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### ADPOSICIONES
*Artículo*

## The origin of instrumental postpositions in Cahita (Uto-Aztecan): A new account

### *El origen de las postposiciones instrumentales en Cahita (Yuto-Azteca): una nueva propuesta*

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### Abstract

This paper presents a diachronic analysis of instrumental postpositions in Cahita languages (†Tehueco, Yaqui and Mayo; Uto-Aztecan). Based on historical data from the beginning of the 17th century (Buelna 1890) and hypotheses about the possible bridging contexts (Heine 2002) that may have favored the grammaticalization processes at the origin of the instrumental

morphemes, this study proposes that the origin has to be found in the possessive noun phrase, an origin different from those proposed by Dedrick & Casad (1999) and Haugen (2008). This historical reconstruction also brings to light the connections within the domain of postpositions between instrumental and causal meanings, as well as the connections between postpositions and non-subject nominalizers, since the same marker was used to encode these different functions, exhibiting an interesting polysemy. This paper aims to explain this polyfunctionality from a diachronic perspective, trying to clarify the grammaticalization paths that may have originated such syncretism.

**Keywords:** instrumental and causal postpositions, bridging contexts, possessive noun phrase, non-subject nominalizers, grammaticalization

## Resumen

Este trabajo presenta un análisis diacrónico de las postposiciones instrumentales en las lenguas cahitas (†tehueco, yaqui y mayo; uto-azteca). A partir de datos históricos de principios del siglo XVII (Buelna 1890) y de hipótesis sobre los posibles contextos puente (Heine 2002) que pudieron favorecer los procesos de gramaticalización que dieron origen a los morfemas instrumentales, el estudio propone que el origen se halla en la frase nominal posesiva, un origen diferente a los propuestos por Dedrick & Casad (1999) y Haugen (2008). Esta reconstrucción histórica permite también evidenciar las conexiones dentro del dominio de las postposiciones entre los significados instrumentales y causales, así como las conexiones entre las postposiciones y los nominalizadores de no-sujeto, ya que el mismo marcador era utilizado para codificar estas diferentes funciones, exhibiendo una interesante polisemia. Este trabajo pretende explicar esta polifuncionalidad desde una perspectiva diacrónica, tratando de aclarar las vías de gramaticalización que pueden haber originado dicho sincretismo.

**Palabras clave:** postposiciones instrumentales y causales, contextos puente, frase nominal posesiva, nominalizadores de no-sujeto, gramaticalización

## 1. Introduction[*]

This paper proposes a diachronic analysis of instrumental postpositions in Cahita languages (✝Tehueco, Yaqui and Mayo; Uto-Aztecan). Based on historical data from the beginning of the 17th century (Buelna 1890) and hypotheses about the possible bridging contexts (Heine 2002) that may have favored the grammaticalization processes at the origin of the instrumental morphemes, I propose that the origin is in the possessive noun phrase, an origin different from those proposed by Dedrick & Casad (1999) and Haugen (2008).[1]

This historical reconstruction will also bring to light the connections within the domain of postpositions between instrumental and causal meanings, as well as the connections between postpositions and non-subject nominalizers, since the same marker (suffix *-ye*) was used in Old Cahita to encode these different functions, exhibiting an interesting polysemy. This paper intends to explain this polyfunctionality from a diachronic perspective, trying to clarify the evolutionary paths that may have originated such syncretism.

This paper is organized as follows. Section 2 briefly presents the Cahita language(s) as well as the historical document that provides the relevant data for the diachronic analysis proposed here. Section 3

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[1] It is important to mention that Dedrick & Casad (1999) is not a study specifically dedicated to our topic, since it is a descriptive grammar of Yaqui. On the contrary, Haugen (2008) is a study on the subject but in a larger con- text, since it is a diachronic study of comitative and instrumental postpositions in Uto-Aztecan.

describes the instrumental postpositions in Modern Cahita represented by present-day Yaqui and Mayo, and Section 4 discusses the origins proposed by Dedrick & Casad (1999) and Haugen (2008) for this type of postposition in Cahita. Section 5 introduces the instrumental postposition documented in Buelna (1890) as well as the uses of the same marker (suffix *-ye*) as a causal postposition and as a non-subject nominalizer. After having considered in Section 6 the semantic relations existing between these different uses, the diachrony of the suffix *-ye* is addressed in Section 7. A possessive origin is then proposed and the grammaticalization paths to the postpositional and nominalizing uses are discussed. Section 8 reports the appearance of new non-subject nominalizers in Yaqui and Mayo, which replace the old suffix *-ye* and also come from the postpositional domain, showing again the overlap between nominalization and postposition in Cahita. Finally, the main results of this study are summarized in the conclusions.

## 2. The Cahita language(s)

Cahita, represented by Yaqui, Mayo, and ✝Tehueco, belongs to the Taracahitan branch of Southern Uto-Aztecan (SUA) languages (Miller 1984: 21; Campbell 1997: 134). This branch also includes two Tarahumaran languages, the closely related Tarahumara and Guarijio. Taracahitan languages are spoken in Northwestern Mexico.

Since Tehueco, Yaqui, and Mayo are structurally very similar, they can be viewed as three varieties of Cahita, although it is not uncommon to use the term "languages" when referring to them.[2]

The first available documentation of Cahita comes from the *Arte de la lengua Cahita,* which describes Cahita from 1600-1650 (Dedrick & Casad 1999: 3; Álvarez, 2018). After a first version printed in 1737, an edited version of the *Arte* was published by Eustaquio Buelna in 1890. In the introduction of this version, Buelna (1890: X) acknowledged that Cahita included three dialect variants: Yaqui, Mayo, and Tehueco. In the same vein, in the preface, the anonymous author of the *Arte* mentioned that, despite their differences, Tehueco, Yaqui, and Mayo can be viewed as the same language (Buelna 1890: 5).

Although the linguistic description in the *Arte* was mainly focused on Tehueco, the existing differences between Tehueco and the other two Cahita variants were carefully pointed out by the original author(s) throughout the *Arte*. It is thus possible to consider the linguistic forms provided in the *Arte* as early 17th century Cahita data (corresponding to Tehueco, Yaqui, and Mayo). I will refer to it here as Old Cahita. By opposition, Mayo and Yaqui data presented in this paper are examples of Modern Cahita. As this paper studies the diachrony of instrumental postpositions in Cahita, a comparison will be made in the next sections between Old Cahita data and Modern Cahita data.

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[2] Nowadays, Yaqui and Mayo remain mutually intelligible. As pointed out by Moctezuma & López (1991), they can be considered varieties of the same language on structural grounds, although both communities usually consider that they do not share the same language, mostly for sociopolitical and historical reasons.

According to Buelna (1890: X), in the days of the *Arte*, Tehueco was spoken in the north of the present-day state of Sinaloa in Northwestern Mexico by three different indigenous tribes settled on the bank of the Fuerte River, the Sinaloas, Tehuecos, and Zuaques. The Mayo community lived on the bank of the Mayo River, between the Tehueco territory to the south and the Yaqui territory to the north, in the south of the state of Sonora.

Tehueco has since disappeared, being probably assimilated during the 18th century into Mayo (Álvarez 2018), which now occupies its original location (Mayo of Sonora) as well as the former location of Tehueco (today, Mayo of Sinaloa). As for the Yaquis, most of them continue to live in their traditional villages, along the Yaqui River. At present, the number of Mayo speakers is estimated at 40 000, and Yaqui speakers at 20 000.[3]

Cahita (hence also Yaqui, Mayo, and Tehueco) is an agglutinative language, with a very predominant use of suffixes and postpositions. The alignment system is nominative-accusative and it is marked in nouns by Ø (zero) for nominative and suffix *-ta* for accusative, and in pronouns by different sets of paradigms, distinguishing not only between nominative and accusative but also between possessive and objects of postpositions. The accusative suffix *-ta*, which is also the genitive case marker with full nouns, never occurs with plural nouns. The unmarked order of constituents is SOV.

