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The rise of the nominalizations

The case of the grammaticalization of clause types in Ecuadorian Siona

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The nominalization of verbs in Ecuadorian Siona is carried out by nominal classifiers. The major types of nominalization in the language are event nominalization and subject nominalization. Object nominalization needs additional morphology. When verbs are not nominalized they carry portmanteau morphology that marks the categories of subject, clause type (assertive, reportative, interrogative, and dependent clauses) and tense. A peculiarity of the system is that the reportative, interrogative and dependent clause subject paradigms show a remarkable resemblance with nominal classifiers in the language. This paper proposes that the reportative forms grammaticalized from a reported speech construction through clause union, the interrogative forms grammaticalized from a (pseudo-)cleft construction through insubordination and the dependent clause forms developed from nominalizations that were used adverbially.

1. Introduction

One of the striking features of Ecuadorian Siona is that it shows massive homophony in its verbal morphology. Identical subject agreement suffixes are used in different functions in this Western Tukanoan language. This can be observed in Example (1):

- (1) a. *Kahka-hi*. (Assertive)
enter-3S.M.PRS.ASS
'He is entering.'
- b. *Kahka-ki?* (Interrogative)
enter-2/3S.M.PRS.N.ASS
'Are you (M)/ is he entering?'

- c. *Kahka-ki-jā.* (Reportative)
 enter-2/3S.M.PRS.N.ASS-REP
 ‘You (M) are/ he is entering, they say.’
- d. *Kahka-ki-na jāā-wi.* (Dependent)
 enter-S.M.PRS.DEP-DS see-N3S.PST.ASS
 ‘While he was entering, I saw (him).’
- e. *Kahka-ki-bi jāā-bi.* (Nominalization)
 enter-CLS:ANIM.M-SBJ see-3S.M.PST.ASS
 ‘The one who was entering saw (it).’

All clause types illustrated above employ a suffix *-ki* to mark similar functions (1b)–(1e), except for the assertive, which employs the suffix *-hi* in (1a). The homophonous *-ki* suffixes that are used in interrogative clauses such as in (1b), in reportative clauses such as in (1c), and in dependent clauses such as in (1d) all express some type of subject agreement. The nominal classifier *-ki* functions as an subject nominalizer in (1e).

Synchronically, the suffixes with the form *-ki* need to be analyzed as separate suffixes although they are formally similar. These suffixes have a distinct morphosyntactic behavior: non-assertive *-ki* marks second and third person singular subjects, dependent verb *-ki* marks all singular masculine subjects, and nominalizer *-ki* marks masculine agents and nominalizes the verb. One can recognize the function of *-ki* in a certain context by virtue of the position in the sentence, the intonation, and additional morphology, such as the reportative suffix *-jā [na]* (1c), the different subject suffix *-na* (1d), the case suffix *-bi* (1e), or the lack of additional morphology in the interrogative (1b), among other indicators. However, the similarities in form and function are not likely to be coincidental; diachronically, the suffixes derive from one source. Nominalizations seem to have a central role in the development of the different clause type marking constructions.

One comment needs to be made with respect to the separation of functions: while the different subject agreement categories with verbs illustrated in examples (1b)–(1e) correspond to similar but separate suffixes, I treat the classification and nominalization uses as two functions of the same suffix, the classifying function obtaining when attached to nominals, and the nominalizing function when attached to verbs.

In this paper, I will discuss the grammaticalization paths by which these similar but distinct constructions probably developed. In order to discuss these pathways, I will first introduce the nominalization strategies in Ecuadorian Siona in Section 2. In Section 3, I will present the different subject agreement paradigms that are used to mark different clause types in the language. I will discuss the source of the subject agreement suffixes in Section 4 and I will reconstruct the

pathways of development of the reportative, interrogative, and dependent verbs in Section 5. Section 6 is a summary of the proposed reconstruction.

2. Nominalization in Ecuadorian Siona

Nominalization is a productive process in Ecuadorian Siona. The suffixes that are used to nominalize the verb are nominal classifiers. The relation between nominalization and nominal classification will be discussed in Subsection 2.1. It is possible to create different types of deverbal nouns. These will be discussed in Subsection 2.3. The uses of these nominalizations will be discussed in Subsection 2.3.

2.1 The role of nominal classifiers

One may have observed in the glosses of the examples above that most suffixes that can be used to nominalize verbs are nominal classifiers. The creation of deverbal nouns is only one function of the nominal classifiers. This suffix type is employed in Ecuadorian Siona to individuate an item, to mark that a nominal is of a specific class, or to express agreement within a noun phrase. Nominal classifiers are used with some nouns, demonstratives, numerals and adjectives (see Shibatani this volume). Examples of the use of classifiers with nouns are provided in (14) and (15):

(2) *baa-ko*
 spouse-CLS:ANIM.F
 ‘wife’

(3) *bi’ka’-ki*
 parent-CLS:ANIM.M
 ‘father’

The feminine classifier *-ko* in (2) and the masculine classifier *-ki* in (3) are applied here to indicate the gender of the referents. Most of the suffixes that operate as nominalizers with verbs are found with other word classes with distinct classifying functions, as illustrated above for the feminine and masculine classifiers.

The nominalizer *-se’e* does not seem to have a generalized use as nominal classifier. It is not found with a similar function in the nominal domain. Therefore, it is analyzed here as a plain nominalizer.

2.2 Types of nominalizations

One type of nominalization in Ecuadorian Siona is subject nominalization. I use the term subject nominalization instead of agentive nominalization, because the deverbal noun refers to the subject of the event. This subject is not always an agent. This type of nominalization is regularly used to refer back to the actors within stories. Examples (4)–(5) illustrate this use:

- (4) *Jū-‘i-ki-bi* *kaa-i-jā...*
 sit-IMPFC-CLS:ANIM.M-SBJ say-2/3S.M.PST.N.ASS-REP
 ‘The one who was sitting said...’
- (5) [*Ji’-de* [*o-i-ko-bi*]_{NP} *ihko nee-goja-o-na* *ji’i*
 [1S-OBJ take.pity-IMPFC-CLS,ANIM.F-SBJ] here do-heal-S.F.PRS-DS 1S
ba-‘i-ji.
 live-IMPFC-N3S.PRS.ASS
 ‘The one who took pity upon me healed me here and that is why I am alive.’

