Understanding and explaining applicatives

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Prototypical applicatives are derivational processes within the verbal morphology that add a participant to the set of core arguments. The added argument usually represents a semantic recipient, beneficiary, instrument, associate, direction, or location, though others occasionally occur as well. This argument assumes the grammatical role of object, absolutive, or grammatical patient.

Examples of applicative constructions can be seen in the sentences below from Tuscarora, an Iroquoian language of New York State and Ontario, and from Kapampangan, an Austronesian language of the the Philippines. From the Tuscarora root **-nę'θ** *write*, seen in (1)a, the benefactive applicative derives the stem **-nę'θ-ati** *write-for*, which includes among its core arguments the beneficiary *me* in (1)b. From the same root, the instrumental applicative derives the stem **-nę'θ-ahkw** *write-with* in (1)c.

(1)   Tuscarora applicatives: Elton Greene, speaker p.c.
   a. **Neyenę'θha'**
       ne-ye-<u>nę'θ</u>-ha'
       DUPLICATIVE-INDEFINITE.AGENT-<u>write</u>-IMPERFECTIVE
       one <u>writes</u>, she is writing

   b. **Neyęknę'θatih**
       ne-yęk-<u>nę'θ-ati</u>
       DUPLICATIVE-INDEFINITE/1.SG-<u>write-APPLICATIVE</u>.IMPERFECTIVE
       she <u>writes for</u> me

   c. **Neyenę'θáhkhwa'**
       ne-ye-<u>nę'θ-ahkw</u>-ha'
       DUPLICATIVE-INDEFINITE.AGENT-<u>write-APPLICATIVE</u>-IMPERFECTIVE
       one <u>writes with</u> it

From the Kapampangan verb root **buklat** *open*, the benefactive applicative suffix derives the verb stem **buklat-an** *open-for*. The absolutive argument of the derived verb is the beneficiary of the action, *him*. The instrumental applicative derives the stem **pamuklat** *open with*, whose absolutive is the instrument *it*.

(2)   Kapampangan applicatives: Bernadette Mangaser, speaker p.c.
   a. **<u>Buklat</u> ne.**
       <u>Buklat</u>=na=ya
       <u>open</u>=3.ERGATIVE=3.ABSOLUTIVE
       He (ERGATIVE) *will <u>open</u> it* (ABSOLUTIVE).

b. **Buklatan ne.**
   Buklat-an=na=ye.
   open-APPLICATIVE=3.ERGATIVE=3.ABSOLUTIVE
   He (ERGATIVE) *will <u>open</u> (it) <u>for</u> him* (ABSOLUTIVE).

c. **Pamuklat ne.**
   PaN-buklat=na=ya.
   APPLICATIVE-open=3.ERGATIVE=3.ABSOLUTIVE
   He (ERGATIVE) *will <u>open</u> (it) <u>with</u> it* (ABSOLUTIVE).

When applicatives are attached to verbs that are already transitive, they may either add an argument, increasing the valency of the clause from transitive to ditransitive, or replace the original object/absolutive/patient, so that the verb remains transitive. The replaced argument may be expressed as an oblique.

Applicatives are widespread across the languages of the world. A survey of applicative constructions and their features across a 50-language sample is in Peterson 1999. Surely the ubiquitousness of these constructions is no accident. Several kinds of approaches might be taken to understand and explain their pervasive existence and recurring features.

One might be a closer examination of their form. We know that languages are highly structured systems. Often individual constructions can be understood as instances of more general structural principles. Such an approach underlies theoretical work on applicatives in a variety of frameworks. A point of departure for much of this work has been the observation that applicative constructions like those above are typically translated into English with prepositional phrases: *She writes <u>for me</u>, He will open it <u>for him</u>, She writes <u>with it</u>, He will open it <u>with it</u>.* Baker, for example, has described applicatives in terms of a process he terms 'preposition incorporation' (1988a, b and elsewhere). Applicatives are viewed as the result of a more general process he refers to as 'incorporation', 'an instance of the generalized transformation Move α that moves a word rather than a whole phrase, adjoining it to another word' (1988b:360). Baker's original analyses were based primarily on sentences from several Bantu languages, some Austronesian languages, the Mayan language Tzotzil, and the Iroquoian languages Tuscarora (cited above) and Mohawk.

Another approach to the understanding of applicatives focuses on their functions. In many languages, applicative constructions offer speakers syntactic alternatives for the expression of semantic recipients, beneficiaries, instruments, associates, directions, and/or locations. Such participants would typically be identified in oblique nominals, but in applicative constructions, they are core arguments. Kapampangan offers such alternatives (Mithun 1994). Core arguments are easily distinguished from obliques in Kapampangan: they are identified by pronominal enclitics following the first constituent of the clause, usually the predicate. Both sentences in (3) are based on the verb root **lawe** *look*. In (3)a the basic verb *look* is intransitive: there is just one pronominal enclitic, the absolutive

=ya *he*. The direction of looking is expressed in an oblique noun phrase **king babo da ring sanga** <u>*at the top of the branches*</u>. In (3)b, the applicative verb *look-at* is transitive: it is followed by both an ergative enclitic (**=na** *she*) and an absolutive enclitic (**=ya** *it*). (Gender is not distinguished in the Kapampangan.) The absolutive is the direction of looking, **ing biga** *the sky*.

(3)　　Kapampangan alternatives: Bernadette Mangaser, speaker p.c.

a. **Linawe ya**　　　　　**<u>king</u>　<u>babo</u>　<u>da</u>　<u>ring</u>　<u>sanga</u>** **...**
   Linawe=ya　　　　　<u>king</u>　　<u>babo</u>　<u>da</u>　<u>ring</u>　　<u>sanga</u>
   looked.P=3.ABS　　　<u>OBLIQUE</u>　<u>top</u>　<u>their</u>　<u>PLURAL</u>　<u>branch</u>
   He looked up <u>at the top of the branches</u> (OBLIQUE). . .

b. **Nyang　　lawe-n ne**　　　　　　　　**<u>ing</u>　　<u>biga</u>** **...**
   Nyang　　lawe-n=na=ya　　　　　　　　<u>ing</u>　　　<u>biga</u>
   when　　　look-APPLICATIVE=3.ERG=3.ABS　<u>ABS</u>　　<u>sky</u>
   When she looked at <u>the sky</u>, (ABSOLUTIVE) . . .

The choices speakers make between such constructions in speech are not random. Highly topical participants, those portrayed as more central to the discussion at hand, are typically cast as core arguments, while those portrayed as peripheral or incidental are cast as grammatical obliques, a general pattern noted in Givón 1983 and elsewhere. The line in (3)a is from a story about a special bird. The speaker continued, saying *and he saw the adarna bird.* The branches played no further role in the account. The line in (3)b is from a legend about the origin of the heavens. The speaker continued with *it [the sky] was not there anymore; it was not low*. The sky was central to the discussion, and as such it was cast as a core argument. In languages such as Kapampangan, applicative morphology provides an important, pervasive device for shaping argument structure in connected speech, so that central, topical participants are cast as syntactic core arguments, while more peripherally involved entities, such as those providing background information on instruments and locations, are syntactic obliques.

Applicatives may interact with other syntactic constructions, as has been pointed out by Comrie (1981), Givón (1984), Croft (1991), and others. In many languages, the pivotal arguments in nominalization, relativization, passivization, or topicalization must be core arguments. Kapampangan is such a language. In Kapampangan, the head of a relative construction must function syntactically as the absolutive of the relative clause. A semantic beneficiary, instrument, or location can appear as the head of a relative clause, provided that the verb of the clause contains applicative morphology, which renders it a syntactic absolutive. The verb **pisaliw** *buy*, for example, is transitive, whose core arguments are the buyer and the purchase. The person bought from, the seller, would be identified in an oblique noun phrase. The seller could serve as the head of the relative clause in (4), however, because an applicative suffix derived the verb **pisaliw-an** *buy-from*. The absolutive argument of this verb is the seller.

