Clause-typing and evidentiality in Ecuadorian Siona
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Cover illustration: a Siona speaker with her granddaughter, Puerto Bolívar, July 2011, photo by the author.

Clause-typing and evidentiality in Ecuadorian Siona

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Contents

x

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Abbreviations

1	first person	EMPH	emphatic
2	second person	EP	epenthetic
3	third person	ERG	ergative
ABL	ablative	EXIS	(wide-scope) existential
ABS	absolutive	F	feminine
ACC	accusative	FAM	family member
ADD	additive	FR	frustrative
AGR	agreement morphology	GOAL	goal
AL	allative	HRT	hortative
ANA	anaphor	ILL	illative
ANIM	animate	IMP	imperative
ANT	anterior	IMPF	imperfective
ASS	assertive	IN	inessive relation
ASM	assumed	INCL	inclusive
AUX	auxiliary	IND	indirect
BPG	best possible grounds	INFR	inferential
CLS	classifier	INT	interrogative
CMPL	completive	INTENS	intensifier
CNJ	conjectural	LOC	locative
CNTEXP	counterexpectational	M	masculine
CNTR	contrast	MOD	modal
CNT	inanimate count	NEG	negation
COP	copula	NOM	nominative
CTF	counterfactual	NLZ	nominalizer
CVB	converb	NX	non-experiential
D	type of gender (Chechen)	N.ASS	non-assertive
DAT	dative	N.CRT	noncertainty
DCL	declarative	N.EGO	non-egophoric
DEM	demostrative	N.F	non-feminine
DEP	dependent	N.FIN	nonfinite
DET	determiner	N.REC	non-recent
DIR	direct evidential	N.S/A	non-intransitive subject or transitive subject
DR	directional	N.VIS	nonvisual
DS	different subject	OBJ	object
DST	distal	OTH	other
DUB	dubitative	PL	plural
DVLZ	deverbalizer	PL.ACT	pluractional
EGO	egophoric	POS	position

POSS	possessive	REPET	repetitive
PP	past participle	S	singular
PRF	perfective	SBJ	subject
PRG	progressive	ST	stativizer
PRO	pronoun	SUBJ	subjunctive
PRP	purpose	SUPR	surprise
PRS	present	TOP	topic
PRX	proximate	TR	transitive
PST	past	TRS	transtivizer
Q	question marker	VIS	visual
REC	recent	VLZ	verbalizer
REF	referential	VOC	masculine vocative
REM	remote	VSM	verbal stem marker
REP	reportative		

Chapter 1: Introduction

1.1 Introduction

Many languages of the world have strategies for expressing whether the information conveyed by the sentence is vouched for by the speaker or not. Speakers can consider information as their own, either because they have had direct access to the information that they are expressing or because they are certain for any other reason that the information is true. When speakers do not consider information to be their own, they often use specific devices in order to distance themselves from the veracity the information and refrain from taking (full) responsibility for it.

The languages of the world use different strategies to communicate whether the expressed information is part of the speaker's knowledge or not. Some languages use epistemic modals while others have recourse to evidential morphology. Epistemic modality is a category that conveys the degree of belief that the expressed information is true. Speakers can believe that the information is true, that it is false or that it is necessarily or possibly true or false. When the information is true or false, regular declarative sentences without an epistemic modal are used. When the information is possibly or necessarily true or false an epistemic modal is used. The use of an epistemic modal mitigates the responsibility of the speaker with respect to the information. Therefore, epistemic modality is used as a device to express that the information is not (fully) integrated in the speaker's knowledge (cf. Givón, 1982).

Evidentiality is another device that is used for the same purposes. It indicates the speaker's mode of access to the information that she / he is conveying. The speaker can either have direct or indirect access to the information. On the other hand, a speaker has direct access to information when she / he has witnessed an event or state. A speaker has indirect access to information when she / he has heard the information from someone else or when she / he has indications that the information is true. Speakers often make use of indirect evidentials in order to show that the information is not part of their own knowledge.

Although evidentials have already been discussed and defined by scholars such as Boas (1911a, 1911b, 1938), Sapir (1921, pp. 114-

115) and Jakobson (1971),[1] there is still no consensus about the exact boundaries of the notion of evidentiality. Since the notions of epistemic modality and evidentiality are closely related, many languages possess morphemes that can convey both. It has been claimed that the expression of evidentiality and epistemic modality is part of the semantics of these morphemes (Matthewson, Rullmann, & Davis, 2007; Peterson, 2010). Others have argued that an evidential interpretation[2] can be a pragmatic extension of the epistemic modal semantics of a form or the other way around (see for instance Aikhenvald, 2003b; Aikhenvald, 2004). It is not unthinkable that both options occur in the languages of the world. Other languages have evidentials that interact with tense and aspectual systems (see for instance Faller, 2004 on Cuzco Quechua; see Friedman, 1986; 2003 on the languages of the Balkan). A third group of languages seems to have evidentials that interact with clause types. Clause-typing is understood here as the grammatical marking of the function of a sentence, including the declarative, an interrogative and imperative functions of a sentence, following Lyons (1977, p. 745) and Portner (2009, pp. 262-263).[3] An example of a language where clause types interact with evidentials is Shipibo-Konibo (a Panoan language of Peru). In this language, the reportative and the direct evidential clitics are mutually exclusive with the interrogative clitic (Valenzuela, 2003). They seem to function as a single morphological system.[4]

The heterogeneity of the concept of evidentiality makes it a difficult topic in the description of a language. The nature of evidentiality is a much discussed topic in various sub-disciplines of linguistics, especially in the last two decades (see among others Aikhenvald, 2004; De Haan, 1999, 2001b; Faller, 2002; Matthewson et al., 2007; Rooryck, 2001a, 2001b). In various studies (Aikhenvald, 2004; Aikhenvald & Dixon, 2003; Epps, 2005; Faller, 2002; Fleck, 2007; Stenzel,

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[1] For detailed description of the history of the study of evidentiality see Jacobsen (1986, pp. 3-7) and Aikhenvald (2004, pp. 11-17).

[2] Aikhenvald (2004) uses the term 'evidentiality strategy' for the evidential interpretations of a non-evidential construction.

[3] Clause types should not be confused with speech acts. The term 'clause type' refers to the grammatical function of a sentence and the term 'speech act' to the pragmatic function of a sentence. This issue will be further discussed in chapter 2, in subsection 2.3.2.

[4] There are many other languages in which the reportative and the interrogative do not co-occur, including the Eastern Tukanoan language Tukano (Ramirez, 1997, p. 120) and other languages of the same linguistic affiliation (Aikhenvald pers. comm.).

2008a among many others), the correlation between clause typing and evidentiality has been discussed. However, the possibility that some evidentials are part of a clause-typing system, and that their evidential semantics emerges from a clause-typing semantics, has not been discussed in the literature. This dissertation aims to address this issue. I discuss how a morphological form can function as both an evidential and as a clause-typing element.

