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4 Applicatives and beyond: Barbareño Chumash

Abstract: Prototypical applicative constructions add a non-agentive participant to the set of core arguments of the clause. The added argument usually takes on the grammatical role of a transitive object, absolutive, or grammatical patient. Though applicatives are basically word-formation devices, their functions are not necessarily limited to the lexicon; they typically extend into higher levels of structure. Their role in allowing speakers to code more topical and significant participants as core arguments is now generally recognized. Such functions may set the stage for further grammatical developments. One such trajectory is illustrated here with examples from Barbareño Chumash, a language indigenous to California. Section 1 provides a brief overview of the structure of the language. Section 2 describes the four Barbareño applicatives, an Instrumental, a Locative, a Directional, and a Benefactive. Section 3 shows how the first three are used by speakers to shape the flow of information in discourse. Section 4 describes how the fourth has become crystallized in the grammar, so it is the only option for mentioning third person beneficiaries. And Section 5 traces how the discourse uses of all of them have been exploited in pervasive syntactic constructions: nominalization and the formation of headless and headed relative clauses.

1 Barbareño Chumash

Barbareño Chumash, sometimes referred to as Šmuwič, is one of six languages of the Chumashan family traditionally spoken along the south-central coast of California. There are no longer any first-language speakers, but we are fortunate to have extensive documentation of the language from three generations of skilled speakers, recorded by John Peabody Harrington over a period from 1913 to 1961, and by Madison Beeler from 1954 to 1963. All examples of connected speech

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are drawn from texts dictated by Mary Yee,[1] in the Harrington and Beeler field notes (Harrington 1907–1957; Beeler 1954–1963, 1954–1963ms.). Additional discussion of the language can be found in Beeler 1970ms, 1975, 1979; Whistler 1980ms; Beeler & Whistler 1980; Ono 1996; Wash 1999ms, 2001; Mithun 2002, 2021; and especially Applegate 2015ms, 2017ms.

The language is prototypically polysynthetic. Words can contain large numbers of morphemes, and verbs contain pronominal reference to their core arguments. They can accordingly serve as complete clauses on their own. A typical verb is in (1).

(1) Basic sentence[2]
Siy*sa'taksuwe'n****in***.
s-iy-sa'-tak-su-we'n-**in**
3SBJ-PL-FUT-by.hand-CAUS-sleep-**2SG.OBJ**
'**They**'ll rock **you** to sleep.'

Subject prefixes distinguish first, second, and third persons, and singular, dual, and plural numbers, as well as indefinites. Object suffixes distinguish first, second, and third persons, and singular and duo-plural numbers, though there is just one form for first and second person object plurals, and third person singular objects are unmarked. The pronominal affixes are displayed in Tables 1 and 2.

Table 1: Pronominal Subject Prefixes.

1SG	*k-*
2SG	*p-*
3SG	*s-*
3INDEFINITE	*s-am-*
1DU	*k-iš-*
2DU	*p-iš-*
3DU	*s-iš-*
1PL	*k-iy-*
2PL	*p-iy-*
3PL	*s-iy-*

1 Work with the Harrington field notes was funded by NSF grant BNS-9011018. Special thanks to Suzanne Wash for her fastidious work on the Chumash Language Project. Special thanks to anonymous reviewers for their careful reading and helpful suggestions.

2 Symbols generally match their Americanist values: <š> = IPA [ʃ], <č> = IPA [tʃ], <y> = IPA [j], and apostrophe <'> = IPA [ʔ]. Codes at the ends of lines, like JPH 59.67, refer to the microfilm reel and frame numbers of the Harrington notes.

Table 2: Pronominal Object Suffixes.

1SG	*-it*
2SG	*-in*
3SG	--
1,2DU/PL	*-iyuw*
3DU/PL	*-wun*

Basic clauses are predicate-initial. There is no noun case. All dependents are marked with a loosely attached proclitic *hi* whatever their syntactic or semantic role.[3] In (2), the proclitic marks the dependency within the clause of the object 'cowhide', and of the location 'wagon floor'. It also marks the dependency of elements within dependents, here of 'cattle' within 'the hide of a cow', and of 'wagon' within 'the floor of the wagon'.

(2) Larger sentence
S-am -su-mexkeken ***hi*** *s-pax* ***hi*** *l=les*
3-INDF-CAUS-extend **DEP** 3POSS-skin **DEP** ART=cattle
'They would spread the hide of a cow'
hi *mišup* ***hi*** *ho'=l=kaleta.*
DEP floor **DEP** DISTAL=ART=wagon
'on the floor of the wagon.' JPH59.67

The only distinction between core and oblique arguments is thus reference within the verb, in a pronominal subject prefix or pronominal object suffix. Obliques are never referenced pronominally within the verb. Third person singular objects are unmarked, but all other objects, first and second persons, and third person plurals, are represented.

New topics are typically introduced before the nuclear clause, which is then preceded by a proclitic *'i=*.

3 The proclitic *hi=* is written as a separate word here, because it was apparently much more loosely attached to its host than other proclitics. When Mrs. Yee read her notebooks, she would pause after it on occasion.