(4) Kapampangan relative clause with applicative: Clemente Roman, p.c.

niting	**pisaliwan**	**ming**	**ticket . . .**
niti=ng	pisaliw-an	mi=ng	ticket . . .
this=LINK	buy-APPLICATIVE	1.EXCLUSIVE.ERG=LINK	ticket

this person [we bought the ticket from] . . .

Applicative constructions are extensive in Kapampangan speech. In information questions, the referent of the question word functions as the syntactic absolutive of the remainder of the question. If a beneficiary, instrument, or location is questioned, applicative morphology is present in the verb. To ask about a direction, the derived applicative verb *put-in* was used in (5).

(5) Kapampangan applicative question: Bernadette Mangaser, speaker p.c.

Nanung pilu:lanan mu?
Nanu=ng pilu:lan-an =mu?
what=LINK put-APPLICATIVE=2.ERGATIVE
What is it [that you put it in] = What did you put it in?

Applicative morphology in Kapampangan, as in many other languages, creates lexical resources that in turn provide syntactic alternatives for packaging information according to both discourse and syntactic contexts. The two are of course not unrelated. Such syntactic structures as relativization, nominalization, topicalization, and passivization function to pick out a topical participant. It is no surprise that they should cooccur with applicatives when the topical participant is a semantic recipient, beneficiary, instrument, or location.

Close examination of both form and function are essential steps toward an understanding of the pervasiveness of applicative structures cross-linguistically. But applicative systems in a number of languages suggests that there may be more to the story than we have seen so far. A number of languages contain robust applicative constructions but no evidence of prepositions or postpositions. In fact they contain no oblique beneficiaries, instruments, or directions at all. This lack of oblique noun phrases means that there are no syntactic alternatives comparable to those seen in (3) above. We could conclude that the formal incorporation of adpositions into verbs is obligatory in these languages, and that function is not a necessary prerequisite to the existence of grammatical constructions. A closer look at these cases, however, shows that other principles may be at work.

Examples of this situation are provided by languages of the Iroquoian family among others. The languages contain robust dative/benefactive, instrumental, and directional applicative constructions, but no prepositions, postpositions, or other case markers. There are no oblique dative, benefactive, instrumental, or directional nominals at all, so no constructions for which the applicatives might provide syntactic alternatives. In what follows, the formal properties of each of the applicative constructions are first described. Next their uses within speech are investigated. Finally, the implications of the formal and

functional characteristics of these systems for refining our understanding of the robustness of applicatives cross-linguistically will be considered. Examples will be drawn primarily from Tuscarora, where the applicative markers are easiest to see. The structures are essentially the same in the other Iroquoian languages, but various phonological developments in those languages have obscured some forms in certain contexts. Material cited here comes from the speech of Elton Greene and Edith Jonathan, of Tuscarora, New York, and from texts recorded there by J.N.B. Hewitt (JNBH) during the late nineteenth and early twentieth centuries, published in Rudes and Crouse, eds. 1987.

1 Basic clause structure in Tuscarora

Core arguments are easily distinguished in Tuscarora because they are identified by pronominal prefixes in each verb, whether or not lexical nominals are present.

(6)   Tuscarora pronominal prefixes: JNBH 353.1

Haʔ	rę́·kwe	ihskáh	waʔnaʔná·ʔręʔ
haʔ	r-ękwe	ihskáh	waʔ-ʔnaʔn-aʔrę-ʔ
the	MASCULINE.SG-person	not	FACTUAL-3SG/3SG-abuse-P
the	man	not	did he bother him

The man did not bother him.

There are three paradigms of pronominal prefixes: grammatical agents, grammatical patients, and transitives. The paradigms are semantically based but they are categorical. The appropriate paradigm is learned with verb, rather than selected on-line (Mithun 1991). Participants who actively instigate events or states and are in control are typically cast as grammatical agents, while those affected by events or states but not in control are cast as grammatical patients. Historical developments have obscured the original rationale between paradigm choice with certain verbs, but the semantic basis underlying the system as a whole is clear. No more than two arguments are overtly identified in the pronominal prefix complex. Animate arguments have precedence over inanimates: animate arguments are always overtly marked, but inanimate arguments are overtly represented only if they are the sole core argument of the clause.

There is no case marking on nouns, either core or oblique. In (6) above, the noun *man* carries no case marker. In (7) below, the noun *island* (actually a nominalized verb) contains no case marker.

(7)   Tuscarora: no case markers on noun phrases: Elton Greene, speaker p.c.

Yuhwéʔnuʔ	yahwaʔkayęʔnaʔníʔręʔ
yu-hweʔn-u-ʔ	yah-waʔ-kayęʔnaʔn-iʔrę-ʔ
N-island-be.in.water-NOM	TRANSLOC-FAC-HUMAN.PL/HUMAN.SG-set-P
island	they left him there

They left him on an island.

Word order is purely pragmatic, offering no clues to syntactic role (Mithun 1987). Important or newsworthy information occurs early in the clause, while predictable or peripheral information occurs later. The sentence in (7) above came from an account of the abduction of a general during wartime. The noun for *island* occurred early in the sentence, before the verb *they left him*, because the location announced an important shift in scene. The sentence in (8) below opened a discussion about Christianity. The phrase *It was a long time ago* set the scene, then the first word of the next clause *Christianity* announced the general topic.

(8)   Tuscarora constituent order: Elton Greene, speaker p.c.
Karúʔkye   **nęhθá·wʔa·ʔ**
kharu=ʔkye   n-waʔ-w-ahθawʔ-a·ʔ
since=LOCATIVE.NOMINALIZER   PARTITIVE-FAC-NEUTER.AGT-begin-P
It was a long time ago that

karihwiyúhsne·k   **ękayetyè·nęʔ**
ka-rihw-iyu-hsn-ek   ę-kaye-tyenę-ʔ
N.PAT-word-be.good-CAUSATIVE-CONT   FUTURE-HUMAN.PL.AGT-obtain-P
Christianity   *they will obtain it*

haʔ   ękwehę̀·weh.
haʔ   e-ękwe=hęwe
the   INDEFINITE-person=real
the   Indians
A long time back, the Indians adopted Christianity.

2 Three applicatives

There are three kinds of applicatives in the Iroquoian languages: dative/benefactive, instrumental, and directional. All are verbal suffixes that add a participant to the set of core arguments of the verb: an affected participant (recipient or beneficiary), an instrument, or a direction.

2.1 The dative/benefactive applicative

The dative/benefactive applicative suffix has several forms, some of which vary according to aspect. The forms are not predictable from phonological context, but must be learned as part of the verb stem. The Tuscarora forms are below.

  -ę,   -(a)hθ, -hahθ, -(a)ʔθ   with Perfectives and Imperatives
  -(a)ti, -(a)hθe, -hahθe, -(a)ʔθe   with Imperfectives and Statives

The dative/benefactive applicative marker is suffixed to both intransitive and transitive verb stems, adding an indirectly affected person or entity to the set of core arguments. Added to the verb root meaning *send,* it yields the stem *send-to* in (9)b. The added argument is the recipient *him*.

(9)   Tuscarora dative/benefactive applicative: Elton Greene, speaker p.c.
    a. **Yahwaʔkaʔnẹtí·ye·t**
        yah-waʔ-k-aʔnẹtiyet
        TRANSLOCATIIVE-FACTUAL-1.SG.AGENT-<u>send</u>.PERFECTIVE
        I <u>sent</u> it.

    b. **Yahwaʔkheyaʔnẹtiyé·thahθ**
        yah-waʔ-khey-aʔnẹtiyet-hahθ
        TRANSLOCATIVE-FAC-1.SG/HUMAN.SG-<u>send-DATIVE/BENEFACTIVE</u>.P
        I <u>sent</u> it <u>to</u> him.