[3] The 2020 Mexican census (INEGI 2020) reports 38 507 Mayo speakers, and 19 376 Yaqui speakers. There are also Yaqui-speaking communities in the bordering state of Arizona (USA). According to different updated sources, the number of Yaqui-speakers in Arizona fluctuates nowadays between less than 100 speakers (http://arizonahiaki. org/hiaki-basics/) and about 350 speakers (http://www.native- languages.org/yaqui.htm).

## 3. Instrumental postpositions in Modern Cahita

The instrumental postpositions in present-day Yaqui and Mayo correspond to suffixes exhibiting suppletive forms in number, as can be seen in (1) and (2). These suffixes are attached to a noun in order to introduce the entity referred to by this noun as an instrument within the situation denoted by the clause. Syntactically, this participant is an oblique complement, since, contrary to what happens to arguments, its presence in the clause is not obligatory, even though its presence in the situation denoted by the clause could be.

(1)   Yaqui

    a.   *yéka-e*    *'á'a*    *húh-hu'ubwa*
        nose-INST    3SG.ACC    RDP-smell
        'He smells it with the nose.' (Dedrick & Casad 1999: 187)

    b.   *téta-m-mea*    *wikichi-m*    *ma-máa-su*
        stone-PL-INST.PL    bird-PL    RDP-kill-CMP
        'He killed birds with rocks.' (Dedrick & Casad 1999: 188)

(2)   Mayo

    a.   *kútta-i*    *'á'a*    *béeba-k*
        stick-INST    3SG.ACC    hit-PFV
        'He/she hit him with a stick.' (de Wolf 1997: 71)

b.  *lútulai*   *ʾínapo*   *ba'a-m-**mea***     *énchim*     *bato'o-la*
    truth     1SG.NOM   water-PL-INST.PL   2PL.ACC    baptize-PFV
    'I indeed have baptized you with water.' (de Wolf 1997: 73)

These examples show that the plural postpositional phrase presents both in Yaqui and Mayo a double marking of plurality, since the plural postpositional form *-mea* is accompanied by the nominal plural morpheme *-m* suffixed to the object of the postposition, *téta* 'stone' in (1) and *ba'a* 'water' in (2).

## 4. First account of the origin of instrumental postpositions in Cahita

Haugen (2008) has proposed that the origin of the singular instrumental postposition in Yaqui and Mayo (also in Guarijio, another Taracahitan language having the suffix *-e* as an instrumental postposition) is found in a Proto-Uto-Aztecan (PUA) postposition reconstructed as \*\*-*i*,[4] a postposition that would originally have a locative meaning in PUA according to Haugen (2008: 208). This reconstruction proposal is schematized in (3).

[4] Following the convention proposed by Campbell & Langacker (1978), \* indicates reconstructions for a single branch of the family (Proto-Nahuatl, Proto-Tarachitan, Proto-Tepiman, etc.) and \*\* indicates reconstructions for PUA.

(3)     \*\*-*ɨ* 'LOC.POSP'          >          -*e* 'SG.INST.POSP' (Yaqui)

                                        -*i* 'SG.INST.POSP' (Mayo)

As for the plural instrumental postposition, Dedrick & Casad (1999: 188) have suggested that the form -*mea* is historically derived from the bimorphemic sequence \**mɨ-a*, in which \*-*mɨ* was a plural demonstrative pronoun and the -*a* was an accusative marker. This historical hypothesis is summarized in (4).

(4)     \*\*-*mɨ* 'DEM.PL' + \*\*-*a* 'ACC' > -*mea* 'PL.INST.POSP' (Yaqui, Mayo)

These two proposals are problematic, in part because they would imply two different origins and two distinct evolutionary paths to the instrumental postposition, depending on the category of number. Although not impossible, this evolutionary divergence seems, however, very unlikely. Secondly, how do we obtain the instrumental function out of the locative or the accusative? None of the authors really argues in favor of these origins or tries to explain how the original marker is grammaticalized as an instrumental postposition. Grammatical markers have an origin but also a path, an history that we must try to reconstruct. In order to defend a hypothesis on the origin of a linguistic marker, it is thus important, in my view, to propose, at least tentatively, contexts of use that can explain the grammatical changes that occur. These contexts of use are the bridging contexts that lead to the reinterpretation of a construction, originating the change of the function associated with a particular marker and, thus, triggering the process of grammaticalization (Heine

2002; Diewald 2002). These contexts are very important since grammaticalization always implies processes of context-driven inference, as described in grammaticalization studies and studies of language change in general (Heine 2003; Traugott & Dasher 2005, among others). Indeed, as Heine & Kuteva (2004: 2) have stated, grammaticalization always requires specific contexts to take place, since it is always a product of context-induced reinterpretation.

Furthermore, these different origins for the singular and plural forms of instrumental postpositions in Modern Cahita are clearly controversial, if we consider the diachronic data contained in the *Arte de la Lengua Cahita*, which seem to tell another story.

## 5. The suffix -*ye* in Old Cahita

The marker used as an instrumental postposition in Old Cahita was involved in an interesting syncretism, not only within the domain of postpositions (instrumental and causal meanings) but also as a nominalization marker.

### 5.1. Instrumental postposition

As can be seen in (5) and (6), in the past, the singular form of the instrumental postposition had the form -*ye,* while, in the plural, the

corresponding form was the combination of the plural suffix *-me*[5] and the singular postpositional form *-ye*.

(5)      *cuta-ye*        *ne*                  *mea-c*
         stick-INST       1SG.NOM               beat-PFV
         'He beat me with the stick.' (Buelna 1890: 100)

(6)   a.  *teta-ye*        'with the stone'      stone-INST
          *teta-me-ye*      'with stones'         stone-PL-INST

      b.  *cuta-ye*        'with the stick'      stick-INST
          *cuta-me-ye*     'with sticks'         stick-PL-INST
          (Buelna 1890: 101)

In fact, a similar plural form can be found in Modern Cahita, at least in Mayo, as shown in (7).

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[5] The *Arte* indicates that the use of the instrumental postposition with plural nouns implies the addition of a vowel *e* to the plural nouns ending in *m* (Buelna 1890: 100). In Modern Cahita, the suffix *-me* is still used as a plural marker with determiners and demonstratives, while the plural marking appears as *-(i)m* with nominals (the epenthetic vowel *i* is added when the singular noun ends with consonant), as shown in (i) and (ii), from Yaqui.

| | | | | | |
|---|---|---|---|---|---|
| i) | *U* | *wakas* | *U-me* | *wakas-im* |
| | DET.SG | COW | DET-PL | cow-pl |
| | 'the cow' | | 'the cows' | |
| ii) | *Ii* | *yoeme* | *I-me* | *yoeme-m* |
| | DEM.SG | person | DEM-PL | person-PL |
| | 'this person' | | 'these persons' | |

(7)  *kuchi'ri-**mme-yi***
     knife-PL-INST
     'with the knives' (de Wolf 1997: 72, vol. 2)

Examples in (6), however, show that, in the past, the expression of the plurality in Cahita instrumental postpositional phrases was not double-marked.

Based on these data, the evolution in the Cahita instrumental marking would be the one in (8):

(8)  **Evolution in Cahita instrumental marking:**[6]

|  | **Modern Cahita** |  | **Old Cahita** |  |  |
|---|---|---|---|---|---|
| SG.INST.POSP: | *-e, -i, -yi* | < | *-ye* | | |
| PL.INST.POSP: | *-mea, -meyi* | < | *-me* | + | *-ye* |

The apparent suppletive marking would then no longer be the result of different origins for the singular and plural forms of the instrumental postposition, but rather the consequence of a historical process of phonetic change applied to the combination of the plural morpheme *-me* and the marker *-ye*. Instead of having two different paths, we then have only one evolutionary path for both singular and plural forms of the instrumental postposition.