(3) New topic
He'=k-iy-'aqliw'
PROX=1POSS-PL-language
'Our language'
'i=siwawil *hi* *ka='al-č^{h}o* *hi* *he'=s-iy-'aqli'w*
TOP=sometimes DEP COP=ST-be.good DEP PROX=3SBJ-PL-language
'is sometimes a better language'
hi *he'=l='is'ispanyol* *k'el* *'in'inilés.*
DEP PROX=ART=RDP.Spanish or RDP.English
'than Spanish or English.' (JPH59.257)

2 Applicatives

There are four applicative suffixes: an Instrumental, a Locative, a Directional, and a Benefactive.

(4) Barbareño applicatives

Instrumental	***-(')in***	*-ta'luliš*	'pinch'
		*-ta'luliš-**in***	'pinch **with**'
Locative	***-pi(y)***	*-eleyep*	'travel'
		*-eleyep-**pi***	'travel **on**'
Directional	***-li('l)***	*-tap*	'enter'
		*-tap-**li'l***	'go **into**'
Benefactive	***-us***	*-eqwel*	'make'
		*-eqwel-**us***	'make **for**'

The form of the Directional suffix is lexically conditioned; those of the Instrumental and Locative suffixes are phonologically conditioned.

All add a participant to the set of core arguments as a grammatical object. They are added to both intransitive and transitive roots. All are derivational, used to form new lexical items. As would be expected, the meanings of the stems they form are not always perfectly compositional semantically.

(5) Locative applicative
*aq-kum-**pi***
quickly-arrive-**LOC.APPL**
'blame'

(6) Benefactive applicative
*ixip-**us***
finish-**BEN.APPL**
'beat' (in a competition)

The original roots of the derived stems may no longer exist on their own. The stem *mon-us* means 'smear on', for example, but there is no attested root *mon-* in Barbareño, though a cognate survives in the closely-related Samala language (Ineseño Chumash).

(7) Benefactive applicative
*S-am-mon-**us***
3SBJ-INDF-smear-**BEN.APPL**
'They smear it **on**'
hi *l='is'axpinaš* *hi* *l='e-sili-xalas*.
DEP ART=sore DEP ART=NEG-DES-heal
'a sore that does not want to heal.' (JPH59.656L)

There may be layers of derivation: an applicative suffix may be added to a verb stem that already contains an applicative suffix. Example (8) was part of a description of baby baskets. The speaker had just mentioned that a piece was attached near the top of the basket to serve as a sort of awning. Her next sentence was based on a verb root 'stick' with Benefactive applicative suffix, which yielded a new transitive verb stem 'stick.to' = 'decorate'. This stem served in turn as a base for the addition of an Instrumental applicative, yielding a new stem 'decorate with'.

(8) Layered applicatives
K'e *s-am-**huqpeyun-us-'in***
and 3SBJ-INDF-**stick-BEN-INS.APPL**
'And they decorated it (**stuck on** it) **with**'
hi *l='iy-waywayan*
DEP ART=PL-RDP.hang
'dangling'
hi *s-tuhtuhiwaš'* *hi* *l='uš'ušq'oyič^{h}aš'*.
DEP 3POSS-RDP.shell DEP ART=RDP.shellfish
'shells of shellfish.' (JPH59.552L)

(It is not possible to determine the syntactic status of the unmentioned awning here, since third person singular objects are unmarked in the verb morphology.)

The ranges of meaning contributed by the four applicative suffixes are not fully predictable, but for the most part they are not entirely unexpected. Applegate provides some useful lists of examples (2015ms, 2017ms).

The Instrumental applicative *-in* generally adds an instrument or source to the core arguments of the verb. In (9), nouns in parentheses indicate the instruments that appear with the derived verbs in the field notes.

(9) Instrumental applicatives ***-in***

salaqwa'y	'fasten'	*salaqwa'y-**in***	'fasten **with**' (a cord)
niloq	'pierce'	*niloq-**in***	'pierce **with**' (a needle)
sulo'm	'soften'	*sulo'm-**in***	'soften **with**' (lime)
siniwe'	'kill'	*siniwe'-**lin***	'kill **with**' (arrows)
iqmay	'cover'	*iqmay-**in***	'cover **with**' (hands)
sutip	'salt (food)'	*sutip-**in***	'salt **with**' (ashes)
salaqwa'y	'fasten'	*salaqwa'y-**in***	'fasten **with**'
ta'luliš	'pinch'	*ta'luliš-**in***	'pinch **with**'
ušlawilpi	'rub'	*ušlawilpi'-**yin***	'rub **with**'
eqwe'l	'make'	*eqwe'l-**in***	'make **out of**' (wood)

The Locative applicative *-pi* adds a location or, in some formations, a goal.