The addition of the applicative suffix to the verb **-rakw-** *choose* in (10)a yields
-rakw-ahθ *choose-for*, seen in (10)b with the beneficiary *me* as a core argument.

(10)   Tuscarora dative/benefactive applicative: Elton Greene, speaker p.c.
    a. **Wahrará·kuʔ**
        wa-hra-<u>ra-kw</u>-ʔ
        FACTUAL-MASCULINE.SG.AGENT-<u>take-REVERSIVE</u>-PERFECTIVE
        He <u>chose</u> it.   .

    b. **Wahrak rá·kwahθ**
        wa-hrak-<u>ra-kw</u>-a-hθ
        FACTUAL-M.SG/1.SG-<u>take-REVERSIVE</u>-EP-DATIVE.BENEFACTIVE.P
        He <u>chose</u> it <u>for</u> me.

In some contexts both dative and benefactive interpretations might be possible.

(11)   Tuscarora potential ambiguity: Elton Greene, speaker p.c.
    Waʔtkhené ʔθẹʔ
    waʔ-t-khe-<u>nẹʔθ-ẹ</u>-ʔ
    FACTUAL-DUPLICATIVE-1.SG/HUMAN.SG-<u>write-DATIVE/BENEFACTIVE</u>-P
    I <u>wrote to</u> him or I <u>wrote for</u> him.

Potential ambiguity can be avoided by the addition of a directional prefix. A
translocative prefix *thither* or cislocative *hither* can be added to verbs of motion.

(12)   Tuscarora dative with directional prefix: Elton Greene, speaker p.c.
    Yahwaʔtkhenẹ́ʔθẹʔ
    <u>yah</u>-waʔ-t-khe-nẹʔθ-ẹ-ʔ
    <u>TRANSLOC</u>-FAC-DUPLICATIVE-1.SG/HUMAN.SG-<u>write</u>-DATIVE/BENEFACTIVE-P
    I wrote to him.

The participant indirectly affected by a dative/benefactive verb is often the goal of
directed motion, but not always, as can be seen in (13).

(13)   Tuscarora affected source: JNBH 465.164
Yękwat̓wá̓θe
yękwa-at̓wa̓-̓θ-e
INDEFINITE.SG/1.PL-MIDDLE-escape-DATIVE/BENEFACTIVE-STATIVE
She has escaped from us.

Some languages contain separate benefactive and malefactive applicatives, that distinguish beneficial from harmful situations. The Tuscarora marker covers both. The events described in (13) above and (14) below are harmful..

(14)   Tuscarora harmful event: JNBH 261.7
Wa̓kakà·wuhθ   **uθręshayę́hu·̓y.**
wa̓-kakaw-u-hθ   u-θręsh-a-yę-hu̓y
FAC-HUMAN.PL.PAT-come-DATIVE/BENEFACTIVE   N-misfortune-lie-AUG
Misfortune came to them.

A harmful state is described in (15).

(15)   Tuscarora harmful state: Elton Greene, speaker p.c.
Rutsha̓nú·rati
ru-tsha̓nur-ti
MASCULINE.SG.PATIENT-be.hard-DATIVE.BENEFACTIVE.STATIVE
It is hard for him.

    Participants portrayed as significantly affected in dative/benefactive applicative constructions are most often animate, because speakers are more often aware of such effects on human beings than on animals or inanimate objects, but there is no grammatical restriction to animates. In (16) the grammatical beneficiary is a flask made from deer bone. The speaker had just said, *He then cut off the knee joint of a deer and removed the marrow from the bone.*

 (16)   Tuscarora inanimate beneficiary: JNBH 186.25
tihsnę̓   **wahrahse̓yuhtsrę́·tyę̓**
tihsnę̓   wa-hra-hse̓yuhstr-ęty-ę-̓
and   FACTUAL-M.SG.AGENT-stopper-make-DATIVE/BENEFACTIVE-P
For this he made a stopper to put in one end.

    The dative/benefactive suffix is derivational. It creates lexical items that are heard, learned, and retrieved as units. Speakers do not normally choose an allomorph of the applicative as they speak: they select the lexical item as a whole. They know which combinations exist in the language as lexical items and which have not yet been coined. As lexical items in their own right, applicative verbs often have special senses, not reducible to those of their parts. Speakers are even sometimes surprised to learn their literal meanings.

(17) Tuscarora lexicalization: Elton Greene, speaker p.c.

    a. **nakętaʔnyęʔθéhraʔ**
       n-a-kę-<u>taʔn-yę-ʔθe</u>-hr-aʔ
       CISLOC-FAC-1.SG/2.SG-<u>camp-enter</u>-DATIVE.BENEFACTIVE-ANDATIVE-P
       I should <u>settlement-enter-for</u> you = I should come <u>visit</u> you.

    b. **nakwarihwahnęʔthahθ**
       nakwa-<u>rihw-ahnę-ʔt-hah</u>θ
       2.SG/1.PL-<u>matter-disappear</u>-CAUSATIVE-DATIVE/BENEFACTIVE
       Make the <u>matter-disappear-for</u> us = Forgive us.

Applicative verbs take their place among other verb stems in the language, both simplex and derived. They have argument structures similar to those of certain monomorphemic verb roots in the language, such as **-ę/-awi** *give*.

2.2 The instrumental applicatives

The applicative suffixes **-(a)hkw** and **-(a)hst** add a semantic instrument to the set of core arguments of a derived verb. The epenthetic **-a-** appears after consonants. The more common form **-(a)hkw** can be seen in the derived verbs *build-with*, and *live-on*. Before (18)a, the speaker had said *Then they gathered wood.*

(18) Tuscarora instrumental **-(a)hkw:** JNBH 147.14, Elton Greene speaker p.c.

    a. **Há·ne·ʔ**   **waʔkayetsęhuká·ʔnahkw**
       há·ne·ʔ   waʔ-kaye-<u>tsęh-ukaʔn</u>-hkw
       that   FACTUAL-HUMAN.PL.AGENT-<u>fire-kindle</u>-INSTRUMENTAL.P
       <u>*With*</u> *this they* <u>*built a fire*</u>.

    b. **Há·ne·ʔ**   **kayekęnhéhkęh,**   **uʔwahrahθrà·yeh.**
       há·ne·ʔ   kayak-ęnhe-<u>hkw</u>-ę   u-ʔwahr-ahθray-e
       that   HUMAN.PL.AGT-live-<u>INSTR</u>-STAT   N-meat-be.raw-STAT
       That's what they <u>*live on*</u>*, raw meat.*

In many languages accompaniment is indicated by instrumental applicative constructions as well, but in the Iroquoian languages, accompanying persons are normally expressed in joint agent or patient constructions instead: **Simon waʔá·kteʔ** Simon we.two.went = *I went with Simon*.

    Because the argument added by instrumental applicatives is always a semantic instrument, it is always grammatically neuter. Since neuters are not overtly represented in the pronominal prefix complex unless no other arguments are present, instrumental applicative verbs do not themselves show the core status of the instruments. Evidence of their core status comes from elsewhere: nominalizations. In Iroquoian languages, morphological verbs are often used as syntactic nominals. The nominals designate one of the core arguments or the event or state as a whole. Large numbers of lexical nominals have been derived

from instrumental applicative verbs to designate introduced items, many of which are tools that are described in terms of their functions.

(19)   Tuscarora nominalized instrumental applicatives: Elton Greene, p.c.
a. **yeheraruhtsrḛ́hkhwaˀ**
ye-her-a-<u>ruhtsrḛ-hkw</u>-haˀ
INDEFINITE.AGENT-hay-EP-<u>gather-INSTRUMENTAL</u>-IMPERFECTIVE
one <u>gathers hay with</u> it = rake

b. **neyenḛˀθáhkhwaˀ**
ne-ye-<u>nḛˀθ-hkw</u>-haˀ
DUPLICATIVE-INDEFINITE.AGENT-<u>write-INSTRUMENTAL</u>-IMPERFECTIVE
one <u>writes with</u> it = pencil, pen

The second instrumental applicative suffix **-(a)hst** can be seen in (20). The verb stem **-taˀn-a-yḛ-** *set up camp* appears in the first line; the applicative verb stem **-taˀn-a-yḛ-<u>hst</u>-** *set up camp with* appears in the second.