The suffix *-ki* nominalizes the verb *jū’i-* ‘to sit’ in (4) and the suffix *-ko* nominalizes the verb *oi-* ‘to take pity on’ in (5). Both nominalizations now refer to the referent that would be a subject in the non-nominalized variant of these verbs: ‘the one who sits’ and ‘the one who takes pity on.’ The difference between the suffixes *-ki* and *-ko* lies in the gender of the referent; *-ki* refers to a masculine referent and *-ko* mostly to a feminine referent, but in some cases to an inanimate one. If a nominalized verb is used to refer to a group of people, the nominalizing suffix *-k^wa’i* is used as illustrated in Example (6):

- (6) [*Jure ah-k^wa’i-kato*]_{NP} *goa gohcho-ji.*
 now COP-CLS:ANIM.PL-TOP just lie-N3S.PRS.ASS
 ‘The ones from the modern times just lie.’

The suffix *-k^wa’i* is a contraction of the feminine suffix *-ko* and the pluralizing suffix *-wa’i*. When *-ki*, *-ko*, and *-k^wa’i* are used without any other nominalizing morphology these suffixes create subject nominalizations.

However, these suffixes are not used only in subject nominalizations. They can also be employed in combination with other suffixes in order to refer to object nominalizations, as in (7), and place nominalizations, as in (8):

- (7) [*Ji’i wa-i-sih-k^wa’i-de*]_{NP} *hěã-goa-je* *bãã-hĩĩ.*
 1S kill-IMPFC-CMPL-CLS:ANIM.PL-OBJ throw.away-just-CLS:GEN NEG.AUX-IMP
 ‘Don’t just throw away the ones (animals) that I have killed.’

classifier, in this case, the generic classifier *-je*. An example of this type of nominalization is presented below:

- (12) *De'o-hi* [*ĩne* *mihto-je.*]_{NP}
 be.good-3S.M.PRS.ASS palm.peach peel-CLS.GEN
 'Peeling peach palm fruits is nice.'

The deverbal noun *mihtoje* is used to refer to the event of peeling palm peaches. It refers to an event that is unbounded with respect to time and place.

2.3 Functions of nominalizations

The types of nominalizations that were presented in the previous subsection can be used in various functions. One function is forming a nominal element that fills an argument slot in the matrix clause, as shown in Examples (4), (5), and (7). The nominalizations *jū'ikibi* 'the one who is sitting' in (4), *oikobi* 'the one who takes pity' in (5), and *ĩne mihtoje* 'peeling peach palm fruits in (12) fill the subject slot in the matrix clauses. The nominalization *waisihk^wa'ire* in (7) fills the object slot of the matrix clause. These nominalizations occur without any additional noun or nominal element. These nominalizations and especially nominalizations in sentence initial position, are often employed for tail-head linking. This usage helps to disambiguate the subject of the following verb. This is illustrated in the example below:

- (13) a. *Jāā-ko* *de'o-ko* *bohāi-dajā-ki'-o*
 see-S.F.PRS be.good-S.F.PRS white-hair-have-S.F.PRS
bah-ko-jā *ĩō.*
 be-2/3S.F.N.PST.N.ASS-REP she
 'She was watching and was beautiful and had blond hair.'
- b. *Ba-'i-ko-bi* *hāō behto-hubi* *hāō kaa-to*
 be-IMPV-CLS.ANIM.F-SBJ this coconut-bunch she say-CLS.PLACE
hūi-a-o, *ohko-a-ĩ* *kaa-o-jā.*
 green-COP-3S.F.ASS water-COP-OTH.ASS say-2/3S.F.PST.N.ASS-REP
 'The one who was (in possession of blond hair) said: "This bunch is still green, it is just water".'

In (13a), the tail of the sentence is expressed by the verb *bahkojā* 'she was.' Sentence (13b) begins with a nominalization of the same verb: *ba'ikobi* 'the one who was.' The speaker only repeats the final verb and not the entire verb phrase *bohaidajāki'o bahkojā* 'she was in the possession of blond hair.' This use of a nominalization is one of the reference tracking devices between sentences that are used in the language.

Nominalizations can also be used to modify a noun. An example of this relativizing function of nominalizations is presented in (8). The nominalization *ĩmitoajowi gahehā'kore* 'where the plane would land' modifies the noun *ma'a* 'path' in (8).

The third function of nominalizations is their use in periphrastic constructions. The expression of some functions in Ecuadorian Siona such as negation (14), some modal meanings (15), and future (16) is accomplished using periphrastic constructions that involve nominalizations:

Negation:

- (14) *We'e-je* *bāā-hĩĩ.*
 carry-CLS:GEN NEG.AUX-IMP
 'Don't carry (it)!'

Abilitative modality:

- (15) *K^wi-ma'-ki* *ba-ha'i* *ji' jĩhk^w-i.*
 swim-NEG-CLS:ANIM.M be-3S.M.PST.ASS 1s grandparent-CLS:ANIM.M
 'My granddad couldn't swim.' (Lit. My granddad was a non-swimmer)

Future tense:

- (16) *Jĩĩ saa-ni* *trabaha-hā'-ki-a-ĩ.*
 1s go-SS.PST work-PRP-CLS:ANIM.M-COP-N3S.PRS.ASS
 'I am going to go to work.' (Lit. After I go, I am a prospective worker)

The periphrastic negation in which the negative auxiliary *bāā-* is used always contains an event nominalization that is marked by the suffix *-je*, as illustrated in Example (14). Most modal meanings are expressed periphrastically as well. Ability (or inability) is expressed by the combination of a subject nominalization, using the suffixes *-ki*, *-ko*, or *-k^wa'i* to nominalize the verb in combination with the existential verb *ba'i-*, as shown in Example (15), or the copula *a-*. The periphrastic construction that expresses future shown in (16) is similar to the expression of ability: it contains a subject nominalization and the copula *-a*. Additionally, it makes use of the purposive suffix *-hā'*. In summary, a nominalization can be used by itself to fill an argument slot, to modify a noun, and in periphrastic constructions that express negation or various TAM meanings.