(10) Locative applicatives ***-pi***

wil	'be, exist'	*wil-**pi***	'be located **at**'
wayan	'hang'	*wayan-**pi***	'hang **on/in**'
eleyep	'travel'	*eleyep-^{h}**i***	'travel **along**' (a trail)
oqmol	'spit'	*oqmol-**pi***	'spit **on**'
'anuč	'bleed'	*'anuč-**pi***	'bleed **on**' (a shirt)
oxšol	'pee'	*oxšol-**pi***	'pee **on**'
šušonowon	'splash water'	*šunowon-**pi***	'water to splash **on**'
pux	'string'	*pux-**pi***	'string **on**' (fish on a stick)
qalawil	'tie'	*qalawil-**pi***	'tie **to**'

The location or goal is usually an inanimate place, but with some stems it is animate.

(11) Locative applicatives ***-pi***

xal	'assault'	*xal-**pi***	'jump, run after (someone)'
axšik'in	'be envious, resentful'	*axšikin-**pi***	'envy (someone)'

Directional applicatives are rarer, but their functions are similar. They add a goal to verbs of directed motion, usually a physical location.

(12) Directional applicatives ***-li'l ~ -li***

tap	'go in'	*tap-**li'l***	'enter' (a place)
nukum	'take'	*nukum-**li***	'take to' (a place)
kum	'arrive'	*kumu-**'li***	'reach' (a place)
axkuy	'hold'	*axku'y-**li***	'depart for, head for'

Benefactive applicatives are ubiquitous, appearing with a large number of verbs and occurring pervasively in texts. They bring an indirectly affected participant, usually a person or animal, into the set of core arguments. This might be a recipient, a beneficiary, a goal, occasionally a source, or more.

(13) Benefactive applicatives ***-us***

as^{h}unan	'send'	*as^{h}unan-**us***	'send **to**'
alaqut'ay	'be kind'	*alaqut'ay-**us***	'be kind **to**'
alikum	'arrive'	*alikum-**us***	'be near **to**'
aq^{h}ina'	'be grateful'	*aq^{h}inal-**us***	'be grateful **to**'
'ip	'talk, say, think'	*'ip-**us***	'tell'
išpi'weč	'sell'	*išpi'weč-**us***	'sell **to**'
itaq	'hear'	*itaq-**us***	'listen **to**'
saq^{h}ala'lan	'holler, shout'	*saq^{h}ala'lan-**us***	'holler **at**'
ašyán	'buy'	*ašyan-**us***	'buy **for**'
eqwel	'make'	*eqwel-**us***	'make **for**'
si'nay	'place/put'	*si'nay-**us***	'set (it) out **for**'
ušq^{h}al	'be open'	*ušq^{h}al-**us***	'open **for**'
xonon	'steal'	*xonon-**us***	'steal **from**'
seqen	'remove'	*seqen-**us***	'take away **from**'
qunumak	'hide'	*qunumak-**us***	'hide **from**'
uxnik'	'escape'	*uxnik-**us***	'flee **from**'
qon	'laugh'	*qon-**us***	'laugh **at**' (someone)
tuhuy	'to rain'	*tuhuy-**us***	'to rain **on**'
tap	'enter'	*tap-**us***	'visit' (enter **for** someone)

The applied objects generally behave like base objects syntactically. As seen in (2), 'They spread the hide of a cow on the floor of the wagon', objects generally immediately follow the predicate. Applied objects follow this pattern as well, taking precedence over other constituents. In (14) the Instrumental applied object, the California poppy, was mentioned before the poison.

(14) Constituent order
He'=l='iy-'alapmilimol
PROX=ART=PL-Tulareño
*'i=s-iy-qili-eqwe'l-**in*** ***hi*** ***l=qupe***
TOP=3SBJ-HAB-make-**INS.APPL** **DEP** **ART=California.poppy**
hi *l='ušk'al'* *hi* *l='atišwičhi's.*
DEP ART=be.strong DEP ART=poison
'The Tulareños used to make a strong poison out of the California poppy.'
(JPH59.658R)

The base object, here the strong poison, is not differentiated from other non-arguments. All dependents are set off with the same dependency marker *hi*.

It is no longer possible to determine the origin of any of the applicative suffixes. Their counterparts in all of the related languages are suffixes as well, and there are no adpositions or noun or verb roots that would be likely candidates for their sources.

3 Functions beyond the lexicon

There is now substantial work on the discourse functions of applicatives. Donohue examined a corpus of Tukang Besi, an Austronesian language of Indonesia, and concluded that "the prime reasons for the choice of an applicative rather than an oblique coding strategy are to do with pragmatic prominence" (2001: 218–219). He found correlations with animacy, noting that animate participants tend to be more topical in any case. He also found correlations with position in a hierarchy of semantic roles:

agent > beneficiary > instrument > local goal > location source

"When an argument appears in a higher-than-canonical position, the reasons are discourse-driven . . . Especially for goals, the appearance in an applicative construction is associated with a higher degree of topicality and prominence in the narrative" (2001: 250). Similar discourse motivations can be seen in speaker choices of Barbareño Instrumental, Locative, and Directional applicatives: the applicatives allow speakers to code topical or otherwise important participants as core arguments, similar to those observed in Tukang Besi and other languages.