(20)   Tuscarora instrumental applicative **-(a)hst**: JNBH 164.2
Wahrataˀnayḛ́hteˀ
wa-hra-taˀn-a-yḛ-hteˀ
FACTUAL-MASCULINE.SG.AGENT-camp-EPENTHETIC-set-PURPOSIVE
It was his intention to set up camp

kḛˀ	kḛθ	rataˀnayḛ́hsthaˀ.
kḛˀ	kḛθ	ra-taˀn-a-yḛ-hst-haˀ
where	customarily	M.SG.AGENT-<u>camp-EP-set-INSTRUMENTAL</u>-IP

in the place where he usually stayed (<u>set.up.camp-with</u>).

In Tuscarora the **-(a)hst** applicative appears mainly in nominalized instrumental verbs. From a root meaning *be intoxicated* the instrumental applicative forms a stem *be intoxicated with,* used in the verb *one is intoxicated with it = liquor.* From *to dress* is derived *to dress with,* used in the word *one dresses with it = clothing.*

(21)   Tuscarora instrumental **-(a)hst**: Elton Greene, speaker p.c.
a. **yakunḛˀyáhsthaˀ**
yaku-<u>nḛˀy-hst</u>-haˀ
INDEFINITE.PATIENT-<u>be.intoxicated-INSTRUMENTAL</u>-IMPERFECTIVE
one is <u>intoxicated with</u> it = liquor

b. **uˀnetyáhsteh**
u-<u>aˀn-ety-hst</u>-e
NEUTER-<u>MIDDLE-make-INSTRUMENTAL</u>-NOUN.SUFFIX
one <u>dresses oneself with</u> it = clothing

2.3 Directional applicative

The third Tuscarora applicative **–t/-n-** adds an origin or destination to the set of core arguments of verbs of motion. From the verb **-e-** *go*, it derives **-e-t** *go-to*.

(22)   Tuscarora directional applicative **–e-t** *go to*: Elton Greene, speaker p.c.
   a.   í·kye̜ʔθ
        k-e̜-ʔθ
        1.SG.AGENT-go-IMPERFECTIVE
        I was <u>walk</u>ing around.

   b.   kruhsíhkye   yahwáʔkye̜·t
        kruhsih=ke   yah-waʔ-k-e̜-t-ʔ
        store=place.in   TRANSLOCATIVE-1.SG.AGENT-<u>go</u>-<u>DIRECTIONAL</u>-P
        I <u>went to</u> the store.

From the verb *drive* it derives a verb *drive-to*. (The verb *drive* originated in a root **-ʔθre-** *drag*, when people riding in wagons and buggies were dragged by horses.)

(23)   Tuscarora directional applicative **-iʔθre-t** *drive-to*: E. Greene, speaker p.c.
   a.   Wakíʔθreʔ
        wak-iʔθre-ʔ
        1.SG.PATIENT-<u>drag</u>-IMPERFECTIVE
        I was <u>driving</u> along.

   b.   Utá·ʔnake̜·   yahe̜kíʔθre̜-t
        u-taʔn=ake̜·   yah-waʔ-wak-iʔθre-t-ʔ
        N-town=place.in   TRANSLOCATIVE-FAC-1.SG.PAT-<u>drag</u>-<u>DIRECTIONAL</u>-P
        I <u>drove into</u> town.

From the verb stem *run* the suffix derives an applicative verb stem *run-to*.

(24)   Tuscarora applicative **areruhe-t** *run-to*: Elton Greene, speaker p.c.
   a.   Rarerúheʔ
        ra-areru-he-ʔ
        MASCULINE.SG.AGENT-<u>run-ANDATIVE</u>-IMPERFECTIVE
        He's <u>running</u>.

   b.   Héʔthu   yahwahrarerúhe·t
        héʔthu   yah-wa-hra-areru-he-t-ʔ
        there   TRANSLOC-FAC-M.SG.AGT-<u>run-ANDATIVE-DIRECTIONAL</u>-P
        That's where he <u>ran to</u>.

Like all applicatives, the directional appears in all aspects. An imperfective form was used in a discussion of the history of a church building.

(25)   Tuscarora imperfective directional: Edith Jonathan, speaker p.c.
Kyení·kę·   yawętatukę́htę   **yerihę́·tih**
kyení·kę   yaw-ęt-a-tukę-ht-ę   ye-rihw-ęty
this   N-day-EP-holy-CAUS-STAT   INDEFINITE.AGT-word-make-IP
this   *holy day*   *one teaches*

weyakwé·tha?
we-yakwa-e-t-ha?
TRANSLOCATIVE-1.EXCLUSIVE.PL.AGENT-go-DIRECTIONAL-IMPERFECTIVE
we go to it
We used to go to it for Sunday school.

An imperative is in (26).

(26)   Tuscarora imperative directional applicative: Elton Greene, speaker p.c.
θatkwa:ríha?t   **wá?θe:t**
θ-at-kwarih-a?t   wa?-θ-e-t
2.SG.AGT.IMPRTV-MIDDLE-hurry-CAUS   TRANSLOC-2.SG.AGT-go-DIRECTIONAL
Hurry up and go to it = Hurry up and go over there!

A stative directional is in (27).

(27)   Tuscarora stative directional applicative: Elton Greene, speaker p.c.
Hé?thu   nyawè·nę́·?nęh
he?thu   n-yaw-e-t-ę-?nę
there   CISLOCATIVE-NEUTER.PATIENT-go-DIRECTIONAL-STATIVE-PAST
That's where it has come from.

    The argument added by a directional applicative may identify either the
source or the goal of motion. The difference is indicated by a prepronominal
prefix. The translocative prefix, seen in (22) – (26) above, indicates movement
away to a destination. The cislocative prefix, seen in (27) and (28), indicates
movement hither from an origin.

(28)   Tuscarora direction hither from a source: JNBH 258
Tisnę?   urę́hyakę·w   nà·we·t
tisnę?   u-ręhy-akęw   n-a-w-e-t
and   N-sky=place.in   CISLOCATIVE-FAC-N.AGT-go-DIRECTIONAL.P
And from the sky came

né·kę·   **tsi?nę?heθu?kęha?nę́?u·?y.**
ne-ka-i··   tsi?nę?-heθu?-kęha?nę?-u?y
DUPLICATIVE-NEUTER-be-STATIVE   bird-AUG.PL-DISTRIBUTIVE-AUG
two large birds.

The sentence in (29) shows that the original grammatical patient of a basic transitive verb remains a core argument of derived directional applicatives. The patient of the verb root **-hawi** *carry* is human. It is still overtly represented in the pronominal prefix of the directional applicative **hawi-t** *carry-to*.

(29)   Tuscarora directional with human patient: Elton Greene, speaker p.c.
　　　Kę́·ne·ʔ　　kaθhehá·wi·t.
　　　ké̜·ne·ʔ　　ka-θhe-hawi-t
　　　here　　　CISLOCATIVE-2.SG/HUMAN.SG-carry-DIRECTIONAL
　　　Bring him here!

Like the dative/benefactive and the instrumental applicatives, the directional suffix is derivational. It derives verb stems with an argument structure similar to some monomorphemic roots in the language, such as *get into = enter, set, put,* and *reach,* where a semantic destination is already a core argument.

(30)   Tuscarora basic stem with directional core argument: Elton Greene, p.c.
　　　Wę̜ʔrá·t ʔa·ʔ　　　　　　　　　　uhę́·wakę̜h.
　　　w-e-aʔ-rat-ʔa-ʔ　　　　　　　　　　u-hęw-a-kę̜
　　　FAC-INDEFINITE.AGT-MIDDLE-be.in-INCHOATIVE-P　　NEUTER-boat-EP-place
　　　She got into the canoe.