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[6] In response to an anonymous reviewer asking for a phonological reconstruction, the fact that the form *-ye* is attested in Old Cahita for the instrumental function and that the forms *-e*, *-i*, *-yi* are also attested in Modern Cahita for the same function, makes unnecessary to postulate any sound law justifying the deletion of *y*, since the deletion of *y* for the instrumental marking is attested in the data. Phonological reconstruction should in any case occur between a reconstructed form and its possible reflexes.

The original function of the marker *-ye* obviously remains to be clarified, but to get to that, let us first look at other possible uses of this marker *-ye* in Old Cahita, since this polyfunctionality can provide very relevant information in order to determine the possible origin and possible diachronic changes associated with the marker *-ye*.

## 5.2. Causal postposition

In addition to the uses as an instrumental postposition, the *Arte* (Buelna 1890: 101) also documents for the suffix *-ye* a postpositional use of causality, as illustrated in (9).

(9)  *emo-**ye***                  *ne*                *vebi-ua-c*
    2SG.OBL-CAUS.POSP      1SG.NOM        whip-PAS-PFV
    'For/Because of you I was whipped.'

In this case, we can observe that the object of the postposition is an oblique personal pronoun referring to the hearer.

## 5.3. Non-subject nominalizer

Additionally, the same suffix could be attached to verbal bases in Old Cahita, functioning then as a non-subject nominalizer. In the *Arte*, these forms derived by the suffix *-ye* are named *nombres verbales* (verbal nouns) or *participios* (participles) (Buelna 1890: 16-17, 86-87). It is important to note that these nominalizations are always marked as

adnominal possessive phrases, in which the subject of the base verb is always expressed in a possessive form. The *-ye* nominalization can also be finite, since this type of possessive noun phrase admits the tense/aspect marking usually attached to the verb, as shown in (10).

(10)  a.  *in-eria-**ye***
          1SG.POS-love-NMZR
          The one I love.' (Lit. 'My (present) love.')

      b.  *in-eria-**ca-ye***
          1SG.POS-love-PFV-NMZR
          'The one I loved.' (Lit. 'My past love.')

      c.  *in-eria-**naque**-**ye***
          1SG.POS-love-FUT-NMZR
          'The one I will love. (Lit. 'My future love.')

Examples in (10) illustrate the use of the suffix *-ye* as an object nominalizer, since the entity referred to by this nominalization corresponds to the object participant of the transitive base verb. With intransitive base verbs, the *-ye* nominalization was associated with an action/state meaning, as shown in (11).

(11)  a.  *in*              *cotze-ye*
          1SG.POS           sleep-NMZR
          'My sleeping.' (Buelna 1890: 17)

b.  *in-eria-ua-ye*
1SG.POS-love-PAS-NMZR
'My being loved.' (Buelna 1890: 17)

This same suffix *-ye* was also combined with the locative postpositional suffix *-po* in order to obtain a locative nominalization, as shown in (12). Example (12b) shows an intransitive verbal base and, in this case, the nominalizing function of the suffix *-ye* serves to refer to the action denoted by the base verb (*my lying down*) and the locative suffix obviously adds the locative meaning. We can observe again in these locative nominalizations the use of a possessive pronoun referring to the subject of the intransitive base verb.

(12)  a.  *in-hibua-**ye**-**po***
1SG.POS-eat-NMZR-LOC
'(The place) where I eat. (Lit. 'My eating place.')

b.  *in-voie-**ye**-**po***
1SG.POS-lie_down-NMZR-LOC
'(The place) where I lie down. (Lit. 'My lying down place.')

The use of the locative postposition *-po* with a simple noun is exemplified in (13), in Old and Modern Cahita, respectively.

(13)  a.  *baa-**po***          Old Cahita
water-LOC
'in the water'

b.  *ba'a-**po***          Modern Cahita (Yaqui/Mayo)
    water-LOC
    'in the water'

Nowadays, the suffix *-ye* is no longer used as a nominalizer (see §8 below). As for the postpositional use of causality illustrated in (9), it is still present nowadays. For instance, it is mentioned for Yaqui by Dedrick & Casad (1999: 188) when they point out that "Certain usages show that the instrumental can actually designate a causative source." These usages are exemplified in (14) in its singular form and in (15) in its plural form.

(14)   *'a-**e***        *'eó'o-ti-'ea*
       it-INST          nausea-CON-think
       'He was nauseated by means of it.'

(15)   *bwan-í-m-**mea***        *káa*       *noóka-k*
       cry-NMZR-PL-INST          not         talk-PFV
       'He could not talk for crying.'

The same thing happens in Mayo, where the instrumental suffix *-i* and its allomorph *-yi* can also introduce a complement associated with the meaning of cause or motive. Example (16) illustrates this causal usage with the plural form.

(16)  *róko-tómti-**mme**-**yi***          *múuku-k*
      mad-smallpox-PL-CAUS.POSP     die-PFV
      'He died of smallpox.' (de Wolf 1997: 225 vol. 1)

## 6. THE INSTRUMENTAL/CAUSAL/NON-SUBJECT NOMINALIZER SYNCRETISM

The different functions associated in Old Cahita with the suffix *-ye* (non-subject nominalizer, instrumental postposition, causal postposition) open the possibility of a common origin, and point to semantic relations between these usages which must be understood in order to determine the possible historical processes involved in the evolution of this marker.

### 6.1. *The connection between instrument and cause*

Instruments and causes are both goal-oriented and both are defined according to their effects. These notions are thus closely related, but they exhibit some important differences. As Luraghi (1989) pointed out, an instrument is commonly an inanimate entity used by a controlling participant (agent) to cause a particular situation to occur. Instruments are thus usually concrete (tools, weapons, body parts). In contrast, a cause is an entity or a situation that causes a particular situation to happen, and may be inanimate or animate (in this case, it has no control), concrete or abstract.

The differences then lie in the type of entity, in terms of its (in)animacy (causes can be animate; not instruments), and its concreteness/abstraction (causes can be abstract; instruments usually are not), but also in the type of situation (the situation with an instrument is controlled, so necessarily agentive; with a cause, it is usually uncontrolled).

Both notions are interestingly combined in the notion of 'instrumental cause' proposed by Bernard Wuellner (2012: 19) and defined as follows:

> An instrument or tool serving as a subordinate cause; a cause without initiative in the start of action, but applied and directed as a help to its efforts and purpose by a principal agent, and influencing the product chiefly according to the form and intention of the principal.

As shown in (17) with the use of *con* 'with' in Spanish, instrumental causes may be both activities and instruments (tools) and correspond to what the agent does to achieve the desired effect.

(17)  a.  *Me*          *ejercito*      *con*      *la*      *corredora*
           1SG.REFL      exercise        with       the       treadmill
           'I exercise with the treadmill.' (instrument)

       b.  *Me*          *ejercito*      *con*      *la*      *marcha*
           1SG.REFL      exercise        with       the       walking
           'I exercise by walking.' (cause)

In (17), the instrumental interpretation is associated with a prepositional object whose referent is a concrete inanimate entity (17a), while the action noun referring to an abstract entity implies a rather causal interpretation (17b). However, both fulfill the same instrumental causative function, which explains the possibility of having a cause/instrument syncretism represented by a same form associated with both meanings.