3. Subject agreement morphology

When verbs are not nominalized, they generally carry some type of subject agreement morphology. Ecuadorian Siona possesses various different subject agreement

paradigms, because the marking is different for the distinct clause types and for the distinct tenses. I will discuss the paradigms for the different clause types in 3.1 and for (past) tense in 3.2.

3.1 Clause type paradigms

Ecuadorian Siona distinguishes four clause types in its verbal morphology. The term ‘clause type’ is used here to refer to the grammatically marked function of a sentence, following Portner (2009: 262-263). Other scholars have also referred to this category, as ‘sentence type’ (Sadock & Zwicky 1985; König & Siemund 2007). The three common cross-linguistic categories are the declarative, which makes statements, the interrogative, which expresses questions, and the imperative, which is used for orders or requests (Sadock & Zwicky 1985; König & Siemund 2007; Portner 2009). Ecuadorian Siona shows a similar pattern albeit with slight differences. The language formally distinguishes assertions from reports, categories that are cross-linguistically often considered to be part of the declarative (Aikhenvald 2004).

With respect to subject agreement marking, there are three major formal categories with respect to clause types in Ecuadorian Siona: assertions, non-assertions and dependent clauses. These three clause types all have different subject agreement paradigms. The category of non-assertions requires further explanation. It consists of interrogative clauses and reportative clauses. The conflation of questions and reports as one category may be surprising, since assertions and reports are often considered to pertain, at least semantically, to the realm of declarative clauses, as mentioned above. There is some semantic evidence that reports are similar to questions in Ecuadorian Siona. To be specific, both questions and reports do not assert the information in the proposition. The speaker enquires about the information in the proposition in questions. In Ecuadorian Siona reports, the speaker does not assert the information either:

- (17) *Ligia duhta-ko-jã, kaa-de-na, duhta-je*
 Ligia take.out-2/3s.M.PRS.N.ASS-REP say-PL.PST.DEP-DS take.out-CLS.GEN
bãã-ko.
 NEG.AUX-3s.F.PRS.ASS
 ‘Ligia is taking (it) out, they say, (but although) they said (that), she isn’t taking (it) out.’

In the first part of the sentence in (17), the speaker is just presenting the information that Ligia is taking something out, but he/she is not vouching for its truth.

That is why the speaker can deny it is true in the following sentence without it being a contradiction.¹

The non-assertive character of both questions and reports may suggest that these should be grouped together not only on the basis of their subject agreement morphology, but also on the basis of their semantics. For a more detailed semantic analysis of the Ecuadorian Siona clause-typing system, see Bruil (2014, 2015). The focus of this paper is on the similarities in form of the non-assertive clause types. A historical explanation for the assertive versus non-assertive division will be discussed in Section 4. I will discuss the way in which assertive paradigms are structured in Subsection 3.1.1. The organization of the non-assertive is described in Subsection 3.1.2 and that of dependent verbs in Subsection 3.1.3.

3.1.1 *Assertive clauses*

Assertive clauses are used when speakers have good reason to believe that the information that they are presenting is true; the speaker asserts that the information in the proposition is true. One can identify this clause type by its distinctive subject agreement morphology. All assertive clauses are marked for person, number and gender. The paradigm consists of three subject agreement suffixes. The mapping of person, number, and gender categories onto these suffixes is illustrated in the example below:

- (18) a. *Kaa-ko*.
say-3S.F.PRS.ASS
'She says.'
- b. *Kaa-hi*.
say-3S.M.PRS.ASS
'He says.'
- c. *Kaa-ji*.
say-N3S.PRS.ASS
'I / you / we/ you all / they say.'

The subject agreement markers *-ko* and *-hi* mark very specific categories: third person singular feminine and third person singular masculine, respectively. The third form *-ji* is essentially a default category that expresses every person, number, gender combination that is not third person singular.

1. For more detailed explanations of this test, also referred to as the known truth/falsity test, see (Bruil 2014; Faller 2002; Matthewson et al. 2007; Peterson 2010; Waldie et al. 2009).

3.1.2 *Non-assertive clauses*

Non-assertive clauses (i.e. interrogative and reportative clauses) have a distinct subject agreement paradigm. It consists of three suffixes just as the assertive paradigm does, but the forms are different, except for one, and the categories of person, number, and gender are differently distributed over the three forms. The paradigm is presented for interrogative clauses in (19):

- (19) a. *Kaa-ko?*
 say-2/3S.F.PRS.N.ASS
 ‘Do you (F)/Does she say (so)?’
 b. *Kaa-ki?*
 say-2/3S.M.PRS.N.ASS
 ‘Do you (M)/Does he say (so)?’
 c. *Kaa-je?*
 say-N2/3S.PRS.N.ASS
 ‘Do I / we / you (all) / they say (so)?’

Just as in the case of the assertive paradigm, the non-assertive paradigm has two suffixes with highly specific reference, namely *-ko* for second or third person singular feminine and *-ki* for second or third person masculine, and one suffix that comprises more person, gender, and number combinations, *-je*, for all non-second or third person singular categories.

Reportative clauses have exactly the same subject agreement paradigm. Example (20) shows the reportative forms of the verb:

- (20) a. *Kaa-ko-jã.*
 say-2/3S.F.PRS.N.ASS-REP
 ‘You (F) say / she says.’ (It is said.)
 b. *Kaa-ki-jã.*
 say-2/3S.M.PRS.N.ASS-REP
 ‘You (M) say / he says.’ (It is said.)
 c. *Kaa-je-jã.*
 say-N2/3S.PRS.N.ASS-REP
 ‘I / we / you (all) / they say.’ (It is said.)

If one compares Example (19) with (20), one can observe that questions and reports have identical subject agreement paradigms. There are two ways to distinguish questions from reports in Ecuadorian Siona. The two clause types differ with respect to the presence of the suffix *-jã*, which is only used in reportative clauses. Additionally, the intonation of the two clause types is different: questions have rising intonation at the end of a sentence and reports a falling intonation.