3　Function

Applicative morphology is robust and pervasive in the Iroquoian languages. But the functional and structural observations made earlier about applicatives provide little explanation of their existence here. Iroquoian applicatives do not provide speakers with the syntactic alternatives seen in Kapampangan, because there are no oblique beneficiary, instrumental, or directional nominals in the language. Yet applicative constructions are alive and well. Does this fact indicate that there is no necessary connection between function and the existence of the construction?

It might be argued that the modern grammars of the Iroquoian languages simply reflect the crystalization of earlier, recurrent pragmatic tendencies. Because recipients and beneficiaries are usually human beings, so of greater interest to speakers and more topicworthy than inanimate objects, they would usually have been cast as core arguments with applicative morphology at an earlier stage in the language. Over time, the usual applicative constructions may simply have became obligatory: judgments of comparative topicality may have became routinized. A similar argument for instrumental and directional applicatives would be less compelling, since it would be difficult to make the case that semantic instruments and destinations are usually more topicworthy than semantic patients. It could perhaps be argued that since benefactives are by far the most common applicatives cross-linguistically (Peterson 1999 found benefactives in 80% of the 50 languages with applicatives in his sample), the obligatoriness of the structure was simply generalized from the benefactives to all applicatives.

If, however, we step back and consider larger grammatical patterns in the languages, a different understanding of the phenomenon emerges. Applicatives in these languages offer speakers choices not between core and oblique encoding within clauses, but between the expression of ideas in two clauses or one. Instead of saying *I sent it and I directed it to him,* one can say *I sent it to him.* Applicatives allow speakers to package what is viewed as a single event in a single clause. But that is not the full story.

A striking feature of Iroquoian speech is the high proportion of predicates to arguments. As noted earlier, there are no case markers on Tuscarora nominals comparable to the case suffixes or adpositions of many other languages. The roles of core participants in events and states are distinguished by pronominal prefixes within verbs. The only oblique nominals that occur are locative and temporal.

Despite the existence of transitive and ditransitive verbs, the number of full lexical core arguments that appear within a single clause is limited. Speakers tend to introduce one significant new participant into the discussion at a time; each intonation unit or prosodic phrase, and usually each clause, contains a restricted number of full lexical nominals, apart from locative and temporal elements. This structure can be seen in the passage in (31) below from the account of the arrest of the general exerpted earlier in (7). Each line represents a separate intonation unit or prosodic phrase. In English, the speaker could have said something like *And so when the British arrested General Porter, they left him tied up on an island,* introducing the three noun phrases (*the British, General Porter, the island*) in two or three clauses. In the Tuscarora version Mr. Greene, an articulate speaker and storyteller, introduced the three nominals in six clauses.

(31)   Tuscarora control of information: Elton Greene, speaker p.c.

Tisnę?	há·ne·?	tì·yuht		hení·kę·	hé·snę·
tisnę?	há·ne·?	ti-yu-ht		hení·kę·	hé·snę·
and	that.is	PARTITIVE-NEUTER.PAT-be.so		that	then

And so it was,

ha?	ù·nę	wa?kayę?na?nyé·nę·?,
ha?	ù·nę	wa?-kayę?na?n-yenę-·?
the	when	FACTUAL-HUMAN.PL/HUMAN.SG-grab-PERFECTIVE

when they arrested him

ha?	ratsì·na·r,
ha?	ra-tsinar
the	MASCULINE.SG-general

the general,

General Porter.

Kuráhku· waʔkayęʔné·haʔt.
kuráhku·   waʔ-kaye-aʔn-eha-ʔt-ʔ
British   FACTUAL-HUMAN.PL.AGENT-MIDDLE-be.present-CAUSATIVE-P
the British did it

Waʔkayęʔnathę́·re·t
waʔ-kayęʔnat-hęret-ʔ
FACTUAL-HUMAN.PL/HUMAN.SG-carry.off-PERFECTIVE
they took him away

kyení·kę·   yuhwéʔnuʔ   yahwaʔkayęʔnaʔníʔręʔ,
kyení·kę·   yu-hweʔn-u-ʔ   yah-waʔ-kayęʔnaʔn-iʔrę-ʔ
this   N.PAT-island-be.in.water-NOM   TRANSLOC-FAC-3.PL/3.SG-set-P
they left him on an island

waʔkayęʔnaʔníhtrę·t.
waʔ-kayęʔnaʔn-ihtręt-ʔ
FACTUAL-HUMAN.PL/HUMAN.SG-tie-PERFECTIVE
they tied him up

And so when the British arrested General Porter,
they left him tied up on an island.

This strategy reduces the need for oblique case markers. Instead of introducing multiple significant new participants in strings of object and oblique lexical noun phrases, speakers identify each new participant as the core argument of a separate verb, in a clause of its own. The semantic role of this participant is indicated by the meaning of the verb. In the discussion of a sacrifice ceremony, Elton Greene might have used an English sentence with an oblique instrumental nominal: *They make a sacrifice* *with a white dog.* In Tuscarora, he introduced the instrument in a separate clause.

(32)   Instrumental alternative: Elton Greene, speaker p.c.
Haneʔ   tswé·ʔn   tikayè·ye·r
há·ne·ʔ   tswé·ʔn   ti-kaye-yer
that.is   still   PARTITIVE-HUMAN.PL.AGENT-do.IMPERFECTIVE
They still do it now (make sacrifices)

haʔ   tshę́ʔ   kayetakré·tyęʔ,
haʔ   tshę́ʔ   kaye-takr-ętyęʔ
the   now   HUMAN.PL.AGENT-dwell-DISTRIBUTIVE
modern tribes,

kayéhsthaʔ		tsíꞏr	uhwaryáꞏkęʔ
kaye-ihst-haʔ		tsíꞏr	u-hwaryakę-ʔ
HUMAN.PL.AGENT-<u>use</u>-IMPERFECTIVE		dog	NEUTER-be.white-NOM

they're using a white dog.

In (33) below, instead of using an oblique directional noun phrase in a single sentence like *She went to a traditional medicine man.* the speaker, Edith Jonathan, introduced the goal in five separate intonation units.

(33) Tuscarora destination alternative: Edith Jonathan, speaker

Waʔakyehyáhraʔ	kyeʔ
waʔ-ak-ehyahr-aʔ	kyeʔ
FACTUAL-INDEFINITE.AGENT-remember-PERFECTIVE	some
She remembered	*some*

tyùꞏreʔ	thruʔnèꞏnęʔ
t-yu-r-eʔ	t-hru-ʔnen-ęʔ
PARTITIVE-N.PAT-be.distant-STAT	CISLOCATIVE-M.SG.PAT-dwell-STAT
distant	*there he lives*

rúhuꞏr.
ru-hur
MASCULINE.SG.PATIENT-old
old man

Ranęhkwaʔtsrayęʔnéꞏriꞏ,
ra-nęhkw-aʔtsr-a-yęʔner-iꞏ
MASCULINE.AGENT-medicine-NOMINALIZER-EPENTHETIC-know-STATIVE
he knows medicine

ękwehęwehkyéhaꞏʔ
e-ękwe=hęweh=kehaꞏʔ
INDEFINITE-person=original=CHARACTERIZER
the traditional kind.

Héʔthu	yahwáʔęt
héʔthu	yah-waʔ-e-a-t-ʔ
there	TRANSLOCATIVE-FACTUAL-INDEFINITE.AGT-go-DIRECTIONAL-P
<u>*There*</u>	*she went.*

    = *She went <u>to a traditional medicine man</u>.*

The structures are not an accident of these particular texts. When speakers are asked to translate English sentences with multiple arguments, they

consistently reframe them in Tuscarora with multiple clauses, using a new predicate to introduce each argument. An applicative ditransitive verb **atę̨hnin̨ę-ʔθ** *sell-to* exists and is used often.

(34)   Tuscarora ditransitive **-atę̨hnin̨ę-ʔθ** *sell-to*: Elton Greene, speaker
        Waʔkheyatę̨hnì·n̨ęʔθ
        waʔ-khey-<u>atę̨hnin̨ę-ʔθ</u>
        FACTUAL-1.SG/HUMAN.SG-<u>sell-DATIVE/BENEFACTIVE.PERFECTIVE</u>
        I sold it to him.

But when asked to translate the sentence *He told his dog to his neighbor*, which could be built on the same verb *sell-to*, Mr. Greene responded with the two monotransitive Tuscarora clauses in (35): *He sold his dog, and his neighbor bought it*.

(35)   Elicited translation of *He sold his dog to his neighbor*: Elton Greene, p.c.

Wahratę̨hnì·n̨ęʔ	**rutshèn̨ęʔ**	**tsí·r**
wa-hra-atę̨hnin̨ę-ʔ	ru-tshen̨ę-ʔ	tsi·r
FACTUAL-M.AGENT-sell-PERFECTIVE	M.ALIENABLE-pet-NS	dog
he sold it	his pet	dog

        He sold his dog

tisn̨ęʔ	**nekatsę̨haté·kę·**	**wahrá·tyaʔt**
tisn̨ęʔ	ne-ka-tsę̨h-a-tekę··	wa-hra-tyaʔt-ʔ
and	DPC-N-fire-EP-be.side.by.side-STAT	FAC-M.SG.AGT-buy-P
and	the fires are side by side	he bought it

        and his neighbor bought it.

        The same pattern appears in translations of English sentences with both a lexical patient object and a lexical instrument.

(36)   Elicited translation: *I built that house with a hammer and   saw*: E Greene

Waknę̨hsę́·ti·	**hení·kę·**	**unę́hseh**
wak-nę̨hs-ę̨ti··	hení·kę·	u-nę̨hs-e
1.SG.PATIENT-house-make-STATIVE	that	NEUTER-house-NS

        I built that house.

neyerę̨ʔnyáʔkthaʔ	**tisn̨ęʔ**	**utsíhkwe**	**wáʔkihst**
ne-ye-rę̨ʔn-yaʔk-t-haʔ	tisn̨ęʔ	u-tsihkw-e	waʔ-k-hst-ʔ
DPL-INDEF.AGT-log-cut-CAUS-IP	and	N-hammer-NS	FAC-1.SG.AGT-use
saw	and	hammer	I used (them)

        I used a hammer and saw.

Tuscarora applicatives do offer syntactic alternatives: they allow speakers to express a thought in one clause rather than two. Speakers make their choices in a principled way, but their choices are not precisely the same as in Kapampangan. Applicatives are not used to shift arguments into core position. The arguments in question here, recipients, beneficiaries, instruments, and directions, have core status whether they are introduced with basic or applicative verbs, since there are no oblique nominals in the language apart from locatives. Iroquoian applicatives allow speakers to package elements of what is viewed as a single event in a single clause, provided that no more than one significant new participant is introduced.

Applicatives in Iroquoian languages are used to regulate the flow of information on a more local level as well. They allow unitary concepts to be packaged in single lexical items. As derivational suffixes, they are used to create lexical items that are subsequently learned and used as labels for unitary concepts. These words often show meanings not equivalent to the those of their parts.

(37)　Tuscarora lexicalization of verbs: Elton Greene, speaker p.c.
　　　wahrakrihę́:tyę ʔ
　　　wa-hrak-rihw-ęty-ę-ʔ
　　　FACTUAL-M.SG/1.SG-word-make-DATIVE.BENEFACTIVE-PERFECTIVE
　　　he word-made-for me　　　=　　　*he taught me*

As noted earlier, morphological verbs in Iroquoian languages are often lexicalized as semantic and syntactic nominals. Many deverbal nominals contain applicatives.

(38)　Tuscarora lexicalized verbal nominals: Elton Greene, speaker p.c.
　　　yeriha ʔnáhkhwha ʔ
　　　ye-rih-a ʔn-a-hkw-ha ʔ
　　　INDEFINITE.AGENT-be.hot-EP-CAUSATIVE-INSTRUMENTAL-IMPERFECTIVE
　　　one heats-with it　　　=　　　*kettle*

4 Origins

If we understand the structure and function of a grammatical construction, have we explained its pervasive existence cross-linguistically? A clear understanding of structure and function is certainly necessary, but we can move closer to explanation by uncovering mechanisms that could bring the construction into being and circumstances that could foster its survival.

The origin of the applicatives in Kapampangan and its relatives is now difficult to discern, but traces still remain in a number of other languages of the kinds of sources from which applicative constructions can originate and the paths of development they may follow. An early stage of development can be seen in action in Navajo, an Athabaskan language of the Southwest. The language has predicate-final constituent order and postpositions. Both verbs and postpositions contain pronominal prefixes identifying their arguments. In (39)a below, the subject of the intransitive verb *crawl around* is the third person indefinite **ji-** *one*

(often used for the protagonist in a narrative), and the object of the postposition **yi'** *in* is the third person **bi-**. In (39)b, the subject of the transitive verb is **ní-** *you* and the object of the postposition **–k'i** *on* is *me*. The third person object *it* is zero.

(39)   Navajo clauses with postpositions: Dolly Soulé, speaker p.c.
     a. **Biyi'**   **niji'ná'o.**
          bi-yi'   ni-ji-D-ná'=go
          it-in   around-one-CL-crawl.CONTINUATIVE.IP=SUBORDINATOR
          He's just climbing around in it.

     b. **Shik'ide**   **dahníyeeh.**
          shi-k'i=de   dah-ni-yeeh
          me-on=hither   up-you-handle.burden.IMPERFECTIVE
          Put it on me = Put it (a heavy sack of potatoes) up on my back.

The core arguments of the verb and/or the object of the postposition may be further identified by additional noun phrases, but the pronominal prefixes remain.

(40)   Navajo clause with postpositional phrase: Dolly Soulé, speaker p.c.
     Ndíshchíí'   **biyi'**   **niji'ná'o.**
     ndishchí   bi-yi'   ni-ji-D-ná'=go
     pine.tree   it-in   around-one-CL-crawl.CONT.IP=SUBORDINATOR
     He's just climbing around in the tree.

The language has a substantial inventory of postpositions, which occur with a full range of pronominal objects: **shi-k'i** *on me*, **ni-k'i** *on you*, **bi-k'i** *on him/her/it* etc.
     Since the basic constituent order of clauses is predicate-final, postpositions often immediately precede the verb, as in (39) and (40) above. Several of the postpositions have come to be increasingly associated with particular verbs, along with their pronominal prefixes: they are being reanalyzed as verbal prefixes. One of these is the postposition **-k'i-** *on* seen above in (39)b. Added to the intransitive stem **-'íí'** *look, stare, gaze*, it derives the transitive verb *look over > watch*.

(41)   Navajo applicative –k'i- : Dolly Soulé, speaker p.c.
     a. **Nléígo**   **desh'íí'.**
          nléí=go   de-sh-'íí'
          yonder=to   THEMATIC-I-look.IMPERFECTIVE
          I'm just gazing over there.

     b. **Awéé'**   **bik'idésh'íí'.**
          awéé'   bi-k'i-dé-sh-'íí'
          baby   it-on-THEMATIC-I-look.IMPERFECTIVE
          I'm watching the baby.

Added to the verb –**wod**, used with the detransitivizing prefix **-l-** to mean *run* (for one person), it yields a verb *one.runs upon > attack.*

(42)   Navajo applicative prefix **-k'i-**: Dolly Soulé, speaker, p.c.
       Náshdóítsoh   shik'iilwod.
       náshdoi-tsoh   shi-<u>k'i</u>-i-<u>l</u>-<u>wod</u>
       wildcat-big   me-<u>upon</u>-PERFECTIVE-<u>CLASSIFIER</u>-<u>flex.PERFECTIVE</u>
       A mountain lion <u>attacked</u> me.