A Barbareño Instrumental applicative can be seen in (15). Mrs. Yee had been explaining how tule mats were made: 'When they wove a mat, they would first

semi-dry **the round tule**, and then weave with (it)'. The applicative 'weave with' in the following sentence allowed her to carry the topical tule, the most important point of the sentence, along as a core argument.

(15) Instrumental applicative
*k'ayke na s-am-**'es-'in***
because if 3SBJ-INDF-**weave-INS.APPL**
'because if they **wove** (it) **with**'
*hi l='meka **s-am-ini-t'inoqš-waš** **hi** **stapan**,*
DEP ART=soon **3-INDF-RECENTLY-CUT-PAST** **DEP** **round.tule**
'**freshly cut tule**,'
'i=mal'i s-axwiwik hi- ho'=l='ešeš
TOP=as 3SBJ-dry DEP DISTAL=ART=weaving
'then as it dries the weaving'
'i=non'o' s-sa'-šalwililin.
TOP=very 3SBJ-FUT-get.loose
'will get really loose.' (JPH 59.614R)

Instruments need not be packaged as core arguments of course. Mention of an instrument as an oblique can be seen in (16). Mrs. Yee had encountered some Japanese wood cutters. Noting that one of them had covered her face with a white cloth, she used a base transitive verb *iqmay* 'cover', rather than the Instrumental applicative verb *iqmay-**in*** 'cover **with**', which does exist. The sentence which followed made it clear that the face was more central to her message than the cloth.

(16) Oblique instrument
S-iqmay-waš
3SBJ-cover-PAST
'She covered'
hi ho'=s-tiq' hi l='ow'ow hi l=maxakiš,
DEP DISTAL=3POSS-face DEP ART=white DEP ART=cloth
'her face with a white cloth,'
k'e=ka=s-'ip-waš:
and=so=3SBJ-say-PAST
'saying,'
"*'alkanu k-e-sa'-ap'iyulun-us*."
so.that 1SBJ-NEG-FUT-be.tanned-RES
'"It is so I don't get tanned."' (JPH59.467L)

The object 'face' immediately follows the predicate 'cover', appearing before the oblique instrument 'white cloth'.

The second applicative, the Locative, can be seen in (17). Explaining how to cook crayfish, Mrs. Yee began, 'You first get the water boiling.' She then carried the reference to the boiling water into the next sentence as a core argument with the locative applicative 'throw into **it**'.

(17) Locative applicative *-pi*
Hi *'meka* *p-su-pintap-**pi***
DEP SO 2SBJ-CAUS-through.air-enter-**LOC.APPL**
'And then you **throw in[**to it]'
ho'=l=wulu'wul
DISTAL=ART=crayfish
'the crayfish.' (JPH 59.180L)

This contrasts with the oblique location in (18). The floor was incidental to the discussion.

(18) Oblique location
Na=p-su-pili-qlaw
if=2SBJ-CAUS-through.air-descend
'If you drop'
hi *l=p^{h}legalól* *hi* *ho'=l=pisu,*
DEP ART=dishrag DEP DISTAL=ART=floor
'a dish-rag **on the floor**,'
['it is a sign that someone will arrive that has not been seen for a long time.']
(JH59.212L)

The third applicative, the Directional, can be seen in (19). Mrs. Yee had just brought up the topic of traditional sweathouses: 'All of the villages had one or two sweathouses depending on how many people were there.' She then carried reference to the sweathouses into the following sentence as a core argument with the Directional applicative.

(19) Directional applicative *-li'l*
*S-iy-**tap-li'l***
3SBJ-PL-**enter-DIR.APPL**
hi *l='ihihiy* *k'e* *l='en'eneq.*
DEP ART=RDP.man and ART=RDP.woman
'Men and women would **go in**[to it].' (JPH59.673R)

Not surprisingly, directions are more often expressed as obliques than as core arguments, as predicted by Donohue. Describing earlier times, Mrs. Yee explained that 'The road that ran between the missions the Spanish called The King's Highway. The Spanish were in this country only about two generations.' In the next sentence, she again mentioned this country, but with just the demonstrative 'here'. The country was not a main topic of discussion or a significant part of the message and remained oblique.

(20) Oblique direction
Kim ka s-iy-tap ***hi*** ***'it'i***
and then 3SBJ-PL-enter **DEP** **here**
hi he'=l='am'amelikanu'
DEP PROX=ART=RDP.American
'And then the Americans came in **here**.' (JPH59.533L)

The fourth applicative, the Benefactive *-us*, can be seen in (21).

(21) Benefactive applicatives
*'akimpi hu=**k-talawaxan-us**-wun* *hi* *l=us'ustliyaku'*
during REM=1SBJ-**work**-**BEN.APPL**-3PL.OBJ DEP ART=RDP.Austrian
'When I **work**ed **for** the Austrians'
*s-am-qili-**itaq-us**-wun*
3SBJ-INDF-HAB-**hear**-**BEN.APPL**-3PL.OBJ
'you could **hear** them'
hi ma'li s-iy-axlaxlulun hi ho'=s-iy-kaltu.
DEP when 3SBJ-PL-RDP.sip DEP DISTAL=3POSS-PL-soup
'sipping their soup.' (JPH59.643L)

The third person plural object suffix *-wun* on the verbs 'work for' and 'hear' confirms that the Austrians are indeed the objects of those clauses.