3.1.3 *Dependent clauses*

Dependent verbs are used in clause-chaining. It is very common to have many dependent verbs in one sentence, especially in narratives. Sentences in this genre will generally have various dependent verbs and only the final verb is an independent verb (either assertive or non-assertive). An example of this is provided below:

- (21) *Waa-ni daa-i-na ī dīhō soe-ni te'te-ni*
 kill-SS.PST bring-S.M.PST.DEP-DS his wife pluck-SS.PST cut.into.pieces-SS.PST
k'w'a'ko-ni mama-hi-de āō-o-jā.
 cook-SS.PST child-CLS:COL-OBJ feed-2/3S.F.PST.N.ASS-REP
 'After he had killed (the game), he brought (it) and his wife plucked (it), cut
 (it) to pieces and cooked (it) and gave (it) to the children to eat.'

Five out of the six verbs in Example (21) are dependent verbs. Dependent verbs are marked for switch reference. This marking is determined by the subject of the following verb and not the main verb. For instance, the verb *waani* '(he) killed' is marked for 'same subject.' This means that its subject is the same as that of the following verb *daaina* 'he brought.' The subject of *waani* is, however, different to that of the independent verb *āōjā* 'she fed.' The subject of *daaina* 'he brought' is different from that of *soeni* '(she) plucked,' and hence a different-subject marker *-na* is used.

Dependent verbs are not semantically subordinate to the main verb. Clause-chains describe a series of actions that occur simultaneously or sequentially. There is generally no indication that the action expressed by the independent verb is more salient than the other action. Generally the independent verb is the chronologically final action that occurs in the sequence and therefore, it fills the final slot in the sentence. Dependent verbs are, however, syntactically dependent. These verbs require an independent verb for their anchoring in real time and for assigning a clause type to a sentence. Explicitly, we know that all actions expressed by the verbs in (20) occurred in the past and that the speaker found out through hearsay, since the independent verb *āōjā* is marked for past tense and as a report.

Similarly to the assertive and non-assertive verbs, dependent clauses have their own subject agreement paradigm. Same-subject and different-subject verb forms are the same, except for the different subject suffix *-na*, which is not present in same subject clauses. The suffixes are provided in the example below. One should note that only the different subject combinations are possible in the translations.

- (22) a. *Kaa-ko-na sa-i-jī.*
 say-S.F.PRS.DEP-DS go-IMPF-N3S.PRS.ASS
 'While I (F)/you (F)/she spoke, I/you (S)/we/you (PL)/they left.'
 b. *Kaa-ki-na sa-i-jī.*
 say-S.M.PRS.DEP-DS go-IMPF-N3S.PRS.ASS
 'While I (M)/you (M)/he spoke, I/you (S)/we/you (PL)/they left.'

- c. *Kaa-hi-na sa-i-ji.*
 say-PL.PRS,DEP-DS go-IMPF-N3S.PRS.ASS
 ‘While we/ you (PL)/they spoke, I/ you (s)/we/you (PL)/they left.’

The dependent verb paradigm consists of three suffixes just as in the cases of the assertive and the non-assertive subject agreement morphology. The suffixes *-ko* and *-ki* are identical in form to the non-assertive suffixes, yet they mark a different subject agreement category. The dependent suffixes do not mark person, only number and gender: *-ko* marks singular feminine subjects, *-ki* marks singular masculine subjects, and *-hi* marks plural subjects.

3.2 Tense and subject agreement morphology

Ecuadorian Siona marks tense on the verb by changing the subject agreement paradigms. The paradigms that were shown in the previous subsections are the present tense paradigm. Past tense verbs show different, yet related subject agreement suffixes for the three clause type categories presented in the previous subsection. The agreement categories do not change within a clause type, the only change is in the form of the suffixes. This is illustrated for the non-assertive verbs in Table 1 below:

Table 1. Non-assertive subject agreement in present & past tense

Tense	Person / number / gender	Subject agreement
PRESENT	2/3s.F	-ko
	2/3s.M	-ki
	N2/3s	-je
PAST	2/3s.F	-o
	2/3s.M	-i
	N2/3s	-de

It can be observed that the past tense suffixes are different from the present tense. However, there are striking similarities as well. The second or third person singular feminine suffixes both contain the vowel *-o*, the second or third person singular masculine suffixes the vowel *-i*, and the non-second or third person singular the vowel *-e*. One can conclude from this that the vowel remains stable, while the differences apply to the onset of the suffix. In the second or third person singular suffixes, there is a difference with regard to the presence of an onset, and with the non-second or third person singular, the consonants are distinct.

Tense is also indicated in dependent verbs, albeit relative tense. Tense marking in dependent clauses does not anchor the described event to speech time, but

it anchors it to the time line of the episode described in the main clause. This is illustrated in the example below:

- (23) a. *Jīi jāā-ko-na sa-ha'i.*²
 1S see-S.F.PRS.DEP-DS see-3S.M.PST.ASS
 'While I saw (him), he left.'
- b. *Jīi jāā-o-na sa-ha'i.*
 1S see-S.F.PST.DEP-DS see-3S.M.PST.ASS
 'After I saw (him), he left.'

The action of the first person seeing, as expressed by *jāākona* in (23a), is present tense with respect to the moment in time of the third person going, as expressed by *saha'i*. This relative present tense semantics yields an interpretation of simultaneity of both actions. The action of the first person seeing in (23b), as expressed by *jāāona*, occurred in the past from the perspective of the third person going. This relative tense semantics generates a sequential interpretation.

There are more distinctions in the expression of switch reference in the past tense than in the present tense. In present tense, both same-subject and different-subject verb forms carry a subject agreement morpheme, as discussed in the previous subsection. In past tense, only the different-subject forms contain a subject agreement suffix. The verb in dependent clauses with the same-subject in the past tense is marked by the suffix *-ni*, as illustrated in the example below:

- (24) *Hāi bō'si jōhk^wa nee-ni daa-ni sede-ni k^wa'ko-ni*
 that young.man chambira make-SS.PST bring-SS.PST strip-SS.PST cook-SS.PST
k^wēna-ni ī [jōhk^wa oja-kī]_{NP} ba-ā'-ki-jā.
 dry-SS.PST he chambira roll-S.M.PRS.DEP be-REM.PST-2/3S.M.PST-REP
 'The young man made chambira (palm fiber (twine)), he brought (it),
 stripped (it), cooked (it) and twisted the chambira.'

The episode in (24) describes a sequence of actions all carried out by the same subject, namely by *hāi bō'si* 'that young man.' Therefore, almost all the verbs are marked with the past tense same subject suffix *-ni*.

Table 2 presents the suffixes that are used to mark past and present dependent verbs both in same-subject and different-subject contexts:

2. The verb *saha'i* belongs to a different verb class than the ones that are presented in this paper. This verb class shows different but related subject agreement suffixes than the verb class that is used here to illustrate the historical development of clause types. The verb class of *saha'i* does, however, follow the same principal of development. For lack of space the discussion on verb classes has been left out of this paper.

Table 2. Dependent verb subject agreement in present & past tense

Tense	Gender & number	Same Subject	Different Subject
PRESENT	S.F	-ko	-ko-na
	S.M	-ki	-ki-na
	PL	-hi	-hi-na
PAST	S.F	-ni	-o-na
	S.M		-i-na
	PL		-de-na

The subject agreement suffixes that are used in dependent clauses show roughly the same pattern with respect to present and past tense. The singular feminine and singular masculine forms have the same vowel and there is only a difference in the onset. For the plural, there is both a mismatch in the consonant and in the vowel; the suffixes *-hi* and *-de* do not demonstrate similarities in either consonant or vowel. This mismatch can be explained historically; the suffixes have developed from distinct nominalizing suffixes.

In summary, we have observed that the subject agreement suffixes are actually portmanteau suffixes that also mark clause-type and tense. The subject agreement is marked by different suffixes. Distinct clause types are marked by distinct sets of suffixes and the distinct distribution of subject agreement categories. Tense is, broadly speaking, marked by a change in the onset of the suffixes. This change can be reconstructed as a morphophonological effect on the consonant for Proto-Western Tukanoan: some paradigms had fortis and others lenis consonants. This reconstructed morphophonological effect is more apparent in other Western Tukanoan languages, such as Colombian Siona (Wheeler 1987: 155–156) and Máihiki (Velie & Velie 1981: 123–125; Michael 2012a).

4. The source of the subject agreement suffixes

It was already alluded to in the introduction that several subject agreement forms in the non-assertive and dependent verb paradigms show a striking similarity in form to the nominal classifiers that are used to nominalize verbs. Forms identical to the feminine classifier *-ko* and the masculine classifier *-ki* are found throughout all the non-assertive and dependent verb paradigms with the same gender distribution. The suffix that is used when the subject is not second or third person singular in the non-assertive paradigm, *-je*, which is used in the present tense, is identical to the general nominal classifier that is used to create event nominaliza-

tions. Additionally, the plural subject suffix for present tense dependent verbs, *-hi*, is found as a classifier as well, namely, *-hi* is a collective classifier.

Two suffixes from the non-assertive and dependent verb paradigms do not have a classifier counterpart in Ecuadorian Siona. These suffixes are *-de[-re]*, which is used for non-second or third person singular past in non-assertive clauses and for plural past in dependent clauses, and *-ni*, which is used for dependent verbs with the same subject as the adjacent next verb. Nevertheless, there are related suffixes within the language family with nominalizing functions. Ecuadorian Siona belongs to the western branch of the Tukanoan family. The Tukanoan family consists of two branches: the western and the eastern branch. Languages in the eastern branch possess nominalizing suffixes with identical or similar forms to *-re* and *-ni*.

The suffix *-re* is found throughout the Eastern Tukanoan languages as some type of nominalizing suffix or nominal classifier. There is a suffix *-re* that is labelled as an infinitive marker in Barasana (Gomez-Imbert 1997: 235). Both Tuyuka (Malone & Barnes 2000: 445) and Yurutí (Kinch & Kinch 2000: 476) are described as having a nominalizer *-re*. Kotiria has a generic nominal classifier *-re* that is also found in specific nominalizations (Stenzel 2013: 335).

The suffix *-ni* does not exist in this exact form in the sets of nominal classifiers or nominalizers in Eastern Tukanoan languages. There is, however, an oral counterpart *-ri* that is found throughout the eastern branch. One indication that *-ri* is the oral counterpart of *-ni* is found in the Western Tukanoan language Sekoya. This language is closely related to Ecuadorian Siona and it has a very similar system of subject agreement forms. One of the few differences is that the suffix *-ni* is only used in nasal contexts. When an oral verb is marked for same subject in past tense, the form *-ri* is used (Vallejos 2015). Therefore, it is likely that the Ecuadorian Siona suffix *-ni* is a cognate of the nominalizing suffix *-ri* that is found in many Eastern Tukanoan languages such as Barasana (Gomez-Imbert 2004: 62; Jones & Jones 1991: 29–30), Desano (Miller 1999; Silva 2012), Kotiria (Stenzel 2013), Kubeo (Chacón 2012), and Tatuyo (Gomez-Imbert 2011).

Since all non-assertive and dependent subject agreement suffixes have a formally identical or similar counterpart that functions as a nominal classifier or a nominalizer, it is conceivable that the subject agreement function of these suffixes derived from a nominalizing function. These suffixes used to be nominalizers that ended up developing into subject agreement suffixes in reports, questions and dependent clauses. I am not the first to observe that the subject agreement suffixes in non-assertive and dependent verbs are related to the nominalizing suffixes in Western Tukanoan languages (Idiatov & van der Auwera 2004, 2008; Michael 2012b; Schwarz 2012). Idiatov and van der Auwera (2004, 2008) propose that nominalizations in Tukanoan languages were first introduced in the evidential paradigms, which then obtained a mirative reading. The erstwhile nominalizers

then developed interrogative semantics in this proposal. I propose a different explanation for the emergence of nominalizers in the subject agreement paradigms in Ecuadorian Siona in Section 5.

5. Reconstructing the non-assertive and dependent constructions

Consequently, the next question that arises is: how did these nominalizers develop into subject agreement suffixes? In order to provide a feasible account of how this happened, one needs to provide a source construction and a grammaticalization pathway. In this section, I will provide separate but related accounts for the reportative in Subsection 5.1, the interrogative in Subsection 5.2, and the dependent verbs in Subsection 5.3.

5.1 The origin of the reportative

Reported speech constructions are a cross-linguistically common origin for reportative evidentials (Aikhenvald 2004: 271–273). The Ecuadorian Siona reportative seems to have originated as a reported speech construction as well. Because of the presence of the non-assertive subject agreement suffixes that are likely to cognates of nominalizing suffixes, the reportative is reminiscent of an indirect speech construction. In this analysis, this construction comprised a verb that introduced an indirect speech complement. I will refer to this verb as the *SPEECH VERB*. The reportative suffix *-jã* may be a trace of this verb. The nominalizations, in this reconstruction, functioned as the complement clauses that expressed the indirect report. The reconstruction of this indirect speech construction is provided in (24):

- (25) *
- | | |
|-----------------------------|--------------------|
| [[VERB ROOT-NOMINALIZER] | [SPEECH-AGREEMENT] |
| [[je'je-kĩ] | jã-ji.] |
| [[study-NMZR.M] | SPEECH-N3S.PRS] |
| 'They say that he studies.' | |

The reconstructed template, as illustrated in (25), consists of two clauses: the main clause and the complement clause. It can also be observed that the reconstructed verb **jã* is an independent verb that is fully inflected.

The next phase in the proposed development of the reportative is clause union. Clause union can be described as a process in which two clauses become one complex verb phrase, following Givón (2009: 61–63). When the Ecuadorian Siona reported speech construction underwent clause union, the speech verb **jã* lost its independent properties and became part of a complex predicate. This

process probably consisted of at least three stages. First the verb must have lost its original subject agreement morphology. The speech verb *jā* may have been used as a particle. Then *jā* lost its independence and was reanalyzed as a reportative suffix. Finally, the nominalizer was reanalyzed as subject agreement morphology. The process of clause union is illustrated in (26):

- (26) a. *
- | | |
|-----------------------------|-------------------|
| [[VERB ROOT-NOMINALIZER] | SPEECH-AGREEMENT] |
| [[je'je-ki] | jā-jä.] |
| [[study-NMZR.M] | SPEECH-N3S.PRS] |
| 'They say that he studies.' | |
| ↓ | |
- b. *
- | | |
|--------------------------|---------|
| [[VERB ROOT-NOMINALIZER] | SPEECH] |
| [[je'je-ki] | jä.] |
| [[study-NMZR.M] | SPEECH] |
| 'He studies, they say.' | |
| ↓ | |
- c. *
- | | |
|-------------------------------|--|
| [[VERB ROOT-NOMINALIZER]-REP] | |
| [[je'je-ki]-jä.] | |
| [[study-NMZR.M]-REP] | |
| 'He studies.' (They say.) | |
| ↓ | |
- d. [[VERB ROOT-AGREEMENT]-REP]
- | | |
|---------------------------|--|
| [[je'je-ki]-jä.] | |
| [[study-M]-REP] | |
| 'He studies.' (They say.) | |

Example (26a) illustrates the earliest stage during which there was still an indirect speech construction. This is a reconstructed construction that is not available in the language anymore. Example (26b) illustrates the form of the construction at the stage when the original subject agreement morphology of the speech verb had reduced and disappeared. The construction in (26c) illustrates the stage when the speech verb became a reportative suffix. The final stage of the process of clause union, during which the original nominalizer starts functioning as subject gender agreement morphology, is illustrated in (26d).

The final result of the process of clause union, as presented in (26d), resembles the current reportative construction greatly. However, an additional change needed to take place for the synchronic construction to come into being. The nominalizing suffixes did not express person, only gender and number to some extent. The

suffix *-ko* marks feminine and the suffix *-ki* masculine. The suffixes *-je* and *-re* were general nominalizers that did not mark gender or number. The suffixes *-ko* and *-ki* were reinterpreted as second or third person singular markers for their respective gender. The general suffixes *-je* and *-re* came to express all other categories. This final change is illustrated in (27):

- (27) *
- [[VERB ROOT-(GENDER) AGREEMENT]-REP]
 [[je'je-ki]-jã.]
 [[study-M]-REP]
 'He studies.' (They say.)
 ↓
 [[VERB ROOT-(GENDER, PERSON, NUMBER) AGREEMENT]-REP]
 [[je'je-ki]-jã.]
 [[study-2/3s.M]-REP]
 'He studies.' (They say.)

In summary, the reportative developed from an indirect speech construction consisting of a speech verb that formed the verb phrase in the main clause and a complement clause that was marked with a nominalization. The two separate clauses evolved into one complex clause as a result of the loss of the original subject agreement morphology on the speech verb, the reanalysis of the speech verb as a suffix and the reanalysis of the nominalizers as subject agreement morphemes. Finally, reanalysis of the subject agreement categories took place. These changes did not necessarily take place in this chronological order; it is possible that there was considerable overlap between the changes.

There are various facts that corroborate this scenario of emergence of the reportative. First of all, the subject agreement suffixes can all be traced back to nominalizing suffixes, as discussed in Section 4. Second, reported speech constructions are a widespread source for reportative morphology constructions, as mentioned at the beginning of this subsection. A final possible line of evidence consists of the possible cognates of the speech verb found in some Eastern Tukanoan languages. Kubeo has a very similar reportative clitic = *ja* (Chacón 2012), so it is possible that there may have been a verb with the shape of *ja* or *jã* in Proto-Tukanoan. There are some speech verbs in the eastern branch that may be cognate with the Ecuadorian Siona reportative suffix *-jã*. For instance, Barasana has a speech verb *jãgo* 'to speak' (Jones & Jones 1991: 28). A possible speech verb cognate in Kubeo is *jáwa* 'to speak.' Another possibility is that it was a copula that introduced the speech complement. The copula *jã* in Makuna (Smothermon et al. 1995: 43) may be cognate to the Ecuadorian Siona reportative. Another possible candidate is the

copula *ja* in Barasana that can be used to introduce speech and thought reports (Jones & Jones 1991: 28).

5.2 The origin of the interrogative

The interrogative verb forms are very similar to the reportative verb forms, as shown in Section 3. Here I propose that the reportative and the interrogative clause types resemble each other, not only in form, but also in their behavior. Just as the reportative, the interrogative subject agreement suffixes developed from nominalizers that were used to mark complement clauses. These complement clauses were probably not introduced by a speech verb. The nominalizations in the case of the interrogative probably functioned as complement clauses in (pseudo-) cleft constructions. This type of construction was probably used in order to put the requested new information in focus at an early stage. It is cross-linguistically not uncommon to find (historical) (pseudo-)cleft constructions in questions (Givón 2001: 307–308). For instance, the question particle *est-ce que* in French developed from a cleft construction (Harris 1978). The use of cleft constructions in questions is also reported for the Bantu language Kihung'an (Givón 2001: 308–309), for Dravidian and Tibeto-Burman languages (Bhattacharya & Devi 2004), and for others (Shibatani this volume).

Since (pseudo-)cleft constructions are commonly found in interrogative contexts, it would not be implausible for the Ecuadorian Siona to have developed from a similar construction. A reconstruction of this pseudo-cleft construction in questions is presented in (28):

- (28) *
- | | | |
|--------------|-------------------------|-------------------|
| [INT PRONOUN | [VERB ROOT-NOMINALIZER] | COPULA-AGREEMENT] |
| [ke-de | [je'je-ki] | a-bi.] |
| [what-OBJ | [study-NMZR.M] | COP-3S.M.PRS] |
- 'What is it that he studies?'

As illustrated in (28), it was probably a copula, such as the verb *a-*, which currently functions as a copula, that introduced a complement clause in questions. A (pseudo-)object cleft is used here to illustrate this construction; the object of his studying is here in focus.

The use of (pseudo-) cleft construction probably became conventionalized at some stage and the construction lost its additional focus interpretation on a particular constituent in the clause. This is illustrated in (29):

- (29) a. *
- | | | |
|-------------------------------|-------------------------|----------------|
| [INT PRONOUN | [VERB ROOT-NOMINALIZER] | COP-AGREEMENT] |
| [ke-de | [je'je-ki] | a-bi.] |
| [what-OBJ | [study-NMZR.M] | COP-3S.M.PRS] |
| 'What is it that he studies?' | | |
| ↓ | | |
- b. *
- | | | |
|-----------------------|-------------------------|----------------|
| [INT PRONOUN | [VERB ROOT-NOMINALIZER] | COP AGREEMENT] |
| [ke-de | [je'je-ki] | a-bi.] |
| [what-OBJ | [study-NMZR.M] | COP-3S.M.PRS] |
| 'What does he study?' | | |

It is shown in (29b) that the pseudo-cleft construction at this stage does not add any additional meaning to the sentence; it has become the conventionalized form to ask a question.

A difference between the reportative and the interrogative is that in the case of the latter there is no trace of any verb in the reconstructed main clause. There is no suffix that can be reconstructed as the copula. As a consequence, it is not possible to construe an identical path of development for the interrogative. The process that probably resulted in the emergence of the interrogative is insubordination. The term insubordination was defined by Evans (2007: 367) as “the conventionalized main-clause use of what, on prima facie grounds, appear to be formally subordinate clauses.” Evans establishes that many languages use constructions that are subordinate in form, in main clause contexts. Within the process of insubordination, first, the main clause verb is deleted. Then the deletion is conventionalized. During the final stage the formerly subordinate construction is reanalyzed as a main clause. The new main clause construction typically obtains a specific use.’

The reconstructed Ecuadorian Siona interrogative that contained a conventionalized cleft construction underwent insubordination. During this process the Ecuadorian Siona interrogative constructions underwent copula deletion and the nominalization was reanalyzed as a main clause verb form. This is illustrated in (30):

- (30) a. *
- | | | |
|-----------------------|-------------------------|----------------|
| [INT PRONOUN | [VERB ROOT-NOMINALIZER] | COP-AGREEMENT] |
| [ke-de | [je'je-ki] | a-bi.] |
| [what-OBJ | [study-NMZR.M] | COP-3S.M.PRS] |
| 'What does he study?' | | |
| ↓ | | |

- b. *
- | | | |
|---------------|------------------------|----|
| [[INT PRONOUN | VERB ROOT-NOMINALIZER] | Ø] |
| [[ke-de | je'je-ki] | Ø] |
| [[what-OBJ | study-NMZR.M] | Ø] |
- ‘What does he study?’
- ↓
- c. *
- | | | |
|---------------|----------------------|----|
| [[INT PRONOUN | VERB ROOT-AGREEMENT] | Ø] |
| [[ke-de | je'je-ki] | Ø] |
| [[what-OBJ | study-M] | Ø] |
- ‘What does he study?’
- ↓
- d. [[INT PRONOUN VERB ROOT-AGREEMENT] Ø]
- | | | |
|------------|-------------|----|
| [[ke-de | je'je-ki] | Ø] |
| [[what-OBJ | study-2/3M] | Ø] |
- ‘What does he study?’

In (30b), it is shown that the copula was deleted. The next stage would be the reanalysis of the nominalizer as subject agreement morphology, as shown in (30c). Finally, as in the case of the reportative the subject agreement morphology is reanalyzed and starts to express person and number. For instance, the erstwhile masculine nominalizer *-ki* comes to express second or third person singular masculine, as shown in (30d).

5.3 The origin of the dependent verb marking

The subject agreement suffixes in dependent clauses can be reconstructed as nominalizing suffixes as well. From a Tukanoan perspective, this is not a surprising change. Many Eastern Tukanoan languages, such as Barasana (Jones & Jones 1991: 113) Kotiria (Stenzel 2013), and Makuna ((Smothermon et al. 1995: 68–70), use nominalizations in clause chaining-contexts (See Shibatani this volume). Additionally, there is cross-linguistic support for this reconstruction. It is observed for some Asian languages that some subordinators used in clause-chaining show the same form as nominalizers, such as in Classical Chinese (Yap & Wang 2011) and in the Formosan language Budai Rukai (Sung 2011). It is, therefore, not unfeasible that this use already existed in Proto-Tukanoan, and it is conceivable that nominalizations grammaticalized as clause chain-markers.

Furthermore, it is only a small shift from nominalizing suffix to dependent subject agreement suffix. These functions are similar and most of the suffixes maintained their reference to a closely related category. Specifically, the feminine marker *-ko* evolved into a singular feminine subject marker, the masculine marker

-ki into a singular masculine subject marker, and the animate collective marker *-hi* into a plural subject marker. These meanings are not conceptually far apart. It was a larger leap for the generic classifier *-re* to turn into a plural subject marker. The suffix *-re* was probably introduced as a default category marker in the dependent paradigm as a result of analogy with respect to the non-assertive paradigms. The suffix *-re* marks a very similar default category in these paradigms as well, namely non-second or third person singular. The only difference between the subject agreement categories is that the non-assertive suffix marks first person singular as well, whereas the dependent form marks only plural subjects.

The introduction of switch reference requires some further explanation. Ecuadorian Siona developed a same-subject marker *-ni*. This suffix is probably cognate with the general nominalizer *-ri* that is found in Eastern Tukanoan languages, as mentioned in Section 4. Since *-ri* does not mark any specific subject, its subject probably depended on the subject of the following verb for its interpretation. So it seems that the leap from general classifier that was used in clause-chaining to same subject suffix is not that far. The reanalysis of the nominalizer as a same-subject marker probably went hand-in-hand with the emergence of the different-subject constructions.

The different-subject construction consists of a former nominalizer that now functions as a subject agreement marker and the different-subject suffix *-na*. This construction probably derived from a nominalized verb that was marked for oblique case. The different subject suffix *-na* can be reconstructed as an oblique case marker; there is an oblique goal case marker *-na* in Ecuadorian Siona that is identical in form. The template of this reconstructed form (VERB-NMZR-CASE) is still a very productive template in the Ecuadorian Siona, although this template is mostly used to form (headless) relative clauses and it is mostly found in combination with the subject case marker *-bi* or the object case markers *-de [-re]* and *-ni*. One can imagine that the nominalized verb marked for oblique case was used adverbially. A change that must have taken place is that the nominalized verb lost its role as oblique argument and became a dependent verb with a clause-chaining function. Then the construction became a conventionalized different-subject construction and developed together with the same-subject marker as a grammaticalized switch reference system.

Ecuadorian Siona is not the only language in which a nominalization in combination with a case marker came to mark a different subject. The Imbabura Quichua different-subject marker *-kpi*, as described by Cole (1982), is most likely a combination of the agentive nominalizer *-k* and the locative case suffix *-pi*. A similar development was described by Overall (2011) for the Jivaroan language Aguaruna in which the locative case in combination with a subordinator developed into a different subject marker. This author found similar developments

in Panoan languages as well (Overall 2011). Aymaran languages show a similar development of a case marker into a switch reference marker (Cerrón-Palomino 2000: 244–245). In all these languages, it has been shown that an oblique case marker has developed into a switch reference marker. The Ecuadorian Siona development does not seem to be exceptional.

6. Summary

The historical reconstruction of the reportative and interrogative constructions and the dependent verbs as presented above helps to understand why there is considerable overlap in the subject agreement morphology in these three clause types. The existence of similar paradigms is due to the rise of the nominalizers that obtained the function of subject agreement suffixes. The reportative developed from an indirect speech construction in which a copula or a speech verb introduced a complement clause that was formed by a nominalized clause. This construction underwent clause union. The suffix *-jä* is analyzed here as the remains of the verb that used to introduce the complement clause. The interrogative developed from (pseudo-)cleft construction that became conventionalized. It probably consisted of a copula and a complement clause that was again formed by a nominalization. As a consequence of insubordination the interrogative construction developed. The switch reference system in dependent clauses developed as a reinterpretation of nominalizations that were used in clause-chaining environments. In the case of all three clause types, the nominalizing suffixes were reinterpreted as subject agreement suffixes. The reportative and interrogative suffixes gained the features of person and number agreement and the dependent suffixes that of number agreement.

These developments explain the high degree of homophony in the subject agreement paradigms. The former nominalizations may even have found their way into the assertive paradigm. This paradigm contains a suffix that marks third person singular feminine *-ko* that is identical in form to a nominalizing suffix and subject agreement suffixes in the non-assertive and dependent verb paradigms that also mark feminine gender in some way. The suffix *-ko* probably entered the assertive marking in analogy to the cognate forms in other clause types. The other assertive subject agreement suffixes can be reconstructed as the original main clause subject agreement morphemes. For instance, the third person singular masculine suffix *-bi* can be reconstructed to Proto-Tukanoan, according to Chacón (2014). The non-third person singular suffix *-wi* may also have existed in Proto-Tukanoan, since it is also found in Eastern Tukanoan languages, such as Tuyuka (Barnes 1984; Malone & Barnes 2000; Malone 1988).

The developments described in this paper have produced a complex verbal morphology and they led to grammaticalization of clause types in Ecuadorian Siona. The language now has a typologically rare system in which the reportative and the interrogative can be classified as one non-assertive category.

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Abbreviations

1	first person	IMPF	imperfective
2	second person	M	masculine
3	third person	MED	medial
ANIM	animate	N	non
ASS	assertive	NEG	negation
AUX	auxiliary	NMZR	nominalizer
BEN	benefactive	OBJ	object
CLS	classifier	PL	plural
CMPL	completive	PRP	purpose
CNTEXP	counterexpectational	PRS	present
COL	collective	PST	past
COP	copula	REM	remote
DEM	demonstrative	REP	reportative
DEP	dependent	S	singular
DS	different subject	SBJ	subject
F	feminine	SS	same subject
GEN	general	TOP	topic
IMP	imperative		

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