / 'Going to sleep took place.'

(22) Northern Paiute
una?yu ***na**-tinikwɨhɨ*
out.there **PASS**-singing
'(They) are singing out there.' / 'There is singing out there.'

Interestingly, an operational asymmetry appears with regard to the target of the antipassive construction, what has often been referred to as the unspecified object construction in the literature on Uto-Aztecan languages.

(23) Northern Paiute
u-su *i =**ti**-kuhani-**kki***
3SG-NOM 1SG.ACC=**APASS**-cook-**APPL**
'S/he's cooking for me.'

(24) Northern Paiute
ni *miidi* *kuhani-**kki**-u-kwi*
1SG.NOM meat cook-**APPL**-PNC-FUT
'I'll cook meat for (someone).'

In (23), the applicative licenses the first person benefactive object and the patient object is marked as unspecified by the antipassive prefix. On the other hand, when the benefactive applicative suffix in (24) is present the applied object can be unspecified without being so marked.

As these examples illustrate, the antipassive construction appears to reveal syntactic asymmetry with respect to which object is unspecified. An equally plausible analysis would be that, in fact, the construction indicates that the patient role of a transitive clause is unspecified. With organically ditransitive verbs like 'give' and 'send', we find a similar asymmetry, whereby the target for under specification in the antipassive construction appears to be the patient or theme (T), and not the recipient (R). We will revisit, time and again, in this study what appears to be a pattern of operation that is controlled more by verbal semantics than grammatical relations when it comes to valence change.

2.4 Secondary verbs

What are often referred to as "secondary verbs" in Uto-Aztecan languages actually refers to a special complex predicate construction involving a subset of high frequency motion and posture verbs (among others) that often develop broader aspectual and directional properties in the construction. They appear somewhat scattered throughout Uto-Aztecan (see especially Crapo 1970 for an overview of the phenomenon and historical developments therein). Hill and Hill (2018) refer to the members of the secondary verb category as "non-conforming verbs". Crum and Dayley (1993: 101–105) refer to them in Western Shoshoni as "secondary auxiliary verbs" and describe them as "forming loose compounds" with main lexical verbs. In at least one language, Northern Paiute, secondary verbs can be readily distinguished from typical compounding structures (Thornes 2011), having more in common with Aikhenvald's (2006) "asymmetrical serial verb" construction. The importance of this construction in relation to the AC in Numic is taken up below.

Secondary verbs form a unit with the main lexical verb by being incorporated into the verbal complex. Several of these secondary verbs are transparently related to various of the directional and aspectual morphology in these languages and are an

active zone for grammaticalization (Thornes 2009, 2011). Basic motion and posture verbs fit into the secondary verb category in Numic (25) alongside the non-conforming verbs (Hill and Hill 2019) in the Takic languages (26).

(25) Western Shoshoni (Crum and Dayley 1993: 102)
*Teiten nai?pi sukkuh yakai-**katte***
little girl there cry-**sit.DUR**
'The little girl was sitting there crying.'

(26) Cupeño (Hill and Hill 2019: 800)
*kanaasta=ku?ut aj?ani-sh pym-jaw-**nyq***
basket=QUOT big-NPN 3PL-carry-**come.NFUT**
'They brought a big basket.'

Important distinctions are made in Thornes (2011) between the secondary verb construction (SVC) and typical verb + verb compounding in Northern Paiute (Western Numic). These include the fact that, in traditional parlance, verb + verb compounding is semantically right-headed, whereas in the SVC the main lexical verb precedes the secondary verb (i.e. is left-headed). This analysis is supported by the fact that secondary verbs always develop from a finite subset of verbs in the language and express such grammaticalized functions as direction and aspect. Relevant for our discussion is the observation that the position of the causative-applicative suffix in the language follows the verb + verb compound in (27), while it comes between the main and secondary, as in examples (28) and (29).

(27) Northern Paiute (Thornes 2011)
*i=sakwa ka=toissapui i=sami-tiki-**kki***
2SG.NOM=MOD ACC=chokecherry 1SG.OBJ=soak-put.SG-**APPL**
'You should put the chokecherries in to soak for me.' (NK: 'Chokecherries')[6]

(28) Northern Paiute (Thornes 2011)
*ni i=kiki ?yui-**kki**-kati*
I 1SG.POSS=feet be.warm-**APPL**-sit.SG
'I sit warming my feet (making my feet warm).'

6 The Northern Paiute data included in this paper, when possible, come from narrative text or however they appear in the secondary sources I have consulted. Northern Paiute material was recorded, transcribed, and analyzed by me with the help of native, first language speakers. The examples tagged as narratives are coded with speaker initials and a short title. If not so tagged, the reader may assume the example came from direct, usually text-based, elicitation.

(29) Northern Paiute (Thornes 2011)
yaisi *ka=yuu* *“corner”-wai* *uuni-ku* *mi=wini-**kki**-tiŋi-yakwi*
then ACC=this.way corner-LOC that.kind-ACC PL=stand.SG-**APPL**-tell.to-HAB
‘And this way, in the corner, that kind, would tell them to stand.’
(NK: ‘Boarding School Days’)

One can stipulate, based on this distribution, that the applicative suffix attaches to the verbal stem portion of the verb structure (note the schema in [1] above), whereas the secondary verb applies to a distinct layer of structure, the theme layer.

3 Applicative forms in Northern Uto-Aztecan

We turn now to a discussion and description at the morphological, syntactic, and semantic levels of ACs as found in each of the four NUA subunits—Numic, Takic, Pahka’anil (Tübatulabal), and Hopi. The ensuing discussion will naturally derive from a decidedly Numic bias for the simple reason that some typological questions would otherwise remain unanswered due to a lack of available data. Discussion of the phenomenon of causative-benefactive syncretism and the historical connection between morphological causatives and applicatives has been largely absent, for example, in most descriptions of NUA languages.

The NUA languages each typically carry just one applicative suffix that signals valence increase, mainly through the addition of an object argument whose featured semantic role is benefactive (as well as malefactive). Some variation in semantic role occurs as a natural consequence of distinct semantic properties of the verbs to which they attach. The construction appears to be mostly obligatory across NUA, offering the only means by which to express a benefactive argument. Minor exceptions are discussed in Section 3.2.

The ensuing sections summarize and exemplify the morphological, syntactic, and semantic properties of the constructions, as well as discussion of some discourse-based properties of the AC with evidence from Northern Paiute. We begin our comparative discussion of NUA ACs with their most salient morphological properties.