Barbareño Benefactive applied objects are most often human or at least animate, but not always, as in (22), part of a description of cheese making.

(22) Dative/Benefactive applicatives
Ču =ho'=l=ctin'ctin'
and=DISTAL=ART=RDP.dog
'And the dogs'
*'i'=ka=s-iy-ali-**kuyam-us*** *hi* *ho'=l=swelu.*
TOP=then=3SBJ-PL-DUR-**wait-BEN.APPL** DEP DISTAL=ART=whey
'are **waiting for** the **whey**.' (JPH59.459.490L)

The propensity for Benefactive applicatives to involve humans or at least animates has had consequences for their development.

4 Crystallization: Benefactives

It might be expected that where there are multiple applicatives in a language they would behave in parallel ways. All of the Barbareño applicative markers are verb suffixes, and all bring a referent into the core as an object. The Benefactive applicative *-us* 'to, for, from', etc., however, has developed further than the Instrumental, Locative, and Directional applicatives. Speakers no longer make choices in how they code recipients, beneficiaries, and these goals: all are routinely cast as core arguments for discourse purposes. (Benefactives are discussed further in Section 5.4.)

It is not difficult to imagine the factors which could lead to this development. High frequencies of expression can lead to routinization, which can, in turn, ultimately result in obligatoriness. As is well known, humans (and personified animals) are generally more topical than inanimates, and the effects of situations on humans are more often recognized by speakers than their effects on instruments, locations, or directions. Just this point is made by Peterson in his survey of applicatives.

> It appears almost never to be the case that benefactive applicative constructions are truly optional. Other applicative types tend to have alternative expressions and applicative objects which do not display all object properties, and which may have base objects which also display object properties . . . It seems likely that these tendencies ultimately have to do with the relative animacy of the applicative objects in question, but it is clear that such tendencies may be violated. (Peterson 2007: 60)

Peterson cites Gerdts' description of Halkomelem, a Salishan language indigenous to western Canada.

> In Halkomelem (Gerdts 1988), whether an applicative construction is used or not depends primarily on the animacy of the potentially applicative object: if the object in question is animate, the applicative construction must be used. Thus, since beneficiaries are always animate, beneficiaries are found only in applicative constructions. (Peterson 2007: 48)

The Barbareño crystallization of the Benefactive constructions has left a mark on the inflectional system. Cross-linguistically, two patterns of object alignment are often recognized, termed indirective (in which direct objects are distinguished from indirect objects) and secundative (in which primary objects are distinguished from secondary objects) (Haspelmath 2005). The two differ essentially in whether recipients, beneficiaries, etc. are grouped with themes or not.

(23) Object alignment patterns

Indirective		
	Direct objects	*She teased **her brother**.*
		*She gave **a card** to her brother.*
		*She baked **a cake**.*
		*She baked **a cake** for her mother.*
	Indirect objects	*She gave a card **to her brother**.*
		*She baked a cake **for her mother**.*
Secundative		
	Primary objects	*She teased **her brother**.*
		*She gave **her brother** a card.*
		*She baked **a cake**.*
		*She baked **her mother** a cake.*
	Secondary objects	*She gave her brother **a card**.*
		*She baked her mother **a cake**.*

In Barbareño, first and second person objects show clear secundative patterning. The same object suffixes are used for themes, recipients, and beneficiaries.

(24) Barbareño first and second person objects

a.	*s-kutiy-**it***	's/he sees **me**'
	*s-ikš-**it***	's/he gives (it) **to me**'
b.	*s-kutiy-**in***	's/he sees **you**'
	*s-ikš-**in***	's/he gives (it) **to you**'

Third person objects show an interesting difference in detail. If the third person object is a recipient/beneficiary/goal etc., the Benefactive applicative suffix *-us* must be present. (Recall that third person singular objects are unmarked.)

(25) Barbareño third persons

a.	*s-kuti*	's/he sees (him/her/it)'
	*s-ikš-**us***	's/he gives (it) **to** (him/her)'
b.	*s-kuti-**wun***	'she sees **them**'
	*s-ikš-**us-wun***	's/he gives (it) **to them**'

The third person object suffixes could still be said to show secundative patterning, but the distinction between what would be direct and indirect objects in indirective systems is expressed in the verb stem.

5 Further crystallization: Nominalization

The discourse function of applicatives, ensuring that topical participants are packaged as core arguments, has been exploited in a pervasive syntactic construction in Barbareño Chumash.

5.1 Participant nominalization

In Chumash languages, verbs can be nominalized in several ways. The most common is simply the addition of the article *l=* (with a glottal stop before a following vowel). The third person subject prefix is omitted, though the subject number is not. The resulting nominalized verb can be used to refer to any core argument. The nominalized verb in (26) refers to an intransitive subject.

(26) Intransitive subject
  a. ***s**-iy-akt-eqen*
     3SBJ-PL-coming-be.gone
     'they pass by'
  b. ***l**=’iy-akt-eqen*
     ART-PL-coming-be.gone
     '**those who** pass by' = 'passers-by'

That in (27) refers to a transitive subject.