The postposition –**ká** means *after.*

(43)   Navajo postposition **-ká** *after*: Dolly Soulé, speaker p.c.
       Tó   bíká   níyá.
       tó   bi-<u>ká</u>   ni-yá
       water   it-<u>after</u>   TERMINATIVE.1.SG-SG.walk.PERFECTIVE
       I've come after water.

Prefixed to verbs based on the stem **-'íí'** *look,* it derives verbs meaning *look for.*

(44)   Navajo applicative prefix –**ká**-: Dolly Soulé, speaker p.c.
       Shiyostsah   bíkádésh'íí.
       shi-yostsah   bi-<u>ká</u>-dé-sh-<u>'íí'</u>
       my-ring   it-<u>after</u>-THEMATIC-I-<u>look.NEUTER.MPERFECTIVE</u>
       I'm <u>looking for</u> my ring.

       These new prefixes have just the features of applicatives. They add an argument (the descendant of the object of the postposition) to the core, that is, to the set of participants represented by pronominal prefixes on the verb. They also specify its semantic role. The verb stems **-l-wod** *run,* **-'íí'** *gaze,* and **-yá** *walk* were intransitive. The derived stems meaning *watch, attack,* and *look for* are transitive.

       Stems that were originally transitive become ditransitive with the addition of these prefixes. The verb *pick up* in (45)a below is transitive; the subject *they* is represented by a zero third person pronominal prefix plus distributive prefix **da-** (which also functions as a plural), and the object by the third person object pronominal prefix **-i-**. The applicative verb in (45)b shows these two arguments plus a beneficiary *him,* represented by the third person indefinite prefix **h-**, used for protagonists.

(45)   Navajo ditransitive applicative: Dolly Soulé, speaker
       a. <u>nídeidii'á</u>
          ní-<u>da</u>-<u>i</u>-<u>0</u>-di-'á
          back-<u>DISTR</u>-<u>3.OBJ</u>-<u>3.SUBJECT</u>-with.arms-handle.solid.round.object.P
          <u>They</u> picked <u>it</u> back up.

b. h̲ándeidii'a̧
   h̲-á-ní-d̲a̲-i̲-0̲-di-'a̧
   him-for-back-DISTR-3.OBJ-3.SUBJ-with.arms-handle.solid.round.obj.P
   They picked it back up for him.

(Mrs. Soulé feels confident that (45)b constitutes a single word, though other analysts have sometimes parsed the first two prefixes as a separate word.)

The system has all the marks of one undergoing evolution. There is a large inventory of forms that serve only as postpositions: 47 are listed in Young and Morgan 1987. A smaller set of forms occur both as postpositions and as applicative prefixes on verbs: Young and Morgan list 12. For many of these new prefixes, the strength of the bond to the verb is still loose; speakers generally feel they form a single word together, but are sometimes somewhat unsure. Some have begun to lose phonological substance in their new positions as verbal prefixes. The postposition **-'a̧a̧** *over*, for example, is the source of the verbal prefix **-'a̧-**. The postposition **-lááh** *beyond* is the source of the prefix **-lá-** (Young and Morgan 1987:27). Finally, some forms now occur only as applicative prefixes on verbs, though they can be seen to be descended from earlier postpositions: Young and Morgan list 27. This very process of reanalysis, described for a number of genetically unrelated languages in Craig and Hale 1988, is actually not very different from that behind English verbs like **oversee** and **overlook**.

The Navajo applicative prefixes are historically related to postpositions, but they are not equivalent to them formally or functionally. Postpositions can in principle follow any noun which could designate a potential object. The applicative prefixes are derivational: they create new lexical items. They develop through the repeated use of certain postposition-verb collocations that ultimately become routinized, so that the boundaries between the parts are dimmed. The reanalysis does not occur in a single sweep, but postposition by postposition, and lexical item by lexical item. On occasion, speakers innovate, either reinterpreting existing postposition-verb combinations as lexical verbs, or perhaps abstracting patterns of combination and extending them to new formations, but for the most part, derived expressions containing postpositions are learned, stored, and retrieved as lexical units. Speakers know which ones exist and which do not, and they know their particular, often idiosyncratic meanings.

The diachronic origin of the Navajo applicatives in postpositions might provide some substance to the description of applicatives as adpositions that have been moved into the verb. The movement is not an online, synchronic process, however. Nor is it an accurate metaphor for what speakers know about equivalent constructions in their language. Most Navajo postpositions do not actually have applicative prefix counterparts, and most Navajo applicative prefixes do not have postposition counterparts. Where counterparts do exist, they are not equivalent grammatically or semantically. And, as is well known, adpositions typically descend from roots or phrases containing them, still visible in English forms like **beside** from the Old English **by sídan** with the dative form of *side*. (OED 818)

The reinterpretation of adpositions as verbal affixes is also not the only diachronic source of applicatives cross-linguistically. The Iroquoian languages contain no adpositions, and there is no evidence that they ever did. Applicatives were already present in Proto-Northern-Iroquoian, but their origin is still easy to discern. The applicative constructions are descended directly from Verb-Verb compounds. The second verbs in the compounds evolved into the applicative suffixes. Most of the verb roots from which the applicative suffixes are descended still persist as verb roots in the modern languages as well. Verb-Verb compounding is no longer productive in the modern Iroquoian languages, but some relic Verb-Verb compounds remain, like the Tuscarora **-u-ha** *be.in.water-put = put in water*. Noun-Verb compounding, or noun incorporation, is still quite productive, as in **-tsęh-ukaʔn** *fire-kindle* seen above in (18)a. An epenthetic **-a-** is inserted between the constitutents of these compounds to break a potential consonant cluster: **-her-a-ruhtsrę-** *hay-*EPENTHETIC*-gather* (19). The same vowel appears after consonant-final verb stems before applicatives.

One of the Proto-Northern-Iroquoian dative/benefactive applicative suffixes was ***-(a)ni**, which developed by regular sound change into Tuscarora **-(a)ti.** The source of this Proto-Northern-Iroquoian applicative can still be seen in the verb root ***-ni** *lend* that persists in some of the daughter languages.

(46) Mohawk: Kaia'titahkhe Jacobs, speaker p.c.
  a. Verb root **-ni** *lend to*
      wahák<u>eni</u>'
      wa-hak-ni-'
      FACTUAL-MASCULINE.SG/1.SG-lend-PERFECTIVE
      he lent it to me

  b. Dative/benefactive applicative suffix **–(a)ni** *to, for*
      róhthare'　　　*he is talking*　　　　　　**-hthar-**　　　*talk*
      rakhthará:<u>ni</u>　　*he is talking <u>to</u> me*　　　**-hthar-a-ni**　*talk to*

Another Proto-Northern-Iroquoian dative/benefactive applicative suffix is ***-awi.** Its origin can be seen in a verb root *give*. The verb *give* had suppletive allomorphs ***-ǫ/-awi** in Proto-Northern-Iroquoian, as it does in the daughter languages, with ***-ǫ** appearing in perfective verbs and imperatives, and ***-awi** in imperfective and stative verbs. The applicative suffix ***-awi** shows the same distribution as its ancestral root, appearing only in imperfective and stative verbs.

(47) Mohawk: Kaia'titahkhe' Jacobs, speaker p.c.
  a. Verb **-awi** *give to*
      kheiá:<u>wi</u>
      khei-awi
      1.SG/INDEFINITE.SG-give.STATIVE
      I have <u>given</u> it <u>to</u> her

b. Dative/benefactive applicative suffix **–awi** *to, for*
  wakenatahré:nen *I have paid a visit*   **-natahren**
  rinatahren<u>á:wi</u>   *I have visited him*   **-natahren-awi**

The development of dative and benefactive applicatives from verbs meaning *give* is common cross-linguistically.
   The diachronic source of the instrumental applicative suffix **–(a)hkw-** *with* still persists in the verb root **-hkw** *pick up*, a common source for such markers.