This cause/instrument syncretism is frequent cross-linguistically. As for the development of this syncretism, although Palancar (2001) has proposed the possibility of having both evolutionary directions (INST > CAUSE, and CAUSE > INST), other scholars such as Narrog (2010) have only proposed the INST > CAUSE path, largely because, as Heine *et al*. (1991a: 159) have noted, cause is further advanced on the chain of increasing grammaticalization, since instrument belongs to anthropocentric concrete concepts, and cause belongs to inanimate abstract concepts, and grammaticalization usually leads from concrete to abstract grammatical concepts, not the other way round (Heine *et al.*  1991b: 165).

## 6.2. The connection between non-subject nominalization and cause/instrument.

A non-subject nominalization marked by the suffix *-ye* is always used within a possessive noun phrase in which the possessor, which corresponds to the subject of the base verb, is encoded as a possessive pronoun or as a noun in genitive case, and the possessee, which is the noun phrase head, corresponds to the nominalized verb. Semantically, such nominalizations are used to refer to a possessee denoting abstract entities

(action/state) with intransitive base verbs (*my walking*, *my being happy*) or to concrete or abstract entities (with semantic roles associated to P: patient, theme, stimulus, etc.) with transitive base verbs (*what I broke*, *what I took, what I feel, the one I loved,* etc.).

Considering what has been previously mentioned about how instruments and causes are connected to the semantic parameters of concreteness/abstraction and (in)animacy, we can state that i) non-subject nominalizations out of intransitive verbs can thus refer to causes since they denote abstract entities (*my walking*, *my being happy*), while object nominalizations out of transitive verbs can refer to instruments when they denote inanimate concrete entities (*what I took*) and to causes when they denote inanimate abstract entities (*what I feel*) or animate concrete entities (*the one I loved*), and ii) non-subject nominalizations out of intransitive verbs are inanimate like instruments, while object nominalizations out of transitive verbs can be inanimate like instruments but also animate like causes.

These semantic connections are important, since they help to identify possible contexts of change. For instance, as non-subject nominalizations from intransitive verbs denote abstract entities, a non-subject nominalizer can be reanalyzed as a marker of cause when used with intransitive base verbs, since causes are abstract entities.

## 7. The diachrony of *-ye*

### 7.1. Origin of *-ye*

This paper aims to defend the hypothesis that these different uses of the morpheme *-ye* (and its present-day reflexes *-yi/-e/-i*) in Cahita come from a same origin, and that this origin is a marker of inalienable possession reconstructed in PUA as \*\*-*yɨ*, which became an inanimate inalienable possession marker \*-*ye* in Proto-Taracahitan (as proposed for Proto-Nahuatl; Dakin 1991). This new proposal is schematized in (18).[7]

(18)   Proto-Uto-Aztecan:        \*\*-*yɨ* 'pos.inal'
         Proto-Taracahitan:        \*-*ye* 'pos.inal.inam'
         Old Cahita:                    -*ye* 'n.subj.nmzr', 'inst/caus.posp'
         Modern Cahita:            -*e* (Yaqui), *i, -yi* (Mayo) 'inst/caus.posp'

[7] Following the comment in footnote 6, since the form reconstructed in Proto-Tarachitan is identical to the form attested in Old Cahita for the instrumental/causal/nominalizing functions (suffix *-ye*), it is not necessary to make a phonological reconstruction (as for the change \*\*-*yɨ* > \*-*ye* between PUA and Proto-Tarachitan, it involves the change *ɨ* > *e* that is present in all SUA languages outside of Pimic (Langacker 1977: 22). What has to be reconstructed here are the evolutionary paths and bridging contexts that make possible for the suffix *-ye* to change from the possessive to the instrumental, causal and nominalizing functions.

Dakin (1991) has reconstructed for PUA an adnominal possession marking system in which the suffix \*\*-*yɨ* was used for inalienable possession and the suffix \*\*-*wa* for alienable possession.[8] This system presented in Table 1 is exemplified in (19):

Table 1. Adnominal possession in PUA

| Alienable Possession | Inalienable Possession |
|:---:|:---:|
| \*\*-*wa* | \*\*-*yɨ* |

(19)  a.   \*\* *ni-náka-wa*
         1SG.POS-meat-POS.AL
         'my meat' (Dakin 1991: 308)

      b.   \*\**ni-káma-yɨ*
         1SG.POS-mouth-POS.INAL
         'my mouth' (Dakin 1991: 308)

This system of adnominal possession based on the alienability (AL)/inalienability (INAL) distinction (mediated and direct possession in Dakin's terms) evolved in some UA languages, incorporating the parameter of (in)animacy as a basic category. Dakin (1991: 312-313) points this

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[8] Additionally, Dakin (1991: 299) has reconstructed, at least for PSUA, a third suffix \*\*-*ra* analyzed as a kind of determiner involved in possessive and non-possessive constructions. Considering that several body-parts terms end in -*la*/-*ra* in current Tarahumaran languages and that a suffix -*la*/-*ra* is also used as an instrumental nominalizer in Guarijío and Tarahumara (Ruvalcava & Álvarez 2022), an origin as an unspecified possessor marker in inanimate inalienable possession seems to be another plausible possibility for \*\*-*ra*.

out for Proto-Nahuatl, when she mentions the uses of both suffixes in Proto-Nahuatl:

> "All **animate** nouns in Proto-Nahuatl, including kin terms, were possessed through **mediation** (suffix *-wa:)… All possessed animate nouns took the suffix *-wa:-me when plurals; this suffix became -wa:n in most dialects, also –gam in Pochutec."

> "**Inanimate** nouns in Proto-Nahuatl usually **directly** possessed included **body parts** and other part-to-whole constructions, **abstract nouns**, **instrumentals**, and perhaps most **patient participial nouns derived from verbs**. When these nouns were possessed in a direct relation, they must all have carried the *-ye suffix, although most lost it."
> (Bolds are mine)

The marking system of adnominal possession in Proto-Nahuatl thus included the morpheme *-wa: for animate possessee nouns and the morpheme *-ye for inanimate inalienable possessee nouns, showing an overlap between markers indicating the alienable/inalienable relationship between the possessee and the possessor, and markers indicating the animate/inanimate type of the possessee entity.[9]

In the case of the suffix *-wa:, the evolution from alienable to animate possession would imply an intermediate stage where it came to be used as a marker of animate alienable possession, i.e. mainly used for

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[9] The interested reader is referred to Dakin (1991) for the evidence and the arguments supporting these reconstructions of the adnominal possession marking in PUA and Proto-Nahuatl.

pets.[10] This suffix was later generalized to all animate entities, including inalienable animate nouns as kinship terms. As for the marking with inanimate alienable possessees, probably due to a higher frequency of uses, these became unmarked (my dog-*wa:* vs. my pot-Ø).

The system of adnominal possession proposed for Proto-Taracahitan is presented in Table 2.

Table 2. Adnominal possession in Proto-Taracahitan

| Animate possession | | Inanimate possession | |
|---|---|---|---|
| Alienable | Inalienable | Alienable | Inalienable |
| *-wa:* | | Ø | *-ye* |

The suffix *-ye* in Proto-Nahuatl was thus used with inanimate inalienable referents and, among the different uses included in Dakin's (1991) quotation, I have highlighted in bold letters the uses with instrumental nouns, with patient deverbal nouns, i.e. object nominalizations, and with abstract nouns, like action/state nouns. So, if the reconstruction made by Dakin (1991) for Proto-Nahuatl also applies for Proto-Taracahitan, the adnominal possession marked by *-ye* is thus a very plausible context of origin for the development of the instrumental postposition and the non-subject nominalizer in Cahita.

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[10] Several UA languages have exclusive possessive classifiers for pets, for instance this is the case in Tepiman and Taracahitan languages. For an overview of the categorizations and the evolution associated with the systems of possessive classification in UA languages, see Álvarez & Muchembled (2015).