(27) Transitive subject
  ***l**=sa’-uti-kuy-us-wun*
  ART=FUT-start-grasp-BEN.APPL-3PL.OBJ
  '**what** would happen to them'

That in (28) refers to a base object.

(28) Object
  ***l**=’am-kut-iwaš*
  ART=INDF.SBJ-see-NOM.PAST
  '**the one** they saw'

That in (29) refers to an applied object.

(29) Applied object
l*=wayi-tap-****pi***
ART=walking-enter-**LOC.APPL**
'entrance'

5.2 Larger nominalizations

Multi-word clauses can be nominalized in the same way to produce headless relatives, with the addition of the article *l=* on the verb. The referent may again be any core argument of the clause, specified just in a pronominal prefix or suffix, including unmarked third person singular objects. The referent of the nominalized clause in (30) is the base object of 'find'.

(30) Referent = Base object
Liya *ho'=s-^{h}as^{h}a'* *'i=mok'e* *s-iy-axiqen-waš*
all DIS=3POSS-RDP.tooth TOP=already 3SBJ-PL-wear.down-PAST
'His teeth were all of them worn down,'
ka'neč *hu=****l****='am-išti-****wun***
like REM=**ART**=INDF.SBJ-find-**3PL.OBJ**
'like **those one finds**'
hu=l=molmoloq-iwaš
REM=ART=RDP.long.ago-NOM.PAST
'**in ancient**'
hi *s-noqnoqš-iwaš'* *hi* *l='iy-'al-aqšan.*
DEP 3SBJ-RDP.head-NOM.PAST DEP ART=PL-NMLZ-die
'**skulls**.' (JPH59.475R)

The referent may be an applied object. In (31) it is a location.

(31) Referent = Locative applied object
Hi *l=č^{h}o-waš* *hi* *s-iy-ašnipit-waš* *he'=l=kuhku'*
DEP ART=be.good-PAST DEP 3SBJ-PL-step.on-PAST PROX=ART=RDP.person
'The best place for a person to stand'

*'i=hu=**l**='uš-napay-**piy**-waš*
TOP=REM=**ART**=by.hand-ascend-**LOC.APPL**-PAST
hi l=šupšup' hi l='oxwon'.
DEP ART=RDP.dirt DEP ART=gopher
'was **where a gopher had thrown out dirt**.' (JPH59.502R)

The sentence in (32) contains two nominalizations, one referring to an intransitive subject ('the survivors'), the other to a Benefactive applied object ('those it came to' = 'those who inherited it').

(32) Referent = Benefactive applied object
['If a canoe was owned by two or three persons and one died']
*'i=ho'=**l**='iy-uni-'lek'en*
TOP=DISTAL=**ART**=PL-remaining-be.alive
'then **the ones left alive**'
*ka=**l**-utikuyupiy-**us**-wun hi ho'=l=tomol.*
COP=ART-turn.pass.to-**BEN.APPL**-3PL.OBJ DEP DISTAL=ART=canoe
'just continued to own it.' (JPH59.671R)

The discourse function of applicatives as devices for casting topical referents as core arguments has been exploited for the regular formation of headless relatives, ensuring that the referent is a core argument of the clause.

5.3 Headed relatives

Nominalized clauses may be combined with a coreferential nominal to form headed relative clauses. Again the referent may be any core argument of the nominalized clause. The full relative construction is set off by the dependency marker *hi*, and within this, the relative clause is set off by the same dependency marker.

In (33) the sore is coreferential with the intransitive subject of the associated clause.

(33) Coreferential intransitive subject
S-am-mon-us
3SBJ-INDF-smear-BEN.APPL
'They smear it on'
*[hi l='is'axpinaš [hi **l**='e-sili-xalas]].*
DEP ART=sore DEP **ART**=NEG-DES-heal
'**a sore** [**that does not want to heal**].' (JPH59.656L)

In (34) it is a transitive subject.

(34) Coreferential transitive subject
S-wil *[hi* *l=kul*
3SBJ-be DEP ART=person
'There are **people**'
[hi ***l**='iy-axtap-wun]].*
DEP **ART**=PL-eat.raw-3PL.OBJ
'[**who eat them raw**].' (JPH59.485L)

In (35) it is a base direct object.

(35) Coreferential object
S-iy-qili-xinxinči' *[hi* *l='aq'aqli'w*
3-PL-HAB-RDP.be.bad DEP ART=RDP.word
'The **words** were bad'
[hi ***l**='iy-hik'en-wun]].*
DEP **ART**=PL-use-3PL.OBJ
'[**that they used**].'
= 'They sure talk mean and use a lot of cuss-words.' (JPH59.21R)

The referent of the associated nominalized clause may also be an applied object. In (36) it is an Instrumental applied object.

(36) Coreferential Instrumental applied object
Wa *'al'al-sax'anpinč-waš* *hi* *ho'=l='al-aqšan*
if AGT.NMLZ-to.fish-PAST DEP DIS=ART=NMLZ-die
'If the one that died was a fisherman'
'i= s-am-si'nay-us *[hi* *s-is-hahs^{h}a'*
TOP=3SBJ-INDF-put.into-BEN.APPL DEP 3POSS-AL-RDP.fishhook
'then they put in **his fishhooks**,'
[hi ***l**=sa'-sax'anpi-n-š-**'in**]].*
DEP **ART**=FUT-fish-IPFV-ANTIP-**INS.APPL**
'[**the ones he would have fished with**].' (JPH59.672L)

In (37) it is a Locative applied object.

(37) Coreferential Locative applied object
'al-wilwil' [hi l=nuknuk'a'
ST-RDP.be DEP ART=RDP.place
'There are certain **places**'
*[hi **l**='iy-lek'en-**pi** hi he'=l=tiš'il'il].*
DEP **ART**=PL-live-**LOC.APPL** DEP PROX=ART=RED.ant.species
'[**where red ants live**]'. (JH59.563R)

In (38) it is a Benefactive applied object.

(38) Coreferential Benefactive applied object
Walelyu 'i='me ma'liwaš hi l=pak'a-waš,
NAME TOP=just only-PAST DEP ART=one-PAST
'Valerio had only one person,'
[hi l='ihi'y hi l=tupmekč
DEP ART=male DEP ART=child
'**a little boy**'
*[hi **l**=saxkuy-**us**-waš]].*
DEP **ART**=trust-**BEN.APPL**-PAST
'[**whom** he could trust].' (Beeler 15.49)

The nominal often precedes the nominalized clause, but on occasion it follows, as in (39).

(39) Clause – noun
Na he'=l=tiptip' hi p-ton' hu=sulkuw
when PROX=ART=RDP.brush DEP 2-EMPH REM=night
'When you are lying down at night out in the woods'
*'i=p-kutiy-wun hi **l**='iy-ali-uquštay hi l=tiqtiq'*
TOP=2SBJ-see-3PL.OBJ DEP **ART**=PL-DUR-shine DEP ART=RDP.eye
'you see the shining eyes.' (JPH59.300L)

5.4 Beneficiaries redux

It was seen in Section 4 that cross-linguistically, Benefactive applicatives can be more frequent in speech than other applicatives, because the participants they promote to core status tend to be human and accordingly highly topical. High fre-

quency can lead to obligatoriness, as it has in Barbareño discourse. They are not obligatory, however, in the syntactic constructions which exploit their functions.

The Benefactive applicative has developed a function not shared by the other applicatives, which involves causatives. A causative prefix *su-/sus-/si-* adds a causer to the set of core arguments as a subject. If the base verb was intransitive, the causee is the object of the causative construction, as in (40)–(42).

(40) Causative of intransitive
  a. ***p**-'ololtuš*
     2SBJ-be.numb
     '**you** are numb' (JPH59.288R)

  b. *s-**su**-'olotuš-**in***
     3SBJ-**CAUS**-be.numb-**2OBJ**
     'it strikes **you** numb' (JPH59.287L)

(41) Causative of intransitive
  a. ***s**-ušk'al*
     3SBJ-be.strong
     '**s/he** is strong' (JPH 59.554L)

  b. *s-^{h}u-'ušk'al*
     3SBJ-**CAUS**-be.strong
     'it made **him** strong' (JPH 59.287L)

(42) Causative of intransitive
  a. ***s**-yinc'i*
     3SBJ-be.hot
     'it is hot' (JPH59.466R)

  b. *s-iy-**si**-yinc'i-**wun***
     3SBJ-PL-**CAUS**-be.hot-**3PL.OBJ**
     'they heat **them**' (JPH59.535L)

If the base verb was transitive, now the causee or secondary agent, is coded as an object. A base verb 'bite' can be seen in (43). Mrs. Yee was describing the two medicinal uses of red ants. To cure rheumatism, people applied the ants to the affected body part. The sentence that followed was based on the base transitive verb 'bite'.

(43) Base transitive
*Na=s-iy-**'uw**-in* *'i=ka=no'no'* *hi* *s-popoč.*
when=3SBJ-PL-**bite**-2OBJ TOP=that=very DEP 3SBJ-hurt
'When they bite you, it stings a lot.' (JPH59.569L)

To cure consumption, people had the patient swallow the ants. The verb used here was a causative of the transitive verb 'bite': *sus-'uw-* 'make bite'. The causee, the ants, were coded as an applied object by means of the Benefactive suffix. The ants were not mentioned again with a full nominal, but their status is clear from the third person plural object suffix *-wun*.

(44) Causative of transitive
*S-am-**sus-'uw-us**-wun* *hi* *l=ku.*
3SBJ-INDF-**CAUS-bite-BEN.APPL**-3PL.OBJ DEP ART=person
'They **make them** [red ants] **bite** people.' (JPH59.564R)

It should be noted that in the corpus, causatives of transitives do not always contain the Benefactive applicative suffix. The sentence immediately before (43) contained a causative prefix *-sus-*. The plural object suffix *-wun* apparently referred to the ants, but there was no Benefactive applicative suffix-*us*.

(45) Causative of transitive
Mal'i *s-iy-**sus-**'uw-**wun***
when 3SBJ-PL-**CAUS**-bite-**3PL**
'When they **make them** bite'
hi *l=ku* *hi* *mitipin* *hi* *he'=s-'a'min*
DEP ART=person DEP outside DEP PROX=3POSS-body
'a person on the outside of his body'
'i='al=ka=s-'axiyep *hi* *l=maxcuč'eq*
TOP=ST=COP=3SBJ-cure DEP ART=rheumatism
'it is as a remedy for rheumatism.' (JPH59.569R)

It is difficult to know how widespread this omission of the applicative was. It can only be detected when the base or applied object of a causative of a transitive is third person plural.

There is however, another situation in which Benefactive applicatives are not obligatory. In participant nominalizations, including headless and headed relativizations, the syntactic requirement that the referent of the nominalization be a core argument takes precedence over discourse topicality. In the description of the red ant cures, Mrs. Yee explained that to cure consumption, people had the

patient lie on his back and open his mouth. In the sentence that followed, 'It was always eight red ants that they made him swallow', the causee was the invalid, the one made to swallow, but the referent of the relative clause 'that they made him swallow' was the base object of the clause, coreferential with 'the red ants'.

(46) Causative relative clause
M'eči *'al-malawa-waš* *hi* *l=tiš'il'il*
always ST-eight-PAST DEP ART=red.ant.species
'It was always eight red ants'
[hi *l='am-su-aqliwin].*
DEP ART=INDF-CAUS-swallow
'[that they made him swallow].' (JPH 59.570R)

6 Conclusion: Beyond word formation

The Barbareño applicatives pattern much like those described for other languages. The applicative suffixes are derivational morphemes which create new lexical items, but their effects extend beyond the domain of word formation into the realms of syntax and discourse. They have syntactic effects which are used for shaping the flow of discourse. These effects have, furthermore, entered into the development of widespread syntactic constructions: in particular relative clauses.

The language contains four applicatives: Instrumental, Locative, Directional, and Benefactive. They match the standard definition proposed in this volume: they are derivational verb suffixes that function to introduce a non-Actor semantic argument into the clause. They ensure that instruments, locations, directions, and recipients/beneficiaries, etc. are cast as syntactic objects. Like other derivational morphology, they form lexical items, sometimes with unexpected meanings. They may be recursive, applied to verb bases that already contain applicative suffixes. The suffixes are so old that their lexical sources are no longer recoverable, but their development has not come to a halt. And they have not developed in lockstep.

The first three, the Instrumental, Locative, and Directional applicatives have retained their discourse function: instruments, locations, and directions may be expressed either as obliques or as applied objects, depending on their place in the discourse at that point. More topical referents, of significance to the message, can be coded as applied objects, while more peripheral, incidental participants are coded as obliques. Recipients and beneficiaries, by contrast, *must* be expressed as applied objects. There are no oblique alternatives. This differential develop-

ment may be explicable in terms of frequency. As is well known, humans (and some animals) tend to be more topical than tools and places. Recipients and beneficiaries are more often human than are instruments, locations, and directions. It is not surprising that Benefactive applicatives would be used much more often than the other applicatives. And high frequency is usually a precursor to obligatoriness.

The preference for coding humans as core arguments, particularly interlocutors, is reflected in the secundative patterning of first and second person objects in Barbareño. First and second person recipients and beneficiaries, always humans, are given preference for object status. Third person objects reflect a similar preference, but with an additional detail. When they are recipients or beneficiaries, this fact is marked by an obligatory Benefactive applicative suffix in the verb stem.

The role of applicative constructions in ensuring that topical referents are coded as core arguments has crystallized in another major syntactic construction. Participant nominalization is highly productive in Barbareño, Used to form not just lexical items, but also headless and headed relatives. But the referent of the nominalized clause must be a core argument. Applicatives are regularly exploited to ensure that the target is part of the core, even if it is an instrument, location, direction, or recipient/beneficiary etc. The requirement of core argument status for the referents of nominalized clauses takes precedence over the obligatory coding of beneficiaries as core when they are present.

The Barbareño applicatives illustrate the fact that applicative constructions are not necessarily static. Like other constructions they can undergo further development, not necessarily all at the same rate or in the same direction. Though the Barbareño applicatives are basically word formation devices, their discourse functions set the stage for further syntactic developments.

Abbreviations

AL	alienable.possession
ANTIP	antipassive
APPL	applicative
ART	article
BEN	benefactive
CAUS	causative
COP	copula
DEP	dependent
DES	desiderative
DIR	directional
DUR	durative

FUT	future
HAB	habitual
INDF	indefinite
INS	instrumental
IPFV	imperfective
LOC	locative
NEG	negative
NMLZ	nominalizer
NOM.PAST	nominal past
OBJ	object
PL	plural
POSS	possessive
PROX	proximal
RDP	reduplicand
REM	remote
RES	resultative
SBJ	subject
ST	stative
TOP	topicalizer

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