(48) Tuscarora verb root **–hkw** *pick up*: Elton Greene, speaker, p.c.
    wá^ʔthra<u>hkw</u>
    waʔ-t-hra-<u>hkw</u>
    FACTUAL-DUPLICATIVE-MASCULINE.SG.AGENT-<u>pick.up</u>.PERFECTIVE
    he picked it up

It is easy to understand the circumstances that would lead to such a development. If I pick up a knife and cut, it can be inferred that I cut with the knife.
   The diachronic source of the second instrumental applicative suffix **-(a)hst** is also easy to discern. It is the verb root **-hst** *use*, which also persists as a verb root across the languages. This root was seen in the main predicate in (32) *they use a white dog* and in (36) *I used a hammer and saw*.

(49) Tuscarora verb root **-hst** *use*: Elton Greene, speaker, p.c.
    kayé<u>hst</u>haʔ
    kaye-<u>hst</u>-haʔ
    HUMAN.PLURAL.AGENT-<u>use</u>-IMPERFECTIVE
    they <u>use</u> it

   The origin of the Iroquoian applicatives in Verb-Verb compounds is not surprising. Compounding is typically used when speakers wish to create a single lexical item for what is viewed as a single event or concept. But the modern applicatives are not produced synchronically by a compounding process. Verb-Verb compounding is no longer productive. The applicative suffixes constitute a small, closed set of markers that have evolved individually, morpheme-by-morpheme, over time. The markers vary in productivity and frequency. The directional suffix is no longer productive at all. It occurs with very few verbs, primarily *walk, run, drive,* and *carry,* but it appears often because of the frequency of these particular verbs. The instrumentals are probably the most productive, but only in a particular usage: the creation of deverbal nominals like *one hay gathers with it > rake*. The creation of applicative verbs is certainly not an online process. These verbs have also developed individually, item-by-item, over time. Their meanings are not necessarily compositional. The use of applicatives in speech is usually a process of lexical selection. Most speakers probably never derive new applicative verbs during their lifetimes.

5. Explanation

Much work on applicatives has sought to explain their existence as an instance of more general and abstract principles, often formulated in terms of processes. The cross-linguistic ubiquitousness of applicatives does in fact reflect certain general processes. For the most part these are not instantaneous, online processes of speech production, nor are they necessarily formulas representing speakers' knowledge about relations among different parts of their grammars. They are observable, real-time processes that create grammatical structures, grammatical markers, and lexical items, and that foster their survival.

Applicative constructions can spring from a variety of sources: Adposition-Verb collocations, Verb-Verb compounds, and more. These sources explain the argument structure of applicative verbs: they generally take as arguments the grammatical subject, ergative, or agent of the verb stem that has remained the base of the applicative construction, and the object, absolutive, or patient of the adposition or verb root that evolved into the applicative marker. The shared subject/ergative/agent need be mentioned only once. But the modern constructions are not equivalent to their diachronic sources in either their formal or functional properties. Nor are they homogeneous. The different diachronic sources can leave their mark for some time on the particular characteristics of the resulting applicative structures. Here, for example, we have seen that the reanalysis of Adposition-Verb collocations can offer speakers a choice between coding arguments as core or oblique, while a source in Verb-Verb compounding can offer a choice between two clauses or one.

The mechanisms by which applicatives develop reflect more general cognitive processes at work in the shaping of language. Human beings, like other animals, routinize frequently recurring tasks, including the assembly of grammatical constructions. As a result, the boundaries between the components of these task fade. Just as an experienced driver is no longer conscious of the individual arm and leg motions needed to change gears, speakers process frequently used collocations (Adposition-Verb, Verb-Verb, etc.) as single units. The individual actions may lose their deliberateness, whether they involve pressing and releasing the clutch, or pronouncing the full phonological substance of affixes. Such processes explain the recurring emergence, cross-linguistically, of such grammatical onstructions as applicatives. Recurring constructions become automated; speakers choose them as units rather than as individual components.

We can also see the kinds of circumstances that promote the survival of applicatives. Grammatical constructions and markers may persist in a language for a variety of reasons, but an obvious one is their utility. Applicatives can serve important functions in packaging information in discourse, in syntax, and in the lexicon. Their usefulness can prompt speakers to continue to use them in speech if there are no competitors, which means that learners will continue to hear them and learn them and, in turn, to use them themselves.

The factors involved in the creation and survival of constructions like applicatives are both diachronic and synchronic. They cannot be appreciated until

the layers of history are pulled apart, but each step in that history is governed by synchronic human capacities.

Abbreviations

1	FIRST PERSON	FAC	FACTUAL MODE
2	SECOND PERSON	IMPRTV	IMPERATIVE
3	THIRD PERSON	INSTR	INTRUMENTAL
ABS	ABSOLUTIVE CASE	IP	IMPERFECTIVE ASPECT
AGT	AGENT CASE	M	MASCULINE GENDER
AUG	AUGMENTATIVE	N	NEUTER GENDER
CAUS	CAUSATIVE	NOM	NOMINALIZER
CISLOC	CISLOCATIVE	NS	NOUN SUFFIX
CL	CLASSIFIER	OBJ	OBJECT
CONT	CONTINUATIVE	P	PERFECTIVE ASPECT
DISTR	DISTRIBUTIVE	PAT	PATIENT CASE
DPC	DUPLICATIVE	PL	PLURAL
EP	EPENTHETIC VOWEL	SG	SINGULAR
ERG	ERGATIVE CASE	TRANSLOC	TRANSLOCATIVE

References

Baker, Mark 1988a. *Incorporation: A theory of grammatical function changing.* Chicago: The University of Chicago Press.

Baker, Mark 1988b. Theta theory and the syntax of applicatives in Chichewa. *Natural Language and Linguistic Theory* 6:353-89.

Comrie, Bernard 1981. *Language universals and linguistic typology.* Chicago: University of Chicago Press.

Craig, Colette Grinevald and Kenneth Hale 1988. Relational preverbs in some languages of the Americas: Typological and historical perspectives. *Language* 64:312-44.

Croft, William 1991. *Syntactic categories and grammatical relations.* Chicago: University of Chicago Press.

Givón, Talmy 1983. Topic continuity in discourse: An introduction. *Topic continuity in discourse: A quantitative cross-language study*, ed. by Talmy Givón, 1-41. Philadelphia: John Benjamins.

Givón, Talmy 1984. Direct object and dative shifting: semantic and pragmatic case. *Objects: Towards a theory of grammatical relations*, ed. by Frans Plank, 151-182. London: Academic Press.

Mithun, Marianne 1987. Is basic word order universal? *Grounding and Coherence in Discourse,* ed. by Russell Tomlin, 281-328. Typological Studies in Language 11.Amsterdam: John Benjamins. Reprinted 1992 in *The Pragmatics of Word-Order Flexibility*. Typological Studies in Language 22, ed by Doris Payne, 15-61. Amsterdam: John Benjamins.

Mithun, Marianne 1991. Active/Agentive case marking and its motivations. *Language* 67: 510-46.

Mithun, Marianne 1994. The implications of ergativity for a Philippine voice system. *Voice: Form and Function*, ed. by Barbara Fox and Paul Hopper, 247-77. Amsterdam: John Benjamins.

Peterson, David 1999. *Discourse-functional, historical, and typological aspects of applicative constructions.* Ph.D. dissertation, University of California, Berkeley.

Rudes, Blair A. and Dorothy Crouse, eds. 1987. *The Tuscarora legacy of J.N.B. Hewitt.* Ethnology Service Paper 108. Ottawa. National Museums of Canada.