Let us now consider the evolutionary paths and the bridging contexts, that is, the contexts of use that may have favored the reanalysis of this possession marker *-ye* in an instrumental and a causal postposition, and in a non-subject nominalizer.

## 7.2. Grammaticalization paths of -ye

In this proposal of historical reconstruction, the main points are that i) *-ye* is at the origin an adnominal possessive NP marker attached to the possessee (head of the construction) in order to indicate that this possessee is an inanimate inalienable entity, ii) speakers can easily recuperate this information from their encyclopedic knowledge, so this classification function is not essential to them, which means that they can assign another function to this marker, iii) the new grammatical functions of *-ye* are associated with the different types of inanimate inalienable possessees denoted by the possessive NP heads. The reanalysis as an instrumental postposition is triggered when the suffix *-ye* is used with nominal expressions denoting concrete inanimate inalienable entities (body-parts), the reanalysis as a causal postposition is triggered when used with nominal expressions denoting abstract inanimate inalienable entities (actions/states), the reanalysis as a non-subject nominalizer when used with zero-nominalized verbs (object nominalizations only with transitive verbs).

Originally, the suffix *\*-ye* was thus marking inanimate inalienable possessees. Two semantic types of inanimate inalienable entities are important here: actions/states and body-parts.

### 7.2.1. Grammaticalization path to non-subject nominalization.[11]

Non-subject nominalizations are adnominal possession constructions derived from verbs, in which the subject participant of the action/state denoted by the base verb is encoded as possessor (*my Verbing*). Semantically, the entity denoted by this type of nominalization is usually the action/state of the possessor encoded as an adnominal modifier. As one's actions/states are one's own and cannot be transferred, hence the relation between the possessor and the possessor's action/state can be considered as inalienable. Since an action/a state corresponds to an inanimate entity, these action/state nominalizations would then receive the marker of inalienable inanimate possession *-ye*.

As mentioned above, non-subject nominalizations from intransitive base verbs are obligatorily action/state nominalizations, while non-subject nominalizations from transitive base verbs can be action/state nominalizations (*my loving, my love*) but also P nominalizations (*the one I love, what I love*). In this latter case, only object nominalizations referring to inanimate inalienable entities would be originally marked by *-ye* (such as *my feeling, what I feel*). These non-subject nominalizations referring to inanimate inalienable abstract entities (so, marked with *-ye*) represent a very plausible context for the grammaticalization of the possessive marker to the nominalization function.

According to Álvarez (2019: 316-322), the evolution of *-ye* from possession to nominalization in Old Cahita would thus imply that it was

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[11] This evolution from possession to non-subject nominalization in Cahita has been studied in detail in Álvarez (2019). Here I summarize the main findings relevant for the purpose of this paper. The reader is referred to Álvarez (2019) for details of this evolution, as well as subsequent developments from nominalization to relativization.

firstly used as an inanimate inalienable possession marker with nominal bases (**Stage 1**) as in Proto-Nahuatl (Dakin 1991). It extended its use from nominal to verbal bases (**Stage 2**), thus implying a nominalization via conversion (zero derivation). Since *-ye* was originally an inanimate inalienable marker, only non-subject nominalizations referring to inanimate inalienable entities were marked by *-ye* at this stage. Once the suffix *-ye* is reanalyzed as a nominalizer, it loses its original semantic restrictions and can now target animate entities and alienable entities (**Stage 3**). The use of *-ye* as an object nominalizer can thus be generalized to any transitive verbs. In (20), I present this evolution as schematized in Álvarez (2019: 322):

(20)  **Evolution from the possessive function to the non-subject nominalization**

**Stage 1.** Inalienable inanimate possessive noun classifier
Nominal base:       my mouth-INAL.INAM.POS.CLAS            'my mouth'

**Stage 2.** Inalienable inanimate possessive deverbal noun classifier
NMZR=ZERO DERIVATION
Stative base verb:                  my be-INAL.INAM.POS.CLAS       'my being'
Intransitive action base verb:   my act-INAL.INAM.POS.CLAS      'my acting', 'my act'
Transitive action base verb:     my love-INAL.inam.pos.clas      'my loving', 'my love'

**Stage 3.** Action/Result/State/Object nominalization marker

| REANALYSIS | CLASSIFIER > NMZR | |
|---|---|---|
| Stative base verb: | my be-NMZR | 'my being' |
| Intransitive action base verb: | my act-NMZR | 'my acting', 'my act' |
| Transitive action base verb: | my love-NMZR | 'my loving', 'my love', 'the one/what I love' |

This reconstruction then proposes that the non-subject nominalization marker originates from a deverbal possessive NP, in which the inanimate inalienable possession marker is reanalyzed as a nominalizer. Originally, the verb is nominalized by the simple fact of being used in a nominal context (a possessive NP). The first nominalization strategy is thus a zero derivation (conversion), i.e. it is initially realized without any special marking. But, since languages tend to overtly mark this transpositional operation and the possessive classification function is not essential to speakers, this opens the possibility for the inanimate inalienable possession marker to be reanalyzed as a nominalizer.

The bridging contexts for the NMLZ function of *-ye* are thus those in which the head of the adnominal possessive phrase is originally a zero-nominalized verb denoting an inanimate inalienable abstract entity.

### 7.2.2. Grammaticalization path to postposition.

If *-ye* was originally a marker of inanimate inalienable possession, the first postpositional uses of *-ye* had to be with inalienable inanimate nominal expressions. These nominal expressions are the same as those

indicated in Stage 1 and Stage 2 from the evolution proposed in (20). In these cases, considering the semantic connections evidenced in §6.1, the use as an instrumental postposition could develop when -*ye* was used in possessive nominal expressions referring to inanimate inalienable concrete entities, and the use as a causal postposition could come from the use of -*ye* in possessive nominal expressions referring to inanimate inalienable abstract entities.

The instrumental meaning is thus associated with inanimate inalienable concrete entities, such as a body part (for instance *my hands*, since the hands can be considered our first instrument),[12] while the causal meaning is associated with inanimate inalienable abstract entities, such as action/state nominalizations (*my acting, my being, my loving, my love*). As for object nominalizations, again only object participants denoting inanimate inalienable entities would be targeted by *\*-ye* at the origin (for instance *what I felt* but not *what I took* referring to an alienable inanimate entity, and not *the one I loved* since in this case the referent is an animate entity).

In all cases in which an inanimate inalienable entity is referred to by the adnominal possessive expression, the construction would be marked by *\*-ye*. In the relevant contexts, the possible reanalysis as an instrumental/causal marker could be developed (**Stage 2**). Once the suffix -*ye* is reanalyzed as a postposition, it can then be detached from the possessive use and from the original inanimate inalienable meaning in order to be

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[12] For †Tubar, another SUA language, Lionnet (1978. 35) describes a suffix -*nyí* (/yí/) as instrumental, which is only found with two nouns (*sutu-nyí* 'with the hand', *sura-nyí* 'with the heart'). Since both examples are body-parts, Dakin (1991: 300) considers this instrumental suffix as the reflex of the possessive marker *\*-yɨ*.

combined with non-possessed, alienable, and animate nominal expressions (**Stage 3**).

(21)   **Evolution from the possessive function to postposition**

**Stage 1.** Inalienable inanimate possessive classifier

| | | |
|---|---|---|
| Nominal POS base: | my hand-INAL.INAM.POS.CLAS | 'my hand' |
| Verbal POS base: | my V-INAL.INAM.POS.CLAS | 'my Verbing' |
| STAT base verb: | my be-INAL.INAM.POS.CLAS | 'my being' |
| INTR action base verb: | my act-INAL.INAM.POS.CLAS | 'my acting', 'my act' |
| TR action base verb: | my feel-INAL.INAM.POS.CLAS | 'my feeling', 'what I feel' |

**Stage 2.** POSP.INST/POSP.CAUS in inanimate inalienable possession.

| | | |
|---|---|---|
| REANALYSIS | CLASSIFIER > POSP | |
| Nominal POS base: | my hand-POSP.INST | 'with my hand' |
| Verbal POS base: | my V-POSP.CAUS | 'because of my Verbing' |

**Stage 3.** POSP.INST/POSP.CAUS in general. Extension to animate, alienable and non-possessed nominals.

| | | |
|---|---|---|
| Nominal POS base: | my hand-POSP.INST | 'with my hand' |
| Nominal base: | knife-POSP.INST | 'with the knife' |
| Pronominal base: | me-POSP.CAUS | 'because of me' |

In this proposal, the reanalysis to the postpositional function takes place in Stage 2. This reanalysis may have been facilitated by the fact that third person subject pronouns can be left without explicit marking (zero

marking) in Cahita. The relevant contexts for such a reanalysis could thus be those in which the subject is an adnominal possessive phrase with a third person pronominal possessor, since this construction with a possessive phrase in subject function, as in (22a) and (23a), could thus easily be reanalyzed as a construction with the same possessive phrase in oblique function, if the presence of the possessor is posited as a zero third person subject, as shown in (22b) and (23b).

(22)   **Possible bridging context to instrumental postposition**

a.   *a*-hand-*ye*-Ø                                     John-*ta*      touch-*k*
3SG.POS-hand-INAL.INAM.POS-NOM          John-ACC     touch-PFV
'His/her hand touched John.'                    -*ye* as INAL.INAM.POS.CLAS

b.   Ø                  *a*-hand-*ye*                      John-*ta*      touch-*k*
3SG.SUBJ      3SG.POS-hand-INST.POSP          John-ACC     touch-PFV
'(He/she) touched John with his/her hand.'  -*ye* as INST.POSP

(23)   **Possible bridging context to causal postposition**

a.   *a*-VERB-*ye*-Ø                                   John-*ta*      hurt-*k*
3SG.POS-verb-INAL.INAM.POS-NOM          John-ACC     hurt-PFV
'His/her Verbing hurt John.'                    -*ye* as INAL.INAM.POS.CLAS

b.   Ø                  *a*-VERB-*ye*      John-*ta*          hurt-*k*
3SG.SUBJ      3SG.POS-verb-CAUS.POSP      John-ACC     hurt-PFV
'(He/she) hurt John with his/her Verbing.'  -*ye* as CAUSE.POSP

The same construction then has two possible interpretations: one with a possessive NP as subject and the other with a zero pronoun as subject. The possessive NP acting as the subject argument in (22a) and (23a) can then acquire an oblique function and the suffix *-ye* can thus move from marking the inanimate inalienable possession to marking the instrumental/causal meaning, as shown by the glosses in (22b) and (23b).

This evolution would then imply a reanalysis via the raising of the possessor to the subject function. In the source construction (22a, 23a), the subject is an adnominal possession NP in which the dependent is an internal possessor and the head, a possessee referring to a body part or an action/state. In the reanalyzed construction (22b, 23b), the participant encoded as the internal possessor is also encoded as an external possessor by an implicit (zero) third-person subject and the possessee becomes a postpositional object marked by the erstwhile possessive *-ye*, reanalyzed as a postposition.

Once the suffix *-ye* is reanalyzed as a postposition, it extends its uses to non-possessed, alienable, and animate nominal expressions (**Stage 3**). The possibility to have non-possessive nominal phrases marked by *-ye* could be facilitated by the fact that third singular possessive pronoun can also be unexpressed in Cahita, as shown in (24) from Yaqui, in which we can observe the absence of the third person possessor marking in the postpositional phrase.

(24)  *yéka-e*          *húh-hu'ubwa*
       nose-INST        RDP-smell
       '(He) smells (it) with (his) nose.' (Dedrick & Casad 1999: 206)

In this reconstruction, we see that the uses as an instrumental post-position and as a causal postposition could have developed simultane-ously from the possessive use, via two different contexts (instrumental with nominal expressions referring to inanimate inalienable concrete entities, causal with nominal expressions referring to inanimate inalien-able abstract entities).

Once reanalyzed as a postposition, the suffix *-ye* loses its original semantic restrictions associated with inanimate inalienable entities, and the distribution between the instrumental and the causal meaning is thus as mentioned above in §6.1. The causal meaning is activated with postpositional objects denoting animate entities and inanimate abstract entities, while the instrumental meaning is activated with inanimate concrete entities. Additionally, the use of *-ye* postpositional phrases in clauses with inactive intransitive verbs (unaccusative verbs) also acti-vates the causal meaning, due to the absence of control associated with the notion of cause, contrary to instrument. Indeed, as Palancar (2001: 375) has noted, "when a prototypical instrument is specified within an intransitive frame depicting some State of Affairs, the thematic read-ing rendered by the instrument is more of an active causal participant that of a manipulated entity." Examples in (25) illustrate this meaning change with English data.

(25)   a.   *John opened the door with the key.*
      b.   *The door opened with the key.*

The bridging contexts for the ɪɴsᴛ.ᴘᴏsᴘ function of -*ye* are thus those in which the head of the adnominal possessive phrase (the possessee) is originally a nominal expression denoting an inanimate inalienable concrete entity (body-part), and the bridging contexts for the ᴄᴀᴜs. ᴘᴏsᴘ function are those in which the head of the adnominal possessive phrase (the possessee) is originally a nominal expression denoting an inanimate inalienable abstract entity (i.e. action/state), that is the same context as the one that allows the grammaticalization to the ɴᴍʟᴢ function.

### 7.2.3. The overlap between action/state nominalization and causal postposition

As mentioned above, the grammaticalizations to the ɴᴍʟᴢ function and to the ᴄᴀᴜs.ᴘᴏsᴘ function overlap, since with intransitive base verbs the entity referred to by the adnominal possessive phrase is an action/state (i.e. an inanimate inalienable abstract entity), and, in the right contexts (such as context in (23b)), a reanalysis of this action/state nominalization in a causal postposition is possible. So, the reconstruction proposed here raises the problem of a possible confusion between action/state ɴᴍʟᴢ and causal postposition.

Interestingly, Buelna (1890: 101) for Old Cahita and Dedrick & Casad (1999: 187-189) for Yaqui have noted that the postposition -*ye/-e* is frequently used with nominalizations. Some examples are given in (26) and (27) for Old Cahita, and in (28) and (29) for Yaqui.

(26)  *Santa Cruz-ta*          *hunacte-ua-m-ye*
      Holy Cross-GEN      indicate-PAS-NMZR_SUBJ-POSP
      'by the sign of the Holy Cross'

(27)  *ca-in-e-ri-ye*                        *ea* 'think'
      NEG-1SG.POS-think-NMZR_RES-POSP
      'without my consent'

(28)  *'enchím*        *hóa-'u-e*
      your            do-NMZR_OBJ-POSP
      'with your doings'

(29)  *Lioh-ta*        *'utte'a-la-m-mea*
      Dios-GEN      be_strong-NMZR_ABST-PL-POSP.PL
      'by means of God's power'

In these examples, the object of the postposition is always a non-subject nominalization marked by different kinds of nominalizers. These post-positional uses with nominalizations are similar to the bridging context proposed in (23). The difference is that in (23) the non-subject nominalization is zero-marked, contrary to the non-subject nominalizations from (26) to (29).

The high frequency of the use of non-subject nominalizations with the postposition *-ye* may have caused confusion as to the function of *-ye* in Old Cahita and favored the postpositional use of *-ye* over its nominalizing use.

Additionally, once the suffix *-ye* is reanalyzed as a non-subject nominalizer, it extends its use and can now target animate entities (*the one I loved*) and inanimate concrete entities (*what I took*) when used with transitive base verbs. In contexts such as (22) and (23), these two object nominalizations could also be grammaticalized in a causal postposition (for animate object nominalizations) and in an instrumental postposition (for inanimate concrete object nominalizations).

Faced with such a situation of possible ambiguities, a new non-subject nominalizer has been created in Modern Cahita in substitution of the old non-subject nominalizer *-ye*. Interestingly, this new marker of nominalization is also connected to the postpositional domain.

## 8. Non-subject nominalizations in Modern Cahita[13]

Nowadays, Yaqui uses the suffix *–'u* for object nominalization (see also example (28)), and the suffix *–'Vpo* for locative nominalization (Álvarez 2012), as exemplified in (30a) and (30b), respectively.

(30)　a.　*(U)*　　*in*　　　*tea-ka-'u*
　　　　　DET　　1SG.POS　　find-PFV-NMZR_OBJ
　　　　　'What I found'

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13 As already mentioned in footnote 11, the study of non-subject nominalizations in Cahita has been carried out in detail in Álvarez (2019). In this section, I summarize the proposal of the postpositional origin of the non-subject nominalizers in Modern Cahita, originally defended in this paper (Álvarez 2019: 323-326). Here again, the reader is referred to Álvarez (2019) for details of this evolution, as well as the possible influence of another old nominalizer in the creation of new non-subject nominalizers in Modern Cahita (Álvarez 2019: 327-335).

b.   (*U*)      *nim*        *bo'o-pea-'apo*
DET        1SG.POS      sleep-DES-NMZR_LOC
'(The place) where I want to sleep.'

The corresponding forms in Mayo are the suffix –*'Vwi* for object nominalization and the suffix –*'Vpo* for locative nominalization (de Wolf 1997; Peña 2012), as shown in examples (31a) and (31b).

(31)  a.  *em*        *neeréwwa-ka-'awi*
2SG.POS     lend-PFV-NMZR_OBJ
'What you lent me.'

b.  *póhporo-m*   *em*         *é'ekria-'apo*
match-PL     2SG.POS      keep-NMZR_LOC
'(The place) where you keep the matches.'

The comparison of the non-subject nominalizations marking in ✝Tehueco (examples 10, 11, 12), Yaqui (examples in 30) and Mayo (examples in 31) reveals the evolution summarized in (32):

(32)  **Evolution in Cahita non-subject nominalization marking:**

|                          | Old Cahita     |     | Modern Cahita                       |
|--------------------------|----------------|-----|-------------------------------------|
| Object Nominalizer:      | *-ye*          | >   | -*'u* (Yaqui), -*'Vwi* (Mayo)       |
| Locative Nominalizer:    | *-ye + -po*    | >   | -*'Vpo* (Yaqui, Mayo)               |

The evolution in (32) shows that the nominalizer –*ye* used in Old Cahita for object and locative nominalizations has been replaced in Modern Cahita object nominalizations by the suffixes –*'u* (Yaqui) / –*'Vwi* (Mayo), and that the combination of –*ye* and –*po* in locative nominalization has been reduced to –*'Vpo* (Yaqui/Mayo). This phonetic reduction makes easy to propose that the echo vowel of the locative nominalizer in Modern Cahita is the reflex of the non-subject nominalizer from Old Cahita (suffix –*ye*), which is also found in the present-day object nominalizer in Mayo (suffix -*'Vwi*), meaning that this Mayo marker is most probably the result of a similar combination. So, the evolution in (32) is restated in Álvarez (2019: 316) as:

(33) **Evolution in Cahita non-subject nominalization marking:**

|  | **Old Cahita** |  | **Modern Cahita** |  |  |
|---|---|---|---|---|---|
| Object Nominalizer: | *-ye* | > | *\*-yeu* | > | *-'u* (Yaqui) |
|  |  | > | *\*-yewi* | > | *-'Vwi* (Mayo) |
| Locative Nominalizer: | *-ye* + *-po* |  |  | > | *-'Vpo* (Yaqui, Mayo) |

As mentioned above, the suffix -*ye* is the old nominalizer that comes from an inanimate inalienable possession marker, and the suffix -*po* is a locative postposition (see examples in (13)). As for the suffixes –*u* and -*wi* used in combination with the reflex of the old non-subject nominalizer, the source is a directional postposition, as shown in (34).

(34)   a.   *Navojoa-**u***          *ne-siika-k*        Yaqui
            Navojoa-DIR.POSP     1SG.NOM-go-PFV
            'I went to Navojoa.'


       b.   *Navojoa-**wi***         *ne-siika-k*        Mayo
            Navojoa-DIR.POSP     1SG.NOM-go-PFV
            'I went to Navojoa.'


Based on the evolution of the object nominalizers presented in (33) and on the formal similarities between the object nominalizers and the directional postpositions in Modern Cahita (see examples in (34)), in Álvarez (2019: 323-327) I have proposed that the non-subject nominalizers *–'u/-'Vwi,* in Yaqui and in Mayo respectively, are the result of the combination of the old inanimate inalienable possession marker reanalyzed as a non-subject nominalizer, the suffix *–ye,* and the corresponding directional postposition *–u/-wi*, thus copying the formation strategy found in the locative nominalizer.

To support this hypothesis, it is important to propose possible bridging contexts that may explain the shift from the notion of direction to the notion of object participant. In Álvarez (2019: 323), I have proposed that the evolution from the directional postposition to the object nominalizer could have developed through processes of inference in bridging contexts such as '*he looked towards what I was doing*' / '*he saw what I was doing*', which are compatible with both interpretations.

Another bridging context proposed in Álvarez (2019: 324) is illustrated in (35) and (36). In this case, the comparison of both constructions

shows that the participant (the forgotten entity) marked by the directional postposition in Old Cahita (35), is marked by the accusative suffix in present-day Yaqui (36b), with the corresponding change in the verb from intransitive to transitive.

(35)   Old Cahita
       *emo-u*          *ne*          *copte*
       2SG-DIR         1SG.NOM       forget.INTR
        'I am forgetting (to) you'

(36)   Yaqui
       a.   [*in*          *yaa-bae-'u*]            *ne*          *kopta-k*
            1SG.POS      do-DES-NMZR_OBJ        1SG.NOM       forget.TR-PFV
            'I forgot what I was going to do'

       b.   *tomi-ta*      *ne*          *kopta-k*
            money-ACC    1SG.NOM       forget.TR-PFV
            'I forgot the money.'

A construction with the intransitive verb *kopte* and the non-subject nominalization *in yaabae'u* as an object would be thus a plausible bridging context for the development of the nominalizing use of the suffix *–'u* from the directional, since both functions are then available. Interestingly, although the nominalized clause marked by *–'u* is the object of the construction, it does not receive the accusative marking, contrary to the nominal object in (36b). As proposed in Álvarez (2019: 324), this absence

may be a consequence of the postpositional source construction, a relic of the original structure.

A third type of bridging context in favor of the directional origin of the object nominalizer in Modern Cahita involve motion verbs (Álvarez 2019: 325), since the *–'u/-'Vwi* nominalization still conveys a directional meaning with this kind of verbs, as illustrated in (37) for Yaqui and in (38) for Mayo. Interestingly, the verbal base of these nominalizations is, in both examples, an intransitive verb, contrary to the object nominalization uses of suffixes *-'u* and *–'Vwi,* which, obviously, are always attached to transitive verbs.

(37)  Yaqui (Dedrick & Casad 1999: 383)

[*ba'á-ta       kó'om-sika-'u*]                 *née       wée-bae*
water-GEN    down-go.SG-NMZR_DIR      I          go.SG-DES[14]
'I am going to where the water goes down.'

(38)  Mayo (de Wolf 1999: 223)

ʿ*áapo        kom-siíka     [bá'a-m       'ayuka-'awi*]
3SG.NOM      down-go       water-PL      exist- NMZR_DIR
'He/she went downward, to where there is water.'

[14] Glosses are adapted from Dedrick & Casad (1999: 383).

These non-subject nominalizations denote the place to where the subject participant is going. In both constructions, the suffixes -*'u* and –*'Vwi* seem to function as directional nominalizers, cumulating both uses, as a directional postposition and as a nominalizer. However, we know from the reconstruction in (33) that the nominalizing function is in fact marked by the glottal stop and the echo vowel present respectively in -*'u* and –*'Vwi,* which are the reduced forms of the non-subject nominalizer –*ye* from Old Cahita. In Modern Cahita, the delimitation between the nominalizer and the postposition is, however, blurred and the bimorphemic sequence is reinterpreted as a whole. This is facilitated by the phonetic erosion of –*ye* and by the influence of the locative nominalizer (-*'Vpo*).

From the directional nominalization uses exemplified in (37) and (38), it is possible to change to an object nominalization in some new contexts. For instance, the use of a directional nominalization with transitive main verbs that are not motion verbs (like *see*) can cause the directional meaning to be blurred (*to see to someone > to see someone*)[15] and then the reduced form of –*ye* combined with the directional postpositional can be reanalyzed as a whole functioning as an object nominalizer (only when the verb base is transitive), a function marked in Old Cahita by the suffix -*ye*.

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[15] Spanish is a well-known case of this grammaticalization from directional (allative) to object/patient, since the human/definite object marker *a* in Spanish comes from a directional preposition. Heine & Kuteva (2004: 38) provide some other cases, such as Imonda (Seiler 1985: 165) and Lezgian (Haspelmath 1993: 89). Interestingly, in Lezgian, the grammaticalization of the directional marker, suffix –*z* as an object marker took place only with perception verbs like 'see'; that is, contexts compatible with both directional and stimulus/object interpretations. This evolution can be viewed as an instance of a well-known grammaticalization process whereby spatial expressions develop new, more abstract meanings through processes of context-induced inference (Heine *et al.* 1991a, among many others).

The evolutionary path proposed in Álvarez (2019: 325-326) for the suffixes –*'u* and –*'Vwi* is thus as follows: instead of a nominal object (**Stage 1**), the directional postposition is combined with a possessive clausal nominalization marked by –*ye* as its postpositional object (**Stage 2**). The sequence \*-*yeu* /\*–*yewi* reduced as –*'u* / –*'Vwi* is reanalyzed as a directional nominalizer (**Stage 3**). The reanalysis to the object nominalization is possible, once the directional meaning is lost by using the –*'u* / –*'Vwi* nominalization attached to a transitive base verb and in a clause headed by a non-motion transitive verb (**Stage 4**). This evolutionary scenario is schematized in (39).

(39)  **Grammaticalization path from directional postposition to object nominalization**

**Stage 1.** Directional postposition

Nominal base:      the mountain-DIR       'to the mountain'

**Stage 2.** Directional postposition with a non-subject nominalization and a motion main verb

Verbal base:    I GO     my Verbing-*ye*-DIR      'I go to where I Verbing'

**Stage 3.** Directional nominalizer with a non-subject nominalization and a motion main verb

Verbal base:    I GO     my Verbing-*'u*/-*'Vwi*    'I go to where I Verbing'
                         my Verbing-NMZR_DIR

**Stage 4:** Object nominalizer with non-motion transitive main verbs
Transitive verb base:     I LOVE  my Verbing-ʹu/-ʹVw     'I love what I Verbing'
                                              my Verbing-NMZR_OBJ

As observed in Álvarez (2019: 326), this grammaticalization from directional postposition to object nominalizer involves the usual four interrelated mechanisms (Heine & Kuteva 2004: 2, 2007): extension of contexts (from Stage 1 to Stage 4), semantic bleaching (the original possessive meaning is lost), decategorialization (from postpositions to nominalizers), and phonetic erosion (-*yeu* > -'*u*, -*yewi* > -'*Vwi*).

## 9. Conclusions

In this paper, I have analyzed data from Old and Modern Cahita that support the hypothesis according to which the creation of the instrumental/causal postposition results from a scenario whose initial stage is the reanalysis of an adnominal possessive construction, in which the role of adposition is fulfilled by the former inanimate inalienable possessive marker *-ye*.[16] Additionally, this possessive construction is also the source construction for another reanalysis in which the former possessive marker became a non-subject nominalizer. The grammaticalization of the possessive marker *-ye* in two different functions (as postposition, and

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[16] In Tarahumaran languages, Guarijio also has an instrumental postposition that is a reflex of the possessive suffix *-ye* (suffix -*e*), contrary to Tarahumara in which the instrumental postposition is the suffix -*ti/-te*. However, as already pointed out by Haugen (2008, 2017), the suffix -*e* is also used as a possessive predicative marker in both languages. The evolution from adnominal possession to possessive predication in Tarahumara and Guarijio will be the topic of a forthcoming publication.

as non-subject nominalizer) probably caused some ambiguities, which explains why the non-subject nominalizer *-ye* was replaced in Modern Cahita by another marker (*-'u* in Yaqui, *-'Vwi* in Mayo). Interestingly, this new nominalizer is also connected to the postpositional domain, since it involves a directional postposition that has been recruited for creating the new object nominalizer, copying the same strategy used for the formation of the locative nominalizer (*-ye* + POSP).

As for the directionality of the instrument/cause syncretism, this paper has shown that in Cahita the instrumental and the causal functions are not derived one from the other but both develop from the possessive marker depending on the type of possessee involved in the adnominal possession construction marked by the possessive classifier *-ye*. With inanimate concrete possessees, the grammaticalization went to the instrumental postposition, with inanimate abstract possessees, the grammaticalization went to the causal postposition.

This diachronic hypothesis is different from those proposed by Dedrick & Casad (1999) and Haugen (2008), but I believe that this new proposal is well-supported both by data from Old Cahita and by the bridging contexts that have been proposed for explaining the grammaticalization paths to the postpositional uses.

Finally, the different meanings and functions involved in the grammaticalization of the suffix *-ye* (instrument, cause, action, state, location, direction, object participants such as patient, theme, stimulus) all share the fact that they are all prototypically associated with inanimate entities, which is congruent with the origin of *-ye* as an inanimate inalienable possessive marker.

## ABBREVIATIONS

| | | | |
|---|---|---|---|
| 1: | first person | NEG: | negation |
| 2: | second person | NMLZ: | nominalization |
| 3: | third person | NMZR: | nominalizer |
| ABST: | abstract | NOM: | nominative |
| ACC: | accusative | NP: | noun phrase |
| AL: | alienable | OBJ: | object |
| CAUS: | causal | OBL: | oblique |
| CLAS: | classifier | P: | patient-like argument of canonical transitive verbs |
| CMP: | completive | | |
| CON: | connective | | |
| DEM: | demonstrative | PAS: | passive |
| DES: | desiderative | PFV: | perfective |
| DET: | determiner | PL: | plural |
| DIR: | directional | POS: | possessive, |
| FUT: | future | POSP: | postposition |
| GEN: | genitive | PUA: | Proto-Uto-Aztecan |
| INAL: | inalienable | RDP: | reduplication |
| INAM: | inanimate | RES: | resultative |
| INST: | instrumental | SG: | singular |
| INTR: | intransitive | SUBJ: | subject |
| LOC: | locative | TR: | transitive |
| N.SUBJ: | non-subject | V: | verb |

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