3.1 Morphology

Canonical ACs in NUA appear exclusively to consist of a suffix closely attached to the verb stem. There appears very little in the way of either lexically or phonologically conditioned allomorphy. Indeed, the pan-Numic applicative suffix *-ŋki* appears to be

resistant to the widespread lexically conditioned allomorphy (in the form of consonant mutation) that affects most of the other suffixes.[7]

Applicative morphemes for each of the NUA languages sampled for this study are listed in Table 1.

Table 1: Applicative forms in the four branches of Northern Uto-Aztecan and their origins.

SUBGROUP	LANGUAGE	APPLICATIVE	GIVE	*PUA
*Numic	Northern Paiute	*-kk̟*[8]	*kia	
	Tümpisa & Western Shoshoni	*-ŋk̟(n)*		
	Southern Paiute & Ute	*-(ŋ)k̟*		
*Takic	Cupeño	*-max*	*maka	
	Luiseño & Acjachemem	*-max*		
	Serrano	*-itʃuna*		*(i)na
*Hopi	Hopi	*-toyna*		*(i)na
*Pahka'anil	Pahka'anil	*-(a)na*		*(i)na

Aside from the two GIVE verbs in Numic and Takic from which applicatives have clearly grammaticalized in these languages, are three likely related forms in Serrano, Hopi, and Pahka'anil. Note that all three carry a remnant of what has been proposed as a probable Proto-Uto-Aztecan causative, **-(i)na* (Langacker 1977: 145). The sporadic alternation of [i] and [a] relates to transitivity, albeit inconsistently, across the Uto-Aztecan family.[9]

The denominalizing suffix *–tu*, similarly attested in Numic and Serrano as meaning, broadly, 'to make N', could well account for the initial portions of the Hopi and Serrano forms. These Serrano and Hopi forms can be related phonologically, with Hopi [t] corresponding to the [tʃ] in Serrano by simple palatalization in the environment of high front [i]. Further, Hopi [o] corresponds to [u] across the family.[10]

Applicative suffixes typically appear alongside morphological causatives in the NUA languages which carry both. Where both are present as suffixes, the applicative

7 Consonant mutation is an important morphophonemic process in Numic, making reconstruction difficult. There is both stem-internal contrast and lexically-induced gradation at most morpheme and enclitic boundaries. Prenasalization in Central Numic (especially Shoshoni) corresponds with a somewhat unusual voiced geminate grade in the southernmost dialects of Northern Paiute, whereas in the northern lects, illustrated here, prenasalization has merged with voiceless gemination, hence, *-kk̟*. John McLaughlin (i.p.c.) considers the prenasalised reflex to be the Proto-Numic form.

8 I present the Northern Paiute causative-applicative in all examples to follow in its underlying form to emphasize the fact that its initial consonant does not mutate, but remains geminate (fortis) in all conditions.

9 Vocalic ablaut induced by certain suffixes on stems and its historical implications for Uto-Aztecan historical study has long been recognized (cf. Heath 1977: 29–33 and Hill 2003: 42–46). In short, stem final variation between [i] and [a] can sometimes have transitivizing effects.

10 I am grateful to Ken Hill (i.p.c.) for his insight and corroboration of the probability of the historical relationships I am proposing here among these forms.

typically follows the causative morpheme, as is described by Voegelin (1935) for Pahka'anil where it is stated of the benefactive suffix that it is used "after virtually all transitive verbal stems or verbal themes which are transitivized by means of the causative suffix (104)". Note:[11]

(30) Pahka'anil (Voegelin 1935: 101–103)
a. *halai'-* 'to be wet (INTR)'
b. *halai'-**ina**-t* 'he is wetting him (making him wet)'
c. *halai'-**ina-ana**-t* 'he is wetting him for her'

The following example from Cupeño illustrates this preference as well:

(31) Cupeño (Hill 2005: 264)
*Ni=kwaw-**nin-max**='em=pe* *ne-pulinma-y.*
1.SG.ACC=call-**CAUS-APPL**=2.PL=IRR 1.SG.POSS-son-ACC
'You all will cause my son to be called for my sake.' (Faye Creation 116)

The forms are varied across the four subgroups, with Pahka'anil and Hopi (and possibly Serrano) appearing to preserve (at least in part) causative forms traceable to proto-Uto-Aztecan.

The Northern Paiute applicative construction involves the reflex *-kki* whose appearance most typically signals the addition of a benefactive participant to the base argument structure and bearing the grammatical relation of direct object. Compare:

(32) Northern Paiute
i *yadua-kwi*
2.SG.NOM talk.SG-FUT
'. . .you will talk/respond. . .'

(33) Northern Paiute
umi ***mi**=yadua-**kki**-kwi-u*
2/3.PL.NOM **1PL**=talk.SG-**APPL**-FUT-PNC
'. . .you all will talk/interpret for us. . .' (NK: Boarding School Days)

The most likely source for the applicative suffix in the Numic sub-group can be found in the still extant Northern Paiute verb *kia* meaning 'give.' According to Peterson (2007), GIVE verbs are the most common source of benefactive applicatives, cross-linguistically.

11 It is unfortunate that Voegelin (1935) elected to display examples involving only third person singular participants—the unmarked form—thereby obscuring some of the key indicators of transitivity in the examples.

The likely source construction for the grammaticalization of GIVE > APPLICATIVE seems clearly, in Numic at least, but possibly across the Uto-Aztecan family, to be the secondary verb construction, described above. Although not prototypical, it represents an example of a one-word serial verb construction of Aikhenvald's (2006) asymmetrical type.[12] My claim here is that the pan-Numic applicative suffix *–(ŋ)kɨ* has as a source a still extant, trivalent verb *kia*, meaning 'give', which became grammaticalized as a participant in the secondary verb construction. Consider:

(34) Northern Paiute (Thornes 2003)
*ya?a mii ɨni-na; u-su tɨ=sɨɨ-tsida u=**kia***
here QUOT say-PTCP 3-NOM LOGO=willow-dish 3=**give**
'"Here!" so replying; he gave her his willow cup.' (ML: Bear and Deer)

That the historical source construction is likely as a secondary verb can be further illustrated with examples like the following:

(35) Northern Paiute (Thornes 2003)
i=yuŋa-kia
me=pick.up.a.container-give
'Give that (container) to me!' (alternatively, 'Pick it up for me!')

Note that in (35), the first person object proclitic is licensed by the secondary verb 'give', in the same way as the applicative suffix would, by turning a bivalent verb 'pick up' into a trivalent predicate complex.[13] This represents a step in the direction of full grammaticalization—semantic bleaching—followed by phonological reduction and acategoriality. Comparable examples in the more canonical serializing languages of west Africa and southeast Asia can readily be found (cf. Lord, Yap, and Iwasaki 2002).

An applicative morpheme distinct from that found in the Numic languages is found in Takic, but one which also appears to derive historically from a still extant lexical verb meaning 'give.' In the case of the Takic subgroup, most of the languages, with the exception of Serrano, have an applicative form *-max* transparently related to the extant verb *maxa* 'give'.[14]

12 Asymmetrical serial verb constructions are those whereby one verb in the series is from a restricted (closed) class, or subset, of verbs, especially basic motion and posture verbs.

13 Note as well that there is only one participant coded overtly in this example, the first person singular recipient (benefactive). The second person subject is understood, as is common in imperative constructions, and the third person theme is unmarked, due to the recipient being prioritized in the proclitic position.

14 Other Uto-Aztecan languages have *maka*, semantically narrowed to mean 'give food; feed', as in the Hopi example (16) above. Note the main verb *magha* in the Ute examples (47–49) below.

(36) Cupeño (Hill and Hill 2019: 802)[15]
*$aw~$aw-in-**max**=yn*
PLUR~make.bread-TR-**BEN**=1SG.ACC
'Make a few tortillas for me!'[16]

(37) Cahuilla (cited in Hill and Hill 2019: 831)
tu? *tu?* *ne-?em-jaxe-**max**-am* *pe-n-pa?-ka*
grind grind 1SG.OBJ-2PL-do-**BEN**-IPFV.PL 3PL.OBJ-1SG-drink-1SG.FUT
'Grind them for me so that I can drink them!'

Here, as elsewhere, the beneficiary is licensed by the applicative suffix and is the only option for including a benefactive participant in the clause. This fact appears to be true across NUA.

Serrano is an exception among Takic languages in that it is the suffix *-ichun(a)*, that signals the addition of a benefactive argument in an applicative construction (Hill and Hill 2019: 712). Compare the following:

(38) Serrano (Hill and Hill 2019: 712)
a. *icha-j* 'dip (water)' b. *ich-**ichun*** 'dip for'
c. *kuuhan* 'call; invite' d. *kuuhan-**ichun*** 'call/invite for'

All three arguments of a derived ditransitive verb can appear as part of the second position auxiliary complex in Serrano (Hill and Hill 2019: 534).

(39) Serrano (Hill and Hill 2019: 534)
ama? *ymy-j=vy=**chi?*** *kuuhan-**ichuna**-qa?*
DIST 2SG.PRO-ACC=3SG.SBJ=**1PL.OBJ** call-**BEN**-IFUT
'He is going to call you for us.'

The applicative function in Pahka'anil, as we have been describing elsewhere in NUA, is carried by a single verbal suffix *-(a)na*. This benefactive-applicative suffix occurs with what Voegelin (1935) refers to as the "*a*-increment", a vowel which may harmonize under certain conditions. The only difference in form between the benefactive and causative suffix is that the causative suffix *-(i)na* occurs with a distinct "*i*-increment". The following examples are meant to illustrate the transitivizing effect of both suffixes:

15 Hill and Hill (2019) use orthographic *$* to represent what they refer to as a voiceless, apico-alveolar fricative.

16 It is difficult to account for the *-in* transitivizer in this example other than to posit that it has lexicalized as part of the verb stem 'to make bread.' On its own it appears obviously related to the PUA causative suffix (maintaining its pre-applicative position).

(40) Pahka'anil: applicative (Voegelin 1935: 102–103)
a. *ha'ibi'ït* 'he is joking (INTR)'
b. *ha'ibi'-**ana**-t* 'he is teasing him'

(41) Pahka'anil: causative + applicative (Voegelin 1935: 102–103)
a. *yu'udzat* 'it is fading (INTR)'
b. *yu'udz-**ina**-t* 'he is washing it (TR)'
c. *yu'udz-**ina-ana**-t* 'he is washing it for him'

Interestingly, Voegelin (1935) dismisses the idea of a relationship between the two suffixes, since "no generally discernable meaning can be otherwise assigned to the vowel increments (98)". He places both of these suffixes in the positions closest to the verb root, as we have seen in other NUA languages, with the causative appearing directly adjacent to it.

3.2 Syntax

Applied objects in NUA languages are basically symmetrical in character in comparison to their organic direct object counterparts. Applied objects can be promoted (i.e. appear as subjects) in passive just as direct objects can. We find some constituent order preferences, however, that seem clearly to privilege the applied object and speech act participants as primary objects, appearing before secondary objects. In double object constructions, where both objects marked with accusative (or oblique) case, we see this constituent order preference as in the following examples from Hopi (HDP 1997: 880) and Tümpisa Shoshoni (Central Numic; Dayley 1989: 184):

(42) Hopi (HDP 1997: 880)
nï' *pumu-**y*** *iqaʔo-**y*** *mokyaato-**toyna***
1SG 3PL-**ACC** my.corn-**ACC** wrap-**APPL**[17]
'I am wrapping up my corn for them.'

(43) Tümpisa Shoshoni (Dayley 1989: 184)
waʔippü *tangumm-**i*** *tüpa-**nna*** *tukummahanni-**ŋkü**-nna*
woman[NOM] man-**ACC** pinenut-**ACC** cook-**APPL**-PTCP
'The woman is cooking pinenuts for the man.'

Note that in both examples, the applied benefactive object appears before the direct object, although there remains some flexibility, at least in Tümpisa. Considering, however, the fact that applied benefactive objects are typically human, there may be a

17 The parsing of the Hopi examples is my own (TT).

semantic or pragmatic motivation, as opposed to a syntactic one, underlying the word order patterns we find.

Interestingly, Tümpisa allows applied objects to be postposed following the verb, where they may optionally appear in the unmarked (nominative) case. Compare (44) with (43) above:

(44) Tümpisa Shoshoni
waʔippü *tüpa-**nna*** *tukummahanni-**ŋkü**-nna* *tangummü*
woman[NOM] pinenut-**ACC** cook-**APPL**-PTCP man[NOM]
'The woman is cooking pinenuts for the man.'

It would be helpful to have more prosodic information here to see whether the postposing of objects is common in discourse. Clauses don't normally allow for two participants to appear in the nominative case, suggesting that perhaps a postposed object should rather be considered an adjunct to the main clause. Prosodic evidence might corroborate this hypothesis.

Both Ute (Southern Numic; Givón 2011) and Northern Paiute appear to be less flexible when it comes to the coding of applied and direct objects. In the latter language, however, any proposed object asymmetry can be attributed to a person hierarchy that privileges speech act participants over third persons and humans over non-humans. This is perhaps best illustrated by considering access to the object pronominal proclitic slot in Northern Paiute. Consider:

(45) Northern Paiute
su=moko?ni *u-ka* ***mi**=kuhani-**kki***
NOM=woman 3SG-ACC **1PL.EXCL**=cook-**APPL**
'The woman cooked it/that for us.'

(46) Northern Paiute
ma-tu ~~*imi*~~ ~~***i***~~*=kia*
3.PROX 3PL **2**=give
'They're giving you to him (as in marriage).'

As Givón (2011) demonstrates for Ute, when the benefactive applicative construction operates on an organically transitive clause, the resulting ditransitive treats the applied benefactive object differently, both syntactically and morphologically from the direct object. Note:

(47) Ute (Givón 2011: 91)
ʔ*aa-ruachi-u* *magha-qa-am*~~u~~
new-child.OBJ-PL feed-PST-3**PL**
'(s/he) fed the babies'

(48) Ute (Givón 2011: 91)
mamachi *ʔaa-ruachi-u* *magha-**kʉ**-qa-ʔ**ʉ***
woman new-child.OBJ-PL feed-**APPL**-PST-3**SG**
'(s/he) fed the babies for the woman'

Givón asserts here that the "word order is strict, with the benefactive invariably preceding the patient object" (2011: 91). This is similar to what we have shown for Northern Paiute, above. Note that object agreement also rests with the benefactive (third person singular) rather than the patient (third person plural), which is shown to be ungrammatical. Compare (48) with (49) below:

(49) Ute (Givón 2011: 91)
mamachi* *ʔaa-ruachi-u* *magha-kʉ**-qa-am**ʉ***
woman new-child.OBJ-PL feed-**APPL**-PST-3PL

These same restrictions apply to organically ditransitive clauses with verbs like 'give', 'show', and 'tell'. Under the circumstances outlined here, therefore, there doesn't appear to be asymmetry between applied and direct objects.

Across NUA, the ACs appear to be obligatory—that is, there is no alternative, non-applicative construction for encoding a benefactive argument. As Dayley (1989) points out for Tümpisa, "[t]he process of forming benefactives from transitive verbs is completely productive, and in fact it is obligatory whenever a benefactive participant is involved in the action" (1989: 117).

The universality of this observation may not be entirely true for NUA languages, however. Hill and Hill (2018: 328) provide the following pair of examples from Acjachemem, a Coastal Cupan language alongside Luiseño:

(50) Acjachemem (Hill and Hill 2018: 328)
maxanna? *sopul* *pun?xan?t-a* *kwamool-a*
give.IMP one peso-ACC fisherman-ACC
'Give one peso to the fisherman!'

(51) Acjachemem (Hill and Hill 2018: 328)
ni-jk *ngavva?* *na-kchiijo? -ka-j*
1SG-DAT sharpen.IMP 1SG-knife-POSS-ACC
'Sharpen my knife for me!'

In (50), the organically trivalent verb 'give' licenses two accusative case-marked objects, while the bivalent verb 'sharpen' in (51) marks the benefactive with the dative case. This suggests that perhaps, in Acjachemem at least, the AC is not obligatory, as it is in most other NUA languages. This merits further exploration. In elicitation Northern Paiute speakers will sometimes offer examples like (52), where it is possible to find

beneficiaries marked with one of the locative cases, in this instance, the allative *-tu*, without using the AC.

(52) Northern Paiute
ma-tu *i* *i =ma-tɨpuni*
3.OBV-LOC you 1SG.OBJ=IP:by.hand-awake
'You woke me up for him.'

This construction may in fact have been produced under the influence of English mainly to accommodate the native English speaker present, me, in direct elicitation. It has not to date been found anywhere in the natural speech corpus.

3.3 Semantics

The languages under consideration in this study each have just one marker functioning as an applicative morpheme, as opposed to an array of markers specialized for bringing distinct semantic participants into position as core arguments. The dominant semantic role assigned to such status is that of benefactive across all the NUA languages, and ACs are, by and large, the only means for expressing a benefactive participant. There is, however, some inevitable variation in semantic role arising as a natural consequence of the semantic properties of the host verbs, as in the 'yell' examples in (53) and (54) below.

Across the Numic subfamily are reflexes of the applicative suffix *-(ŋ)kɨ*, with minimal variation and which behaves most like a benefactive-applicative suffix with active-intransitive and most transitive verbs. Note the following examples from Northern Paiute and Tümpisa Shoshoni:

(53) Northern Paiute
wohi 'yell' *wohi-**kkɨ*** 'call out to'
tɨmɨ 'buy' *tɨmɨ-**kkɨ*** 'buy for'

(54) Tümpisa Shoshoni
tükümmüi 'talk' *tükümmüi-**ŋkün*** 'interpret for'
paitsü 'yell' *paitsü-**ŋkün*** 'yell at'

The most significant exception to this general exclusivity is apparent in the Numic subgroup. Here we find causative-benefactive syncretism associated with the AC. With what could be generally classified as stative and patientive intransitives, the suffix signals the addition of an agent or cause to the derived valence—that is, *-(ŋ)kɨ* takes on the function of a morphological causative.

(55) Northern Paiute

tiʔoyai	‘be sick’	*tiʔoyai-**kki***	‘make sick’
iwi	‘sleep’	*iwi-**kki***	‘make sleep’

(56) Tümpisa Shoshoni

kottoʔeh	‘boil (INTR)’	*kottoʔe-**ŋkün***	‘boil (TR)’
sünnünnüki	‘shiver’	*sünnünnüki-**ŋkün***	‘shake’

Basic posture verbs (and patientive intransitives like *wiʔiu* ‘to fall’ and *wiʔi**ki**u* ‘to drop’) are treated as stative intransitives, when it comes to the AC, in causative function.

(57) Northern Paiute

sisiʔma	*u-kuba*	***mi**=wini-**kki**-u-ʔyai-na*
sometimes	3SG.ACC-upon	**1PL.EXCL.ACC**=stand- **APPL**-PNC-HAB-PTCP

‘. . .sometimes (they) made us stand on that.’ (NK: Boarding School Days)

Agentive ambitransitives, like verbs of ingestion, follow the same pattern, but with the flavor of a more mediated, or indirect, causative. The indirect reading could be explained by the fact that such examples involve human causees.

(58) Northern Paiute

***mi**=tika-**kki**-u-si*	*nimmi*	*tiwau*	*mia-si*
1PL.EXCL=eat-**APPL**-PNC-SEQ	we.EXCL.NOM	again	go.SG-SEQ

‘Having allowed us to eat, we went on again and. . .’(NK: Boarding School Days)

What is clear from the Northern Paiute data, but has not always been asserted in descriptions of other Numic languages, is that causative-benefactive syncretism is not a simple matter of the transitivity of the base verb. Rather, the semantics of the base verb helps determine the outcome of the AC as either a morphological causative or benefactive applicative. Tables 2 and 3 are a partial inventory of verbs that enter into the AC in Northern Paiute, divided by semantic output.

Table 2: Verbs with which *-ki* has a benefactive-applicative function in Northern Paiute.

VERB	GLOSS	APPLICATIVE	DERIVATION
hani	prepare; do	*hani-ki*	prepare for; give
hima	take (in a container)	*hima-ki*	take/ get for
kuhani	cook	*kuhani-ki*	cook for
kutsa	split wood	*kutsa-ki*	split wood for
kwi[h]i	get; obtain	*kwi[h]i-ki*	get for; acquire for
mabutuʔi	roll (TR)	*mabutuʔi-ki*	roll for
matipuni	wake up (TR)	*matipuni-ki*	wake up for

Table 2 (continued)

VERB	GLOSS	APPLICATIVE	DERIVATION
mɨda	extend; stretch	*mɨda-kɨ*	extend for
nanisutɨhai	pray	*nanisutɨhai-kɨ*	pray for
nisagwaiʔi	curse	*nisagwaiʔi-kɨ*	be cruel to
noho	roast under ashes	*noho-kɨ*	roast for
noo	carry	*noo-kɨ*	carry for
pida	build a fire	*pida-kɨ*	build a fire for
sɨta	be bad; angry	*sɨta-kɨ*	be angry at
suaʔi	laugh; smile	*suaʔi-kɨ*	laugh at; flirt with
tɨbo	write (INTR)	*tɨbo-kɨ*	write for
tɨmɨ	buy	*tɨmɨ-kɨ*	buy for
tɨničui	teach; tell stories	*tɨničui-kɨ*	tell stories to
tɨnikwɨhɨ	sing	*tɨnikwɨhɨ-kɨ*	sing for
tsagwɨɨ	pick up	*tsagwɨɨ-kɨ*	pick up for
tsikaʔa	cut	*tsikaʔa-kɨ*	cut for
tsiʔwoŋi	comb	*tsiʔwoŋi-kɨ*	comb for
wohi	yell	*wohi-kɨ*	yell at; call out to
yadua	talk.SG	*yadua-kɨ*	interpret
yuŋa	dip into	*yuŋa-kɨ*	scoop up

Table 3: Verbs with which *-kɨ* has a causative function in Northern Paiute.

VERB	GLOSS	CAUSATIVE	DERIVATION
čičɨkwi	sit.DISTR (INTR)	*čičɨkwi-kɨ*	put up.DISTR (TR)
kakia	wear around neck	*kakia-kɨ*	have/ make wear
katɨ	sit.SG (INTR)	*katɨ-kɨ*	set/put up.SG (TR)
kwissi	weave	*kwissi-kɨ*	lasso
mani	do	*mani-kɨ*	cause to be; occur
maŋi	cross water; wade	*maŋi-kɨ*	take across
nai	burn (INTR)	*nai-kɨ*	burn (TR)
nɨɨma	feel; be injured	*nɨɨma-kɨ*	make hurt; injure
pakomamaʔi	wash the face	*pakomamaʔi-kɨ*	make/ have wash
patakwitsia	shine (INTR)	*patakwitsia-kɨ*	shine (TR)
patawi	blow up; stir up (INTR)	*patawi-kɨ*	blow up (TR)
pisa	be good	*pisa-kɨ*	cure; make well
pitɨ	arrive	*pitɨ-kɨ*	bring
punni	see	*punni-kɨ*	show
tiʔoyai	be sick	*tiʔoyai-kɨ*	make sick
tɨka	eat	*tɨka-kɨ*	make/have eat
tɨmanaga	be paid	*tɨmanaga-kɨ*	pay
toki	be correct	*toki-kɨ*	do correctly
wadzi	hide	*wadzi-kɨ*	lose
wakwami	stand.DISTR (INTR)	*wakwami-kɨ*	stand.DISTR (TR)
wɨnɨ	stand.SG (INTR)	*wɨnɨ-kɨ*	stand.SG (TR)

Table 3 (continued)

VERB	GLOSS	CAUSATIVE	DERIVATION
yuai	stop (INTR)	*yuai-kɨ*	stop (TR)
ʔiditɨ	be hot	*ʔiditɨ-kɨ*	make hot
ʔiwi	sleep	*ʔiwi-kɨ*	make sleep
ʔyui	be warm	*ʔyui-kɨ*	make warm

Clearly, the semantics of the base verb drives the output of the AC in Northern Paiute. Dayley (1989), in his grammar of Tümpisa Shoshoni, draws near to that conclusion by dividing intransitives into "statives and actives", but provides little evidence to demonstrate that they behave either similarly or differently, despite the fact that nearly all in his list of base verbs entering into the causative construction are stative or patientive intransitives. His sample set of stative and patientive intransitive base verbs includes what is in Table 4:

Table 4: Verbs with which *-ŋkün* has a Causative Function in Tümpisa Shoshoni.

hapi"	**'lie.SG'**	***hapi-ŋkün***	**'to make fall'**
Hipittain	'to get drunk'	*hipittai-ŋkün*	'to intoxicate'
hüttsawü	'to be cool'	*hüttsawü-ŋkün*	'to cool'
kammah	'to be sick'	*kamma-ŋkün*	'to make sick'
kuppä	'to cook (INTR)	*kuppä-ŋkün*	'to cook (TR)'
kotto'eh	'to boil'	*kotto'e-ŋkün*	'to boil (TR)'
kwitasu'u"	'to fart'	*kwitasu'u-ŋkün*	'to make fart'
mi'a	'to go'	*mi'a-ŋkün*	'to send'
pitsi	'to suckle'	*pitsi-ŋkün*	'to nurse'
potso'in	'to be wet'	*potso'i-ŋkün*	'to moisten'
sii"	'to urinate'	*sii"-ŋkün*	'to make urinate'
sünnünnüki	'to shiver'	*sünnünnüki-ŋkün*	'to shake'
tammayain	'to be crazy'	*tammayai-ŋkün*	'to drive crazy'
tamminoi	'to be tired'	*tamminoi-ŋkün*	'to make tired'
üitsü'in	'to be cold'	*üitsü'i-ŋkün*	'to make cold'
üppüih	'to go to sleep'	*üppüi-ŋkün*	'to make sleep(y)'
ütüin	'to be hot'	*ütüi-ŋkün*	'to heat'
watsi"	'to be lost'	*watsi-ŋkün*	'to lose'
wükkatüh	'to be a pile'	*wükkatü-ŋkün*	'to stack'
yuhupükkan	'to get fat'	*yuhupükka-ŋkün*	'to fatten'

Benefactive applicatives throughout NUA appear to be most productively associated with transitive base verbs and fairly productive with agentive intransitives. Causative-benefactive syncretism is found in Numic and thoroughly attested in Northern Paiute (Thornes 2003: 383–387) as well as many other languages of North America and

around the world—for example, Hualapai (Ichihashi-Nakayama 1996) and several languages of Australia (Austin 1997 and Austin, this volume).

Even in those NUA languages with distinct benefactive and causative forms, such as Cupeño, Pahka'anil, and Hopi, there appears the same division of labor—benefactives are productive with transitive verbs and causatives are rare with transitives but productive (to the point of lexicalization) with stative intransitives, as we will see below. The nature of causative-benefactive syncretism is key for understanding the impacts of ACs in NUA languages, and so information on causation and causative morphology has been included here.

I turn now to some interesting discourse-related properties of the AC. The focus here will be on Northern Paiute, but can be seen as instructive for this and future surveys of related and neighboring languages. More thorough studies are needed of the other NUA languages, not only to seek confirmation (and clarity) of what has been found in this one, but also to provide more clues as to the development of causatives and applicatives across the family.

3.4 Discourse

Some of the Northern Paiute data provide evidence whereby core arguments are rearranged in the AC, but without valence increase, in a way that could indicate a boost in topicality of the participant(s) encoded in the applied phrase. Consider the following examples with the transitive verb meaning 'to tell stories to'. Example (59) illustrates it as the main verb in a base transitive construction. Looking at example (60) from an ethnohistorical narrative, we have the speaker and her family meet with others to gather wild roots. She and her family are central to the narrative.

(59) Northern Paiute
i̵mi *i=ti̵ničui*
2PL.SBJ 1SG.OBJ=tell.story
'You tell me stories.'

(60) Northern Paiute
ni̵mmi *pokwa-na,* *umi̵* ***mi=ti̵ničui-kki̵-u***
1PL.EXCL.NOM lie.PL-SIM 3PL.SBJ **1PL.EXCL.OBJ**=tell.story**-APPL**-PNC
'While we lay down, they told us stories.' (NK: Root-digging Time)

One can speculate that the AC in (60) is functioning as a kind of voice construction by indicating the importance or centrality of the speaker and her family's experience. Taken together, these examples illustrate that the valence does not change, either with the applicative suffix or without it. Alternatively, the benefactive semantics of the applica-

tive suffix may be on display here in conjunction with an ethical dative function we find elsewhere in NUA.[18]

As far back as Sapir (1930) is suggested an "ethical dative" sense for the benefactive-applicative function in Southern Paiute (Southern Numic)—a function in which the "indirect (sic) object is not really affected by the action at all but is merely interested in it. Such ethical datives with first person indirect object are frequently employed to indicate an affectionate attitude on the part of the speaker" (1930: 145).

It turns out to be a simple matter, with certain verbs, to elicit more of Sapir's "dative of interest" scenarios that are acceptable to elder Northern Paiute speakers. Note:

(61) Northern Paiute
i=nodɨkwa *nɨ* *mia-**kkɨ**-si*
1SG.POSS=wife 1SG.NOM go.SG-APPL-SEQ
'My wife left me (~I let her go).'

Of interest here is the fact that the affected first person appears in its nominative case form. By default, then, the notional subject of the base intransitive verb is accusative, as there can only be one nominative form per clause in Northern Paiute. The parenthetical alternative interpretation of (61) would cast the AC in its permissive causative function. However, compare:

(62) Northern Paiute
i=hamma?a *nɨ* *ya?i-**kkɨ**-si*
1SG.POSS=elder.sister 1SG.NOM die.SG-APPL-SEQ
'My big sister died on me.'

In (62), however, a parallel alternative seems faulty, since 'I' did not cause my elder sister's death, but was obviously affected by it. The following examples present a similar conundrum for analysis. Consider example (63) from a conversation about a man that had recently lost his wife. Here, the intransitive subject of the first clause (the woman) is presented morphosyntactically as the applied phrase with accusative case-marking. As an alternative, the accusative case-marking on 'woman' could be a reflection of the dependent nature of the sequentially marked clause.[19] Indeed, the accusative marker here could be interpreted as marking the dependent clause as a whole, as though it were itself an argument of the independent clause that follows it. At this point in the conversation, the speaker could be seen as emphasizing the affectedness/interest of the nominative argument (the man) in the second clause:

18 I would like to thank Denis Creissels for this observation.
19 Thanks to Albert Álvarez González for this observation, based upon similar phenomena in other Uto-Aztecan languages.

(63) Northern Paiute
ka=*moko?ni* *ya?i-**kk~~i~~**-si,* *su=nana* *p~~i~~=si?m~~i~~* *nobi-ča-?yu*
ACC=woman die-**APPL**-SEQ NOM=man RESTR=only house-HAVE-PRED
'When that woman died, the man lived alone.' (JB: Driving to Drewsey)

When offered a grammatically and pragmatically neutral alternative—a simple sequence of two intransitive (non-applicative) clauses with both subjects case-marked nominative, it was deemed perfectly acceptable to speakers, but without the same emphasis:

(64) Northern Paiute
su=moko?ni *ya?i-si,* *su=nana* *p~~i~~=si?m~~i~~* *nobi-ča-?yu*
NOM=woman die-SEQ NOM=man RESTR=only house-HAVE-PRED
'When the woman died, the man lived alone.'

Examples like these appear to support a discourse-centered function of the AC in Northern Paiute. That is to say, once again, that ACs do more than transitivize. Transitivization is a side-effect of the basic function of ACs, namely, to assign discourse prominence to otherwise peripheral (or, at least, affected) arguments. In NUA languages, and no doubt elsewhere, the participant role being given such prominence is entirely dependent upon the semantics of the verb of the base construction. More research is needed to account for such discourse effects.

A more covert property of the AC in Northern Paiute is revealed in consideration of its high frequency of use in some first person narratives, belying a stronger interest on the part of the speaker. A narrative offered by one speaker described her residential boarding school experience. Its high frequency of ACs (nearly two dozen) merits consideration, since one would otherwise rank the AC as a rather infrequent construction type. Clearly, its frequency in this narrative is related to the fact that the key players, the speaker and her elder sister, were not in control of the events that unfolded for them (or to them) in the boarding school context. Any further exploration of the discourse context(s) that trigger the use of the AC lies beyond the scope of the present study.

4 Denominalization and applicativization in Northern Paiute

One phenomenon that has to now not received much (if any) attention in the available descriptions of NUA languages is the presence of an applicative-like structure associated exclusively with denominal verbs. This phenomenon is present in Northern Paiute. Denominalization is found across the Uto-Aztecan language family (Haugen 2008) and involves deriving a verb from a noun using one of several suffixes with meanings

ranging from MAKE, HAVE, WEAR, and HUNT/GATHER, to name a few. The following examples provide a sample from NUA:

(65) Hopi: MAKE (Hill 2003: 225, cited in Haugen 2008)
*kii-**ta***
house-**MAKE**
'build a house'

(66) Northern Paiute: HAVE (Thornes 2003: 131)
*pisa miawo-**gaʔyu***
good knee-**HAVE**
'to have good knees (idiom. "to have a knack for showing up at mealtime")'

(67) Southern Paiute: PUT ON (Sapir 1930: 135, cited in Haugen 2008)
*maavï-**ai***
clothing-**PUT.ON**
'puts on (his) clothes'

(68) Pahka'anil: GATHER (Voegelin 1935: 132, cited in Haugen 2008)
*mac-**kay**-ïlat*
wild.oats-**GATHER**-go
'He is going to gather wild oats.'

The MAKE form in Northern Paiute is *-tu* and can have a secondary derivation that allows for the addition of a benefactive participant with the addition of *-ʔi*, as in the following examples:

(69) Northern Paiute
a. *nɨ kopiʔi-**tu***
1SG coffee-**MAKE**
'I made coffee.'
b. *nɨ ɨ=kopiʔi-**tu-ʔi***
1SG you=coffee-**MAKE-BEN.APPL**
'I made coffee for you.'

(70) Northern Paiute
a. *watta kutia-**tu***
pole fence-**MAKE**
'make a pole fence'
b. *umɨ ɨ=kutia-**tu-ʔi***
3PL me-fence-**MAKE-BEN.APPL**
'They're making a fence for me.'

Note that the valence shift is just as it is with the more canonical benefactive-applicative constructions we have been exploring up to now. Here we see the valence increase through the addition of a human beneficiary of the action coded by the denominal verb. The *-ʔi* suffix has no other known function elsewhere in the language, and in all examples in my corpus, I only find it in consort with the *–tu* denominalizer. That said, it appears to be fully productive, but only in this particular denominalizing context.

As mentioned elsewhere in this paper, there are, throughout the Uto-Aztecan language family, sporadic alternations between final vowels [a] and [i] patterning with transitivity. As described in Thornes (2013: 254–255), one finds at least a couple of lexicalized examples of this alternation aligning [a] with intransitive and [i] with transitive. Note:

(71) Northern Paiute (Thornes 2013: 254–255)
a. *yadua* 'talk'
b. *yadui* 'talk to X'

(72) Northern Paiute (Thornes 2013: 254–255)
a. *timadza'a* 'help (INTR)'
b. *timadzai* 'help X (TR)'

The path from causative to general transitive is a well-trodden one. That it found its way to an applicative function, and to a particular destination where it could flourish seems, at least on the face of it, not far-fetched. Clearly, more work needs to be done in order to explore constraints on the benefactive-applicative function of the *-ʔi* suffix in Northern Paiute and its presence elsewhere in the family.

Applicativization restricted to verbs formed by means of a particular derivational operation is rare. A possible historical scenario[20] harkens to a time when the *-tu* denominalizer was still an independent verb and *-ʔi* was a productive applicative suffix. Replacement by another applicative suffix may have corresponded with the persistence of *-tu* only in Noun + Verb compounds and the lexicalization of *-ʔi*. As we have already seen, the association of [i] with transitivity and transitivization is well supported across the family. Further support can be reconstructed in our analysis of the Hopi and Serrano forms from Table 1. Across NUA, we see the bits and pieces of causative-applicative developments. An additional such development, briefly explored here, may have persisted in this particular denominalizing context, whose historical development would look something like: *[N + V-APPL] > [N-DENOM-APPL].

20 I thank Denis Creissels for this observation.

5 Summary and conclusions

This overview of applicatives and applicative constructions in Northern Uto-Aztecan languages is necessarily incomplete, but is hoped to provide some needed direction for undertaking further study. Here I summarize the following areas and features of variation across the languages as well as the connections, both historical and typological, between them.

Morphology

- Each NUA language carries only a single suffix, adjacent to the verb stem, that is clearly identifiable as an applicative. Allomorphy is minimal, and in Numic in particular, the applicative morpheme appears resistant to the consonant mutation processes one expects with most verb suffixes. In languages with separate causative and applicative morphemes, the causative appears closer to the root than the benefactive applicative.
- The distribution of the applicative in Numic distinguishes stem-compounding from secondary verb constructions by following the former and preceding the latter. The languages of NUA demonstrate quite transparent origins of applicatives from verbs meaning 'give', at least for Numic and Takic. Some form of productive verb-verb compounding served as a likely vehicle for the development of GIVE into an applicative suffix.

Syntax

- NUA applicatives are typically obligatory applicatives.
- Applied objects appear to carry the same privileges of operation as organic, direct objects. That is to say, there does not appear to be any restrictions on the appearance of the applicative in combination with other voice or valence-altering operations like the passive and antipassive.
- In Northern Paiute, at least, it would appear that the applicative could be considered first in order of operation—that is, the passive and/or antipassive effect(s) are on the applied object primarily. We have also seen that there are constituent ordering patterns and access to registration on the verb that prefer speech act participants or human objects—not driven by the syntax.

Semantics

- Applicatives in NUA languages appear mainly to signal the addition of a syntactic object playing the semantic role of beneficiary with most transitive and active intransitive verbs. In the Numic languages, the same morpheme operates like a causative with mostly intransitive stative and patientive verbs, signaling an additional external cause or agent to the event frame.

– In other NUA languages, a morphological causative is distinct from the benefactive applicative, but the two combine mainly along lines of the same division of semantic verb classes and bearing the same functional split as we have seen with the single form causative-benefactive morpheme we see throughout Numic. The morphological causative in Pahka'anil, for example, is said to appear mainly with stative intransitives and "only rarely" with transitive stems, whereas the benefactive appears productively with transitive and active verbs.

Discourse

– Evidence from naturally occurring speech has been found that suggests a possible discourse basis for the development and distribution of the applicative and the outcome of the AC. Such evidence has been found in Northern Paiute by looking at the discourse prominence or topicality of applied objects in parallel constructions and the pervasiveness of the AC in certain autobiographical narrative contexts.
– These observations, if corroborated elsewhere, could be seen as supporting the idea that ACs encode topical participants that are not present organically. The role of these participants is determined by the semantics of the main verb. Traces of the historical relationship of the applicative suffix to a GIVE (secondary) verb, when combined with a particular main (primary) verb can be felt in the output of the construction.
– As a derivational process, applicatives combine to create new, if related, lexical items. In NUA languages, the relationship between causative and applicative follows two paths. In one, causative and applicative morphemes are formally distinct, and are most productive with particular verb types, generally centering around whether the verbs are stative (non-active) or active and only incidentally relating to transitivity. In the other, causative and applicative functions are carried by the same form and are fully productive, but their semantic output is also dependent largely upon the same stative-inactive versus active semantic division of the verbs with which it combines.

Abbreviations

ACC	accusative
AGR	agreement
APPL	applicative
APASS	antipassive
ASP	aspect
AUX	phasal auxiliary
BEN	benefactive
CAUS	causative
CISL	cislocative

DAT	dative
DIFF	diffuse
DIR	directional
DIST	distal
DISTR	distributive
DUR	durative
ERG	ergative
EXCL	exclusive
FUT	future
HAB	habitual
IMP	imperative
INTR	intransitive
IP	instrumental prefix
IPFV	imperfective
LOC	locative
LOGO	logophoric possession
MOD	modal
NFUT	non-future
NOM	nominative
NMLZ	nominalizer
NPN	non-possessed noun
OBJ	object
OBV	obviative
PASS	passive
PERF	perfect
PFV	perfective
PL	plural
PLUR	pluractional
PNC	punctual
POSS	possessive
PRED	predicative
PRO	pronominal
PROX	proximate
PRS	present
PRT	particle
PST	past
PTCP	participle
QUOT	quotative
RESTR	restrictive pronominal
SBJ	subject
SEQ	sequential
SG	singular
SIM	simultaneous
SUB	subordinator
TR	transitive
TRNSL	translocative
-	default affix boundary
~	reduplicative boundary
=	clitic boundary

References

Aikhenvald, Alexandra Y. 2006. Serial constructions in typological perspective. In Alexandra Y. Aikhenvald & R. M. W. Dixon (eds.), *Serial verb constructions: A cross-linguistic typology*, 1–68. Oxford: Oxford University Press.

Austin, Peter. 1997. Causatives and applicatives in Australian Aboriginal languages. In Kazuto Matsumura & Tooru Hayasi (eds.), *The dative and related phenomena*, 165–225. Tokyo: Hituzi Syobo.

Crapo, Richley H. 1970. The origin of the directional adverbs in Uto-Aztecan languages. *International Journal of American Linguistics* 36(1). 181–190.

Crum, Beverly & Jon Dayley. 1993. *Western Shoshoni grammar.* Boise: Boise State University.

Dayley, Jon P. 1989. *Tümpisa (Panamint) Shoshone grammar*. Berkeley: University of California Press.

Haugen, Jason D. 2008. Denominal verbs in Uto-Aztecan. *International Journal of American Linguistics* 74(4). 439–470.

Haugen, Jason, Michael Everdell & Benjamin A. Kuperman. 2020. Uto-Aztecan lexicostatistics 2.0. *International Journal of American Linguistics* 86(1). 1–30.

Heath, Jeffery. 1977. Uto-Aztecan morphophonemics. *International Journal of American Linguistics* 43(1). 27–36

Hill, Jane H. 2005. *A grammar of Cupeño*. Berkeley: University of California Press.

Hill, Jane H. & Kenneth C. Hill. 2019. *Comparative Takic grammar*. Berkeley: University of California Press. (https://escholarship.org/uc/item/6tr732gg)

Hill, Kenneth C. 2013. Verbless predicates in Hopi. Paper presented at the Friends of Uto-Aztecan Conference, Boise, Idaho.

Hopi Dictionary Project. 1998. *Hopi dictionary / Hopìikwa Lavàytutuveni: A Hopi-English dictionary of the Third Mesa dialect*. Tucson: University of Arizona Press.

Ichihashi-Nakayama, Kumiko. 1996. The “applicative” in Hualapai: its functions and meanings. *Cognitive Linguistics* 7(2). 227–239.

Jeanne, Laverne Masayesva. 1971. *Aspects of Hopi grammar.* Cambridge, Massachusetts: Massachusetts Institute of Technology dissertation.

Langacker, R. W. 1977. *Studies in Uto-Aztecan grammar, Vol. 1: An overview of Uto-Aztecan grammar.* Arlington, Texas: SIL Publications.

Lord, Carol, Foong Ha Yap & Shoichi Iwasaki. 2002. Grammaticalization of “give:” African and Asian perspectives. In Ilse Wischer & Gabriele Diewald (eds.), *New reflections on grammaticalization*, 217–235. Amsterdam: John Benjamins.

Manaster Ramer, Alexis. 1992. A Northern Uto-Aztecan sound law: -c- > -y-. *International Journal of American Linguistics* 58(3). 251–268.

Miller, Wick R. 1984. The classification of the Uto-Aztecan languages based on lexical evidence. *International Journal of American Linguistics* 50(1). 1–24.

Miller, Wick R. 1996. Sketch of Shoshone, a Uto-Aztecan language. In Ives Goddard (ed.), *Handbook of North American Indians, Vol. 17: Languages*, 693–720. Washington: Smithsonian Institution.

Peterson, David A. 2007. *Applicative constructions.* Oxford: Oxford University Press.

Sapir, Edward. 1930. Southern Paiute: a Shoshonean language. *American Academy of Arts and Sciences* 65. 1–296. [Reprinted in William Bright (ed.), *The collected works of Edward Sapir X: Southern Paiute and Ute linguistics and ethnography*. New York: Mouton de Gruyter.]

Thornes, Tim. 2003. *A Northern Paiute grammar with texts*. Eugene: University of Oregon dissertation.

Thornes, Tim. 2009. Historical pathways in Northern Paiute verb formation. In Patience Epps & Alexandre Arkhipov (eds.), *New challenges in typology: Transcending the borders and refining the distinctions*, 295–320. Berlin: Mouton de Gruyter.

Thornes, Tim. 2011. Dimensions of Northern Paiute multi-verb constructions. In Pieter Muysken & Alexandra Y. Aikhenvald (eds.), *Multi-verb constructions: A view from the Americas*, 27–61. Leiden: Brill.

Thornes, Tim. 2013. Causation as “functional sink” in Northern Paiute. In Tim Thornes, Erik Andvik, Gwendolyn Hyslop & Joana Jansen (eds.), *Functional-historical approaches to explanation: In honor of Scott DeLancey,* 237–258. Amsterdam: John Benjamins.

Thornes, Tim. 2018. Evidentiality in the Uto-Aztecan languages. In Alexandra Y. Aikhenvald (ed.), *The Oxford handbook of evidentiality*, 409–430. Oxford: Oxford University Press.

Voegelin, Charles F. 1935. Tübatulabal grammar. *University of California Publications in American Archeology and Ethnology* 34(2). 55–190.