1.2 Evidentiality and clause typing in Ecuadorian Siona

Ecuadorian Siona is no exception to the observation that languages have devices to express the integration of information in the speaker's knowledge. The language contains evidential devices that are used for the expression of this function. It has reportative and conjectural morphology in order to convey that the information expressed is not that of the speaker. These categories interact with clause types: assertions, questions, reports, and conjectures are mutually exclusive in the language. This is illustrated in example (1):

(1)   a.   Ocoji.   (Assertive).
                Ohko-hi.
                rain-3S.M.PRS.ASS
                'It is raining.' (I vouch for it). (20110325elicr001.205).

        b.   Ocoquë?   (Interrogative).
                Ohko-kɨ?
                rain-2/3S.M.PRS.N.ASS
                'Is it raining?' (I am asking). (20110325elicr001.204).

        c.   Ocoquëña.   (Reportative).
                Ohko-kɨ-jã.
                rain-2/3S.M.PRS.N.ASS-REP
                'It is raining.' (I am told). (20110402elicr001.001).

        d.   Ocoa ba'i.   (Conjectural).
                Ohko-a   ba'i-ɨ.
                rain-NEG   be-2/3S.M.PRS.N.ASS
                'It is raining.' (I am conjecturing).
                (20110402elicr001.002).

The sentences in example (1) show that assertions, questions, reports and conjectures are separate and mutually exclusive categories in the language. These four categories are marked by means of a combination of subject agreement morphology and additional morphology.

Assertions are marked with assertive subject agreement morphology as illustrated in example (1a). Questions are marked by means of the non-assertive subject agreement morphology, as shown in (1b). Additionally, questions can also be distinguished by a specific intonation. Reports are marked by means of a combination of non-assertive subject agreement morphology and the reportative suffix -jã (as in (1c)). Conjectures are marked by a periphrastic construction -a ba'i and non-assertive subject agreement morphology (as in (1d)). It will be shown in this thesis that the conjectural is, in fact, not an independent category like assertions, questions and reports, but that it is a subcategory of questions. In other words, the conjectural is not a clause type of its own.

The reportative, however, is an independent clause type in Ecuadorian Siona. It is not only mutually exclusive with the other clause types, but it forms a semantic system with the other clause types in the language: assertions express the speaker's knowledge, questions inquire about the addressee's knowledge and reports express the knowledge that was provided by a non-speech act participant. This analysis of the Ecuadorian Siona clause typing system sheds new light on the heterogeneous nature of evidentiality. It shows yet another way in which evidentiality is coded and organized in one of the languages of the world and it illustrates how the concept of speaker's knowledge is crucial in the understanding of the use of evidentials.

1.3 Ecuadorian Siona

Before addressing the aim and methodology of this study on the expression of evidentiality in Ecuadorian Siona, it is useful to provide some (socio)linguistic background on the language. First I introduce the sociolinguistic context in which the language is spoken (subsection 1.3.1), then I describe the genetic affiliation of the language in subsection 1.3.2 and finally, I explain the genetic relations within the Western Tukanoan branch in subsection 1.3.3.

1.3.1 The sociolinguistic situation

Ecuadorian Siona is spoken by the Ecuadorian Siona people who live in the province Sucumbíos in the Eastern jungle region of Ecuador. The Siona people refer to themselves as *bai* 'people' and they refer to their language as *baicoca* 'the language of the people.' Most of the Ecuadorian Siona people live in the six small Siona villages. The villages Puerto

Bolívar and Tarabëaya are situated on the Cuyabeno river in the Cuyabeno Wildlife Reserve and the villages Sototsiaya, Orahuëaya, Aboquëhuira and Bi'aña are located on the Aguarico river. Another group of the Ecuadorian Siona people lives in the provincial capital Lago Agrio. The location of Puerto Bolívar and Sototsiaya, the two villages where the fieldwork for this dissertation was conducted, is indicated on the map in figure 1.1.
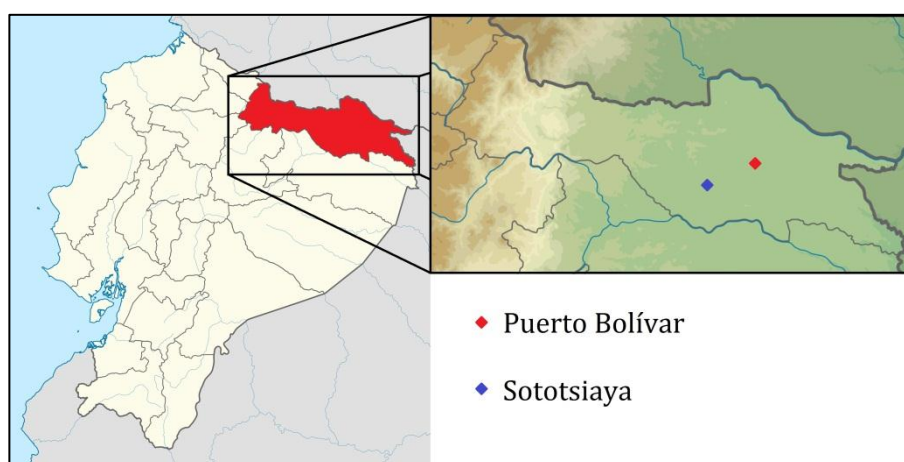
Figure 1.1: Map of Ecuadorian Siona fieldwork sites

Ecuadorian Siona is a severely endangered language spoken by less than 250 people (Mejeant, 2001). The language is not only endangered because of the small number of people that speak it, but also because the chain of transmission has been interrupted in many families. Many children are no longer acquiring the language. They grow up speaking Spanish, the national language of Ecuador.

In some villages, the language is being transmitted more than in others. For instance, in Sototsiaya almost all the children acquire Siona as their first language, and they acquire Spanish when they go to school. In Puerto Bolívar, on the other hand, most children acquire Spanish at home, and only a few children are raised in Siona. However, because their peers speak Spanish, they only speak Siona with their parents, and Spanish outside their homes. The situation in Tarabëaya is even more critical. The younger generations do not speak Siona. Only people above 50 still speak the language.

The heavy impact of Spanish on Ecuadorian Siona has slowly increased since the first contact with Spanish speakers and has now reached a climax. The Siona people descend from an ethnic group that

the Spanish called the *Encabellados* during Spanish colonial times, referring to their habit to take very good care of their long hair (Chantre y Herrera, 1901, p. 63). There is documentary evidence that Catholic missionaries visited the *Encabellados* very early on during colonial times. As early as 1599 a Jesuit mission went to visit them (Steward, 1948, p. 739), and various missions followed after that (Vickers, 1976, pp. 38-41). From the middle of the 17th century until the 18th century, contact with Spanish speakers increased when Jesuit missionaries tried to unite the many *Encabellado* communities in *reducciones*, villages that were founded in order to convert the local people to Catholicism. The *reducciones* were unsuccessful for various reasons (Vickers, 1976, pp. 38-44), and they all eventually ceased to exist with the expulsion of the Jesuits from the Americas (Vickers, 2003, p. 51).

During the 19th century, contact between the Siona people and the Spanish-speaking world was reduced to limited trade relations. This started to change during the last decades of the 19th century. As a result of the rubber boom contact increased during this period. After the rubber boom contact increased even more because of the arrival of the Summer Institute of Linguistics missionaries Orville and Maria Johnson in 1955, and the arrival of oil companies in 1967 (Vickers, 1976, pp. 44-53; 2003, pp. 53-55). Contact has now reached a critical level. External factors, such as the presence of oil companies in the area, international tourism, and missionary activity by an apostolic church have increased the pressure from the Spanish-speaking world on the Siona communities.

Internal factors, such as migration and intermarriage with other indigenous groups and *mestizos* also play a role. The Siona people used to marry members of the Sekoya people, who speak a closely related language, and of the Cofán, who speak an unrelated language isolate. There is considerable cultural unity between these groups as a result of this long history of intermarriage. Nowadays, probably since all three groups are small, the Ecuadorian Siona also marry people from other indigenous groups such as the Amazonian Kichwa and the Shuar people. There are also various marriages between Ecuadorian Siona and *mestizos*, the non-indigenous people in Ecuador. The children of these intercultural marriages are often monolingual speakers of Spanish. These marriages have increased the presence of Spanish in the Siona villages (Bruil, 2011). All of these reasons have contributed to the current critical state of the language. On the positive side, people have realized the seriousness of the situation, and they now are developing revitalization policies in the various communities.

1.3.2 The genetic affiliation

Ecuadorian Siona belongs to the Tukanoan language family. The languages of this family are spoken in 4 countries of South America: Colombia, Brazil, Ecuador and Peru. There are various classifications of the Tukanoan languages. In an early classification, scholars proposed a three-way split in the language family, dividing it into an eastern, central (or middle) and western branch (Barnes, 1999, 2006; N. E. Waltz & Wheeler, 1972). The classification proposed by Barnes (1999) is shown in figure 1.2 below. In this classification, the eastern branch is the largest, consisting of twelve languages spoken in the Vaupés area in Colombia or Brazil. The central branch only consists of two languages: Kubeo and Retuarã, also spoken in the Vaupés area. The western branch consists of four languages that are geographically further apart. Koreguaje is spoken in southern Colombia, Sekoya and Siona form a cluster on the Colombian, Ecuadorian and Peruvian border, and Orejón / Máíhɨ̀kì is spoken more towards the east in Peru not far from the border with Colombia (Barnes, 1999).
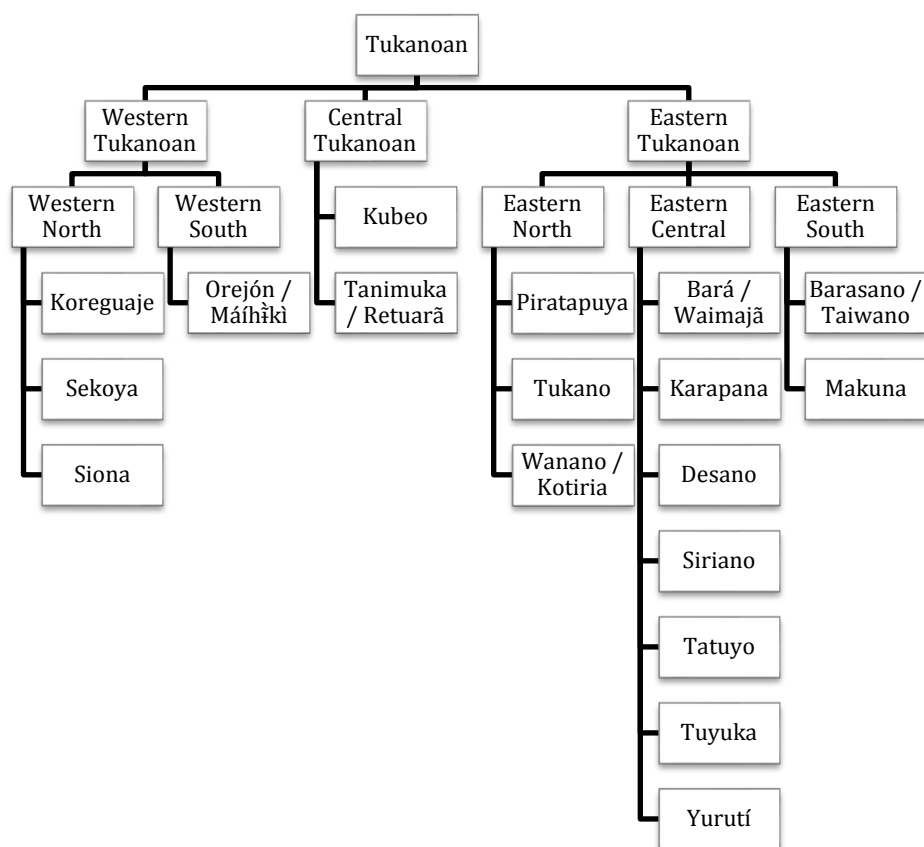
Figure 1.2: The Tukanoan family classification according to Barnes (1999, p. 209).

In more recent classifications, Chacón (to appear), Gómez-Imbert (2011) and Stenzel (2013, pp. 3-6) consider there to be only two Tukanoan

branches: an eastern and a western branch.[5] Kubeo and Retuarã are not considered to be a separate branch from the Eastern Tukanoan languages. The differences between these two languages and the other Eastern Tukanoan languages can be explained because of their intense contact with Arawak languages (Gomez-Imbert, 2011, p. 1448). Figure 1.3 below presents a simplified version of the classification as proposed by Chacón (to appear):

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[5] See for the first criticism on the existence of a Central/Middle branch Franchetto and Gomez-Imbert (2003).
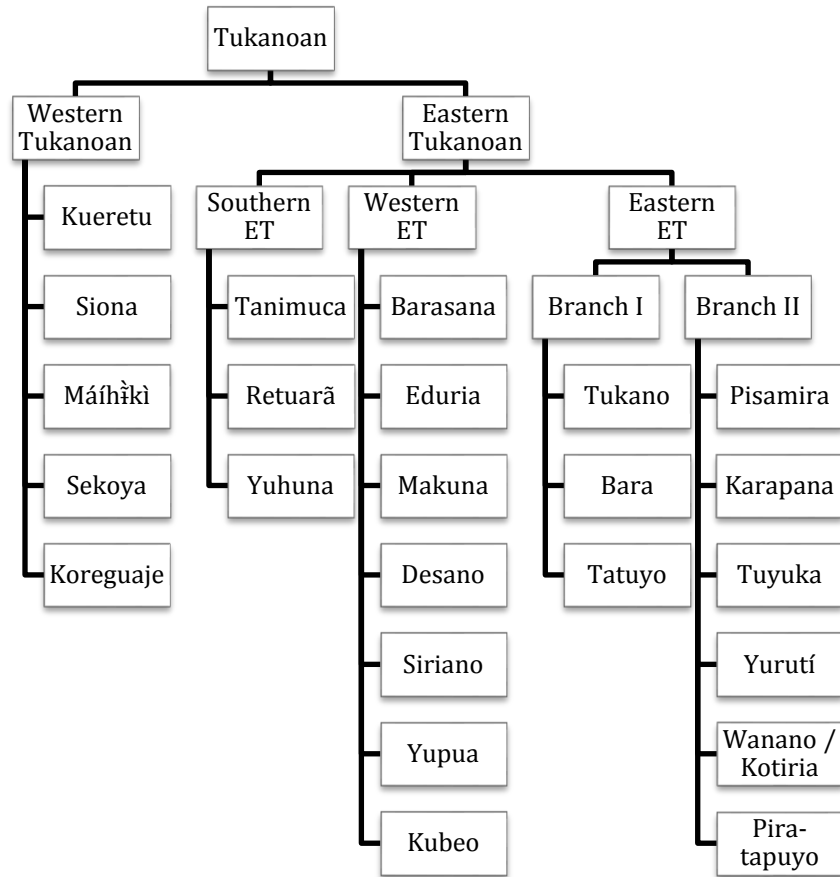
Figure 1.3: The Tukanoan family classification according to Chacón (to appear).[6]

The main division of the classification proposed by Chacón (to appear) is adopted in this dissertation. The Tukanoan languages are considered to belong either to the Eastern or to the Western Tukanoan branch.

1.3.3 The Western Tukanoan branch

The Western Tukanoan languages that are still spoken are Koreguaje, Colombian Siona, Ecuadorian Siona, Sekoya and Máíhɨ̀kì / Orejón. Some of these languages are more closely related than others. For instance,

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[6] Further (extinct) Tukanoan languages including Tama and Teteté are not discussed in this classification.

Siona and Sekoya are much more similar to each other than to the other Western Tukanoan languages according to Chacón's (to appear) classification.

One additional distinction that I make in this dissertation is between Ecuadorian Siona and Colombian Siona. The reason for this is that the linguistic variety of Siona spoken in Ecuador that was studied for this dissertation differs from the Colombian Siona variety that was studied by Wheeler (1967, 1970, 1987a, 1987b, 2000) and Wheeler & Wheeler (1975) with respect to some lexical, phonological and morphosyntactic properties. Phonologically, Ecuadorian Siona has lost the word internal velar voiced stops that Colombian Siona has preserved. In the morphosyntactic domain, both varieties of Siona have distinct conjectural constructions.

Ecuadorian Siona is in some features closer to Sekoya, which is spoken in the same area. There are less lexical distinctions, and Sekoya has lost the word internal velar voiced stops as well. Therefore, Ecuadorian Siona and Sekoya are often considered to be two dialects of the same language (Mejeant, 2001, p. 25; Vickers, 1976). However, there are also some phonological and morphosyntactic distinctions between Ecuadorian Siona and Sekoya. An example of a phonological difference is that where Ecuadorian Siona has a word internal bilabial fricative /β/, Sekoya has a voiceless stop /p/ (Schwarz, 2011; pers. comm.). Morphosyntactically, Sekoya lacks the conjectural construction that is present in Ecuadorian Siona. Therefore, I include the three varieties Colombian Siona, Ecuadorian Siona and Sekoya as part of a single dialect continuum.

Ecuadorian Siona can generally be viewed as an intermediate variety between the other two languages. Colombian Siona and Sekoya share a few features. For instance, in Ecuadorian Siona the past tense form *-hV'i* shows vowel assimilation of the first vowel of the suffix. This assimilation is not found in Colombian Siona and Sekoya, which both have the past tense form *-hi'i*. All three varieties show a considerable degree of mutual intelligibility and can therefore be considered to be three distinct varieties within a dialect continuum,[7] as illustrated in figure 1.4:

[7] It is possible that another distinction should be made between Ecuadorian Sekoya and Peruvian Sekoya. However, there are not enough data available on both varieties in order to include this distinction in this dissertation.

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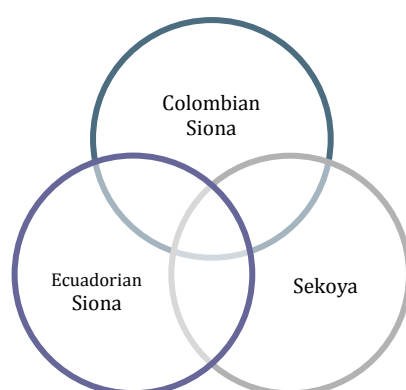
Figure 1.4: The Siona-Sekoya dialect continuum

1.4 The aim of this dissertation

The broad aim of this dissertation is to provide insight into the nature of evidentiality from both a synchronic and a diachronic perspective. Many authors (Aikhenvald, 2004; Aikhenvald & Dixon, 2003; Blain & Déchaine, 2007; Chafe & Nichols, 1986; Faller, 2002; Matthewson et al., 2007, among others) have shown that evidentiality is a complex linguistic phenomenon and that it is difficult to provide a unified analysis for it. In order to gain insight into this complex phenomenon, this dissertation provides an analysis of the expression of evidentiality in a previously undocumented and undescribed language.

This brings me to the narrower aim of this dissertation. I aim to provide a synchronic and diachronic analysis of the system that expresses evidential meanings in Ecuadorian Siona. Although there are previous basic descriptions (of grammatical aspects) of the closely related varieties Colombian Siona (Wheeler, 1967, 1970, 1987a, 1987b; Wheeler & Wheeler, 1975) and Ecuadorian Sekoya (Johnson & Levinsohn, 1990; Johnson & Peeke, 1975; Piaguaje, Piaguaje, Johnson, & Johnson, 1992; Schwarz, 2011, 2012) these do not provide enough information for a fine-grained analysis. Especially in order to conduct a diachronic analysis of an undescribed language, the ideal scenario is to

have a descriptive grammar of the language at our disposal. However, writing a full descriptive grammar falls outside the scope of this dissertation. In the interest of providing the reader with the necessary background information, I have included a sketch of the grammatical features that are relevant for the synchronic and diachronic analysis of the expression of evidentiality in Ecuadorian Siona.

With an eye to achieving the narrow aim of this dissertation, I have formulated three research questions that I will address here. These questions are the following:

1. How is evidentiality expressed in Ecuadorian Siona?
2. How did the expression of evidentiality develop in the language?
3. How is Ecuadorian Siona different from Eastern Tukanoan languages with respect to the expression of evidentiality and its historical development?

Question 1 relates to the synchronic analysis of the expression of evidentiality in Ecuadorian Siona. Question 2 applies to the diachronic analysis of this phenomenon in the language. Question 3 brings the synchronic and diachronic analyses together. The aim of this question is to discover how a distinct development process can help us to determine differences in the semantics of the evidentials.

In order to answer these questions I will examine the following three hypotheses:

Hypothesis 1: The expression of evidentiality is part of the clause typing system in Ecuadorian Siona.
Hypothesis 2: Questions and reports developed as different clause types in Ecuadorian Siona as a result of the grammaticalization of complex biclausal constructions.
Hypothesis 3: Distinct historical processes have led to the development of different types of evidentials in Ecuadorian Siona and in Eastern Tukanoan languages.

Hypothesis 1 relates again to the synchronic analysis of the expression of evidentiality in Ecuadorian Siona. I will examine both structural and semantic features that show that evidentiality is expressed within the domain of clause-typing in the language. Hypothesis 2 derives from the diachronic aims of this dissertation. I will explore both language internal and comparative Tukanoan materials in order to scrutinize this hypothesis. Hypothesis 3 provides an opportunity to closely examine the diachronic factors that lead to distinctions in the expression of

evidentiality in languages of one family. This hypothesis will allow us to test whether differences in the morphosyntactic structure can be better understood when taking into account differences in the process of diachronic development.

1.5 Methodology

The synchronic and diachronic analyses of the expression of evidentiality in Ecuadorian Siona require two distinct methodological approaches. The synchronic analysis is mainly based on materials that I gathered during a documentation project carried out in the period from June 2010 to September 2011 and during a fieldtrip in September 2012. I address the methodology with respect to the documentation project in subsection 1.5.1. For the diachronic analysis, I made use of the synchronic data and I applied the method of internal reconstruction. I also took into account materials from other Tukanoan languages in order to determine how the verbal system that expresses evidentiality in Ecuadorian Siona came into being. I briefly discuss the methods that I used for the historical reconstruction in subsection 1.5.2.

1.5.1 The documentation of Ecuadorian Siona

The data collection for this dissertation project was part of a larger documentation project on Ecuadorian Siona that was sponsored by the Foundation for Endangered Languages, the NWO project 'The Nature of Evidentiality' (360-70-320) and the Hans Rausing Endangered Languages Project (SG0067). Two of the goals of this documentation project were crucial for the dissertation project as well:
1. The collection of a linguistic corpus consisting of audio recordings from different genres (as discussed in 1.5.1.1).
2. The gathering of insights on the grammar of the language (as discussed in 1.5.1.2).

1.5.1.1 The linguistic corpus

The corpus of audio recordings was collected during my fieldwork period from June 2010 to September 2011 and in September 2012. The main field site for this project was the Cuyabeno Siona village of Puerto Bolívar and most speakers recorded are from this village. Additionally, I visited the Aguarico Siona village of Sototsiaya, and I made some recordings with speakers from that area (for the location of the two

villages, see Figure 1.1). There are some small differences between the Siona spoken in the Cuyabeno area and in the Aguarico area. The speakers of these villages are not in daily contact. The Aguarico Siona people have more contact with the Sekoya people who live in close proximity on the same river. Therefore, some of the lexical and grammatical features are considered to be Sekoya features by the Puerto Bolívar speakers. Where necessary, I address these differences in the dissertation.

The corpus that was created during the documentation project consists of 124 minutes of audio recordings in total. These recordings were transcribed in ELAN and translated into Spanish and English.[8] The corpus contains various genres including traditional stories, life stories, narrations of daily activities and conversations. The recording of different genres is imperative for the analysis of the expression of evidentiality. If a language has grammatical strategies for expressing evidentiality, it can be expected that the strategies that are applied in life stories and daily activities are different from those used in traditional stories. Conversations add an extra dimension to the analysis of the expression of evidentiality, because the addressee plays a more important role than in monologues.[9]

The recordings were all supplemented with metadata and archived in the digital archive of ELAR. All the recordings are coded in one way. The coding system was based on the system used by McGill (2009, p. 51) with some modifications. The recording bundle names[10] contain the date of the recording, the type of session that was recorded, an abbreviation of the main speaker's name and an additional identification number. The date was annotated beginning with the year, followed by the month and the day: YYYYMMDD. Three types of sessions

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[8] The audio recordings and their transcriptions and translations are available in the ELAR archive under the link: http://elar.soas.ac.uk/deposit/siona-140954. Nine of the recorded traditional stories were edited, translated and printed in the form of a storybook for the Sionas called *Aibë coca* 'the stories of the ancestors' (Criollo, 2011). A text is provided at the end of this dissertation as a sample text.

[9] Some additional recordings were used in this dissertation. These recordings were not added to the archive due to sensitivity issues or to the fact that they were not fully transcribed. When examples are used from the privacy sensitive recordings some details are changed and the reference of the example will be (conversation). The reason that this type of recordings is used is that they often provided interesting insights in the use of the Ecuadorian Siona evidentials.

[10] The 'bundle' refers to the bundle of files that belong to a recording. The bundle always contains an audio file in .WAV format and an ELAN file.

are distinguished in this dissertation: elicitation sessions (e), staged sessions, such as the recording of traditional stories (s), and observed events (o). The abbreviations of the speaker's names consist of the first two letters of the first name and the first two letters of the first family name of the speaker, so the abbreviation of the name Ligia Criollo is licr. The additional identification number consists of three digits as in 001. An example of a bundle name is 20100629slicr001. An overview of the main recordings that are part of the corpus used in this dissertation is provided in the table below:

Table 1.1: List of recordings that are part of the Ecuadorian Siona corpus

Recording bundle name	Title (English)	Title (Siona)	Genre	Minutes
20100629slicr001	Today	Iye mo'se	Daily life	0:42
20100629slicr002	My husband	Yë'ë ëjë	Daily life	0:29
20100630srocr001	Cuyabeno	Sëoquë'iya	Historical narrative	14:08
20100701swicr001	The kapok tree	Yëiñë	Traditional knowledge	2:50
20100907slicr001	The one from the forest	Airo aquë	Historical narrative	2:42
20100907slicr002	The two brothers	Maja'yë yo'jeibi	Traditional story	5:24
20100913slicr001	The hammock	Ja̠ë̈rë	Traditional story	4:15
20100913slicr002	The one who couldn't hunt	Hua'i nema'quë	Traditional story	5:24
20100913slicr003	Anaconda	Hua̠ñumi	Traditional story	4:31
20100925slicr001	Young 1	Bo̠tsëhua'i 1	Historical narrative	1:23
20100925slicr002	Young 2	Bo̠tsëhua'i 2	Historical narrative	2:27
20100925slicr003	Twining leaves 1	Ja'o tëo̠ñe 1	Daily life	1:41
20100925slicr004	Twining leaves 2	Ja'o tëo̠ñe 2	Daily life	1:30
20101119oispa001			Conversation	6:12
20101123slicr001	The batman	Oyo ba̠i	Traditional story	8:36

Table 1.1 (continuation): List of recordings that are part of the Ecuadorian Siona corpus

Recording bundle name	Title (English)	Title (Siona)	Genre	Minutes
20101202slicr001	Zangudococha	Sọ'kora	Traditional story	3:43
20110227oevme001			Conversation	3:00
20110227salsu001[11]			Traditional stories	37:02
20110328slicr001	The orphan 1	Yëhuio 1	Traditional story	3:01
20110328slicr002	The orphan 2	Yëhuio 2	Traditional story	2:04
20110807salsu001	The peach palm frog	Ënejoa	Traditional story	13:08

The Ecuadorian Siona examples used in this dissertation are all referenced for the recording that they belong to.[12] They are additionally coded for the utterance in which the example occurred by a three digit number. An example of an utterance coding is 20100629slicr001.001. This code refers to the first utterance of the recording 20100629slicr001.

1.5.1.2 The analytical methods

Various methods were used in order to obtain a good understanding of the Ecuadorian Siona grammatical system. The first method was the analysis of the gathered speech corpus, described in the subsection above. During this analysis first ideas were developed about the phonology, lexicon and morphosyntax of the language. This analysis was very important in order to understand the use and the functions of morphosyntactic elements. Sociolinguistic factors, such as the relations between speakers and their place of residence, were also taken into account in order to analyse the use of the morphosyntactic elements.

The analysis of the speech corpus was complemented with elicitation. One goal of the elicitation sessions was to gain detailed insight in the semantic structure of the evidentials in Ecuadorian Siona. The methodology used in this dissertation was based on the methodology proposed by Matthewson (2004) for semantic fieldwork.

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[11] A fully revised version of this recording is not yet available, but will be made available shortly.

[12] Except for when it was not possible due to privacy issues.

The elicitation sessions consisted of asking for translations and subsequently grammaticality and felicity judgements. The consultants were asked to provide translations of Spanish sentences into Siona, often within a context. These Siona translations were then used in order to obtain grammaticality and felicity judgements. The translations were modified on the basis of the knowledge obtained in the analysis of the audio corpus. The modifications were always checked for grammaticality with the consultants. The contexts were often manipulated in order to obtain felicity judgements. That is, a sentence that is grammatical is not felicitous in every context. The judgement tests that were conducted for this dissertation were based on the tests that are found in the formal semantic literature on evidentiality and modality (see for instance Faller, 2002; Matthewson et al., 2007; Murray, 2010; Peterson, 2010; Waldie, Peterson, Rullmann, & Mackie, 2009). The tests will be explained at their first use in this dissertation.

A second goal of the elicitation sessions was to obtain a better understanding of Ecuadorian Siona phonology. This understanding is crucial for the historical reconstruction of the development of verbal morphology. The analysis of the audio corpus of Ecuadorian Siona provided basic insights into the phonological system of the language. In order to answer some specific questions, recordings were made of grammatical forms in elicited sentences during my fieldtrip in September 2012.[13] The target forms were always recorded in the same frame of words. This is illustrated in example (2):

(2)   a.   Si'ahua'i jëorena daë'ë.
               Si'a-wa'i hɨo-de-na   da-ɨ'ɨ.
               all-PL   clean-PL.PST-DS came-OTH.PST.ASS
               'I came after everyone had cleaned.'
               (20120917elicr004.001).
        b.   Si'ahua'i satena daë'ë.
               Si'a-wa'i sah-te-na   da-ɨ'ɨ.
               all-PL   go-PL.PST-DS came-OTH.PST.ASS
               'I came after everyone had left.' (20120917elicr004.002).

The two sentences in (2) both contain a subject *si'awa'i* in both sentences, a dependent verb (*hɨodena* in (2a) and *sahtena* in (2b)), and a main verb *daɨ'ɨ* in both sentences. The only difference between

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[13] These elicited recordings are also available in the ELAR archive under the same link as the other audio recordings: http://elar.soas.ac.uk/deposit/siona-140954.

examples (2a) and (2b) is the dependent verb, which is *hɨodena* in (2a) and *sahtena* in (2b). The advantage of having this type of elicited recordings is that one can compare the production of the words in acoustic analysis software, such as PRAAT. These elicited audio files were analyzed in PRAAT and the results were used in the phonological sketch that is provided for Ecuadorian Siona in this dissertation.

When elicited sentences of the type described above are presented in this dissertation, they can be recognized by the letter e that is used in the reference. For instance, if we take the reference 20120917elicr004.002, which was provided for example (2b), the letter e, which stands for elicitation in elicr, refers to the fieldwork session type.

1.5.2 Historical reconstruction

The diachronic analysis in this dissertation requires additional research methods. The two major traditional research methods from historical linguistics are used in this dissertation: internal reconstruction, discussed in 1.5.2.1, and the comparative method, discussed in 1.5.2.2.

1.5.2.1 Internal reconstruction

Language internal reconstruction is a useful method for the reconstruction of grammatical material (A. Fox, 1995, pp. 213-214; Givón, 2000). Languages contain traces of older stages and when such traces are found, it is possible to reconstruct these earlier stages of the language. Before reconstructing an earlier stage of a grammatical system within the language, it is important to establish the synchronic patterns of the grammatical system. The alternations in the system are often indicative of earlier processes of grammatical change.

When the system with its form alternations is described one can start to look for related forms in the language. These can be found at different levels of the grammar. For instance, when verbal morphology is being reconstructed, it is possible that cognate forms are found in another part of the verbal system, in the nominal morphology or in the lexicon. Once the cognates are determined, it is possible to reconstruct a proto-form and function for the morpheme. A final step is to reconstruct the process of development of derived morphemes and their functions (see Campbell, 2004; Givón, 2000 for further applications of the method and for examples).

1.5.2.2 The comparative method

The comparative method is a second method for historical reconstruction that is used in this dissertation. This is often considered to be the most important traditional technique in diachronic linguistics (see for instance Campbell, 2004, p. 122; Trask, 2007, p. 259). In this method, cognates are compared in order to find regular sound correspondences. Once the sound correspondences are identified, it is possible to reconstruct a proto-sound and the sound changes that may have taken place.

The comparative method is used in this dissertation in order to complement internal reconstruction. Sometimes it is difficult to find cognate morphology within the language itself. Therefore, it is useful to study the other languages of the family to which it belongs. For instance, sometimes a grammatical form does not have any cognates in the studied language itself, but related languages have maintained a cognate of this form in other functions. Therefore, the lexical and grammatical similarities that are found throughout the Tukanoan family will be taken into account in this dissertation.

1.6 The organization of this dissertation

The remainder of this dissertation is organized in the following way. First I will provide a theoretical background for this dissertation in chapter 2. This overview includes four main topics. First of all, I will provide definitions of evidentiality, clause typing and other important terminology for this dissertation. Secondly, I will describe the relation between evidentiality and clause-typing as it has been addressed in the literature. Thirdly, I will discuss different origins that have been proposed for evidentials in various languages. I will finish this chapter with a case study of the expression of evidentiality in Eastern Tukanoan languages. Both synchronic and diachronic aspects will be addressed.[14]

The following three chapters provide a grammatical sketch of Ecuadorian Siona, focusing on relevant aspects with respect to the synchronic and diachronic analysis of the expression of evidentiality. Chapter 3 contains a phonological sketch of the language and it provides

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[14] In this chapter, I will use examples from various languages in order to illustrate the explained concepts. When borrowing example sentences from other scholars, I will adapt the glosses to mine in order to have a single unified set of terms and abbreviations. Furthermore, I will use English as a meta-language, so French, Portuguese and Spanish glosses and translations will be translated into English in this dissertation.

an explanation of the two orthographies that will be used throughout the dissertation. A proper analysis of Siona phonology is crucial for the understanding of some of the historical developments in the clause typing system of the language. In chapter 4, I will provide a first description of the main nominal morphology in Ecuadorian Siona. Although this morphology is synchronically not directly relevant to clause-typing and evidentiality in the language, an insight into its use is vital for the diachronic analysis in this dissertation. Some nominal morphology has been reinterpreted as verbal morphology that is relevant for the expression of evidentiality and clause-typing in the language. In chapter 5, I describe the verbal morphology of Ecuadorian Siona. The main focus of this chapter is on the portmanteau morphemes that express subject agreement, tense and clause typing. This description is necessary for understanding the use and semantics of the evidentials in Ecuadorian Siona and their historical reconstruction.

In chapter 6, I analyze the semantics of the different clause types and evidentials in Ecuadorian Siona. I demonstrate which functions are part of the core semantics of the categories and which functions are usage effects of the core semantics. In this chapter, I show why I analyze the conjectural as a subtype of questions and the reportative as a third main clause type.

In chapter 7, I propose a reconstruction for the portmanteau verb morphology that conveys subject agreement, tense and clause-typing. I show that these morphemes have probably not always been portmanteau morphemes. The regularities and irregularities in the morphology seem to argue for this approach. In my reconstruction, the core function of the portmanteau morphemes is subject agreement from a diachronic perspective. A phonological reconstruction of the morphemes seems to indicate that tense was expressed by a morphophonological process that was applied to the subject agreement suffix at an earlier stage of the language. The difference in clause types can be explained by the development of non-assertive and dependent subject agreement paradigms as a result of the reanalysis of nominalizations. In the final section of this chapter I compare the development of the Ecuadorian Siona verbal system to the development of verbal systems in Eastern Tukanoan systems. In this section, I propose that the difference between the Ecuadorian Siona system, on the one hand, and the Eastern Tukanoan systems, on the other, is due to differences in the processes by which these systems emerged.

In chapter 8, I formulate the conclusions of this dissertation. I summarize the main findings about clause typing and evidentiality in

Ecuadorian Siona and I place them in a broader linguistic perspective. I finish this chapter by listing some of the remaining open ends, and I show how they are important topics for future research.

Chapter 2: The state of the art

2.1 Introduction

The goal of this chapter is to provide some background information on evidentiality and clause-typing that will allow us to better understand the synchronic and diachronic analysis of the expression of evidentiality in Ecuadorian Siona. This chapter contains definitions of the main concepts used in this dissertation and a discussion of the relevant literature.

Since this dissertation is an inquiry into the nature of evidentiality, this will be the first topic of this chapter. In section 2.2, I will provide a working definition of evidentiality and related notions that I use in this dissertation, and I will briefly discuss some relevant issues with respect to this concept in the literature. The aim of this section is to delineate my own position in the discussion on the nature of evidentiality.

The second topic of this chapter is the interaction between clause-typing and evidentiality. The interaction between these two concepts has not been the subject of extensive discussion in the literature. Scholars have observed interesting patterns of behavior of evidentials with respect to different clause types, but few have explained why evidentiality and clause types interact in many languages. In section 2.3, I will provide definitions of clause-typing and related concepts and in subsection 2.4, I will offer an overview of descriptions of interactions between evidentiality and clause types.

The previous topics are important for the synchronic analysis of the expression of evidentiality in Ecuadorian Siona. The third topic will facilitate the understanding of the diachronic analysis that I will tackle in chapter 8. In section 2.5, I will discuss the grammaticalization path of evidentiality in various languages of the world. This section will shed light on the common origins of grammatical evidentials.

The last topic of this chapter is a case study: I will describe the expression of evidentiality in Eastern Tukanoan languages as it is known from the literature in section 2.6. The purpose of this description is twofold. First of all, it will provide material for comparison of the expression of evidentiality in Eastern Tukanoan languages and Ecuadorian Siona. It will be shown that there are some commonalities with respect to this matter, but that there are also major differences. The second purpose of this case study is to set up the groundwork for the reconstruction of the origin of evidentiality marking and clause

types in Ecuadorian Siona. The diachronic analysis of the evidentials in Eastern Tukanoan languages will show reconstructed Proto-Eastern-Tukanoan evidential structures that are possibly related to the Proto-Siona evidential structures.

2.2. Defining evidentiality

The interest in the expression of evidentiality has grown during the last three decades. An increasing number of scholars from different frameworks are working on the topic. There are many works on evidentiality within the framework of descriptive linguistics and typology (Aikhenvald, 2004; Aikhenvald & Dixon, 2003; De Haan, 1999, 2001b; 2005 among others) and within formal frameworks such as generative grammar (Blain & Déchaine, 2007; Cinque, 1999; Rooryck, 2001a, 2001b; Speas, 2004; 2008 among others) and formal semantics (Davis, Potts, & Speas, 2007; Faller, 2002; Garrett, 2001; Matthewson et al., 2007; McCready & Ogata, 2007 among others).

The many conceptualizations of evidentiality reflect the different views on the topic. These conceptualizations often differ with respect to the relation between evidentiality and epistemic modality. Some scholars consider evidentiality to be part of (epistemic) modality while other scholars consider evidentiality and epistemic modality to be two separate categories (see for discussion Cornillie, 2009; Dendale & Tasmowski, 2001).

In this section, I introduce the concept of evidentiality and its boundaries as I understand them. In subsection 2.2.1, I present a working definition of the concept and I show how I apply this definition to different types of evidentials that are found in the world's languages. In subsection 2.2.2, I briefly address the discussion about the relation between evidentiality and epistemic modality. In subsection 2.2.3, I discuss how evidentiality can be expressed in the languages of the world.

2.2.1 Evidentiality and evidentials

Evidentiality is defined in this dissertation as the expression of the mode of access to the information presented by the utterance, following Michael (2008) and Gipper (2011).[15] Evidentials are, within this

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[15] This is not the canonical way to define evidentiality. Many scholars define evidentiality as the marking of information source (See for instance Aikhenvald, 2003b, 2004; Bybee, 1985; De Haan, 1999; Willet, 1988). The 'mode of access' definition is, however, not a radical change from the 'information source'

definition, structures that express how the information transmitted was acquired. Different evidentials can express different types of access modes.

The different types of access modes have been classified in various ways. One typical classification is the distinction between direct evidentials and indirect evidentials. A direct evidential expresses that the speaker had direct access to the information: he/she witnessed the event or participated in it. This means that the speaker can have visual or any other type of sensory access to the information. Some evidentials are said to express general direct evidentiality. An example of a direct evidential is shown in the Mosetenan language Mosetén (Sakel, 2003, p. 267; glosses adapted to mine):

Mosetén
(1)   Mö-wë   ishtyi' jady-i-ki-'-yaë.
       3F-DOWN.RIVER DIR   go.and.come.back-VSM-DR-F.SBJ-1S
       'I went there (and came back).'[16]

(2)   Yaë   se'w-e-'   wa-ti   aka'-khan.
       1S   hear-VSM-3F.OBJ   cry-VSM.SBJ   house-IN
       Mi'   ishtyi' käedäej   nä'-ï   khin'.
       3M.S DIR   baby   get.born-VSM.SBJ   now
       'I heard it cry in the house. The baby has been born now.'

The direct evidential *ishtyi'* is used in Mosetén when the speaker has direct access to the described event. In example (1), it is used in a context where the speaker participated in the event and therefore had direct access. In example (2), the speaker heard the baby cry and, therefore, had direct auditive access to the fact that the baby was born. Since this evidential includes different types of direct access to the event, it can be analyzed as a general direct access marker. A condition for this direct evidential analysis is that it cannot be used when the speaker does not have direct access to the information.

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definition, but zooms in on the precise semantic relation between the utterance and the evidential marker.

[16] It is not described by Sakel (2003, p. 267) whether the use of the evidential in combination with the first person has any specific effects in this context. 'First person effects' of evidentials have been described for many languages (see Aikhenvald, 2004, pp. 219-233 for an interesting overview of 'first person' effects).

Not all direct evidentials express general direct evidentiality. A further distinction that can be found within the direct evidential domain concerns the sensory mode of access. Some languages mark a distinction between visual and non-visual direct access. An example of such a language is Tariana, an Arawak language spoken in the Vaupés area. This distinction is illustrated in examples (3) and (4) (Aikhenvald, 2003a, pp. 134-135; glosses adapted to mine):

Tariana
(3)   Ceci   t∫inu-nuku   du-kwisa-ka.
        Cecília dog-TOP.N.A/S 3S.F-scold-REC.PST.VIS
        'Cecília scolded the dog.' (I saw it).

(4)   Ceci   t∫inu-nuku   du-kwisa-mahka.
        Cecília dog-TOP.N.A/S 3S.F-scold-REC.PST.N.VIS
        'Cecília scolded the dog.' (I heard it).

The sentences in examples (3) and (4) refer to the same event 'Cecília scolding the dog,' but they differ in the type of sensory access that the speaker had to the event. The speaker saw the event in example (3) and heard it in example (4), and therefore different verb forms are used. Both the Tariana visual and non-visual are examples of direct evidentials.

The opposite of direct evidentiality is indirect evidentiality. Speakers use indirect evidentials to convey that they did not have direct access to the information that they are divulging. Some languages have a general indirect evidential form, such as the Arawá language Jarawara (Dixon, 2003; Maslova, 2003), the Yukaghir languages (Maslova, 2003) and the West Caucasian language Abkhaz (Chirikba, 2003). However, many languages have indirect evidentials with a more restricted use. A typical restricted indirect evidential is an inferential evidential. When speakers use an inferential, they express that they did not have any direct access to the information, but they had access to the results of the described event or other evidence for the described information. The example from Tariana below illustrates the use of an inferential (Aikhenvald, 2004, p. 306; glosses adapted to mine):

Tariana
(5)   Valteir ite   t∫inu nihwã-nihka   di-na.
        Valteir POS+CLS:ANIM dog   3S.N.F+bite-REC.PST.INFR 3S.N.F-OBJ
        'Valteir's dog bit him.' (I infer it).

According to Aikhenvald (2004, p. 306), example (5) was uttered by a speaker who had only seen the result of the biting event that is described in the utterance: he only saw the imprint of the dog's teeth in the man's hand. So inferential evidentials are used to convey the meaning that speaker does not have direct access to the information itself, but she/he has personally observed evidence that justifies that information.

A second type of restricted indirect evidential is the assumed evidential. When speakers use this evidential they do not have direct access to the information; they assume that the expressed information is true based on reasoning. An example of an assumed evidential from Tariana is presented below (Aikhenvald, 2003a, p. 135; glosses adapted to mine):

Tariana
(6)   Ceci   tʃinu-nuku   du-kwisa-sika.
        Cecília dog-TOP.N.A/S 3S.F-scold-REC.PST.ASM
        'Cecília scolded the dog.' (I assumed).

The speaker in example (6) deduces that the dog was scolded based on the general knowledge of the behavior of dogs. The speaker does not have any hard evidence that the event happened.

A final type of restricted indirect evidential is the reportative. The reportative is a typologically common evidential in languages. Speakers use a reportative evidential when they lack any type of evidence, except for a report: someone told them about the information in the utterance. To illustrate this type of evidential I present an example from Cuzco Quechua below (Faller, 2002, p. 22):

Cuzco Quechua
(7)   Marya-qa   yachay wasi-pi-s   ka-sha-n.
        Marya-TOP   know   house-LOC-REP be-PRG-3
        'María is at school. (They say).'

The reportative suffix *-s(i)* in example (7) is used in order to mark that the speaker does not have direct access to María being at school; the speaker was informed by someone else about this information.

To summarize, the different types of evidentials are classified here as direct and indirect evidentials.[17] Direct evidentials express a speaker's direct access to the uttered information. The examples of direct evidentials presented above include a general direct, a visual and a nonvisual evidential. Indirect evidentials express the fact that the speaker did not have direct access to the information expressed in the sentence. The indirect evidentials presented above include a general indirect evidential, an inferential, an assumed evidential, and a reportative. An overview of the interpretations of these different evidentials is presented in table 2.1:

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[17] There are many more subclassifications possible for the direct and indirect evidentials. For instance, Willet (1988, p. 57) groups the inferential and the assumed evidential together in opposition to the reported evidential, because the inferential and the assumed evidential are both based on speaker internal deduction and the reported evidential is based on external information. The inferential has been classified differently by some people. De Haan (2001a) observes that it behaves like an in-between category between direct evidentiality and the reportative, because the speaker has some personal evidence that the utterance is true. Plungian (2010, p. 37) draws the same conclusion for both the inferential and the assumed evidential. He classifies both evidentials with the feature indirect and personal. Direct evidentials such as the visual and the nonvisual are classified as direct and personal and the reportative is classified as indirect and non-personal. Other interesting classifications of evidentials are found in the literature (Barnes, 1984; Malone, 1988; Stenzel, 2008a). Because these classifications of evidential interpretations are not the focus of this dissertation, I will not discuss them in detail.

Table 2.1: An overview of various types of evidentials and their interpretation

Direct / Indirect	Type	Interpretation
Direct	General	The speaker has direct access (visual / nonvisual) to the information.
	Visual	The speaker has visual access to the information.
	Nonvisual	The speaker has nonvisual access to the information.
Indirect	General	The speaker has no direct access (inferential / assumed / reportative) to the information.
	Inferential	The speaker has acquired the information by means of deduction from traces.
	Assumed	The speaker has acquired the information by means of reasoning based on common knowledge.
	Reportative	The speaker has no access to the information her-/himself. She/he has acquired the information by means of a report.

2.2.2 Evidentiality and epistemic modality

Evidentiality and epistemic modality are often discussed together. This is understandable, because evidentials and epistemic modals are often used for similar reasons: speakers want to express their knowledge relation with respect to the information they are presenting. When speakers use an evidential, they want to express how they acquired the information that they are presenting. This expression of mode of access often involves the expression of the integration of the information in the speakers' knowledge. When speakers have direct access to the information, it is often more integrated in the speakers' knowledge than when they had, for instance, inferential or reported access to the information. Therefore, speakers may use these indirect evidentials in order to mitigate their responsibility for the information (see Aikhenvald, 2004, pp. 135-137; Clift, 2006; B. A. Fox, 2001; Michael, 2008 among others). When speakers do not have direct access to the information, they often do not want to (fully) commit themselves to the truth of a proposition.

Epistemic modals are used to convey a similar function. Epistemic modality is taken here to be the expression of the (lower) degree to which the speakers commit themselves to the truth of their statement, following scholars such as Bybee, Perkins & Pagliuca (1994), De Haan (1999, 2001b), Givón (1982), Palmer (2001) and Willet (1988). This means that when speakers opt for an epistemic modal, they reduce their commitment to the truth of the proposition. The speakers do not state that the proposition is true when they use epistemic modals; they state that the proposition is necessarily or possibly true, depending on the force of the modal.

Epistemic modals are used to express that the information is not fully integrated in the speakers' knowledge, just as evidentials are. When speakers state that information is possibly or necessarily true, they are not fully committing to the truth of the proposition; the information is not fully integrated in the speaker's knowledge.

Because evidentials and epistemic modals are used for similar functions in language, there has been a long and still ongoing debate on whether or not these concepts are in fact part of a single linguistic category. Scholars such as Aikhenvald (2003b, 2004), De Haan (1999, 2001b, 2005), DeLancey (DeLancey, 2001), and Lazard (1999, 2001) strongly oppose the view that evidentiality and epistemic modality constitute a single linguistic category. These scholars argue that evidentiality is a category that is separate from epistemic modality. The main argument behind this view is that evidentials do not necessarily express the speaker's lower degree of commitment to the truth of the proposition. In some languages, epistemic modality and evidentiality are expressed by different markers. Tariana seems to be such a language in which the evidentials express the manner in which the speaker acquired the information, while the doubt marker expresses the lower degree of commitment by the speaker to the proposition. The co-occurrence of these two types of makers is illustrated in the example below:

Tariana
(8)   weperi-pua-se   di-a-<u>tha</u>ma-da.
       poison-CLS:RIVER-LOC   3S.N.F-say-FR+PRS.N.VIS-DUB
       'He must have said: "weperi-pua-se."'(But I am not sure that I
       heard it right). (Aikhenvald, 2003a, p. 152; glosses adapted to
       mine).

In example (8), the nonvisual portmanteau suffix *-thama* and the doubt suffix *-da* are used in the same sentence. The nonvisual portrays the

evidential meaning in the sentence: the speaker has nonvisual access. The doubt suffix portrays the epistemic modal function in the sentence: the speaker does not fully vouch for the fact that the other person said "weperi-pua-se." This example suggests that evidentiality and epistemic modality are separate categories in Tariana.

Other scholars have argued that evidentiality and epistemic modality are two sides of the same coin. Some scholars such as Frajzyngier (1985, 1987) Palmer (1986) and Willet (1988) take evidentiality to be a type of epistemic modality. Others take evidentiality to be a broad cover term for various knowledge related concepts. For instance, Chafe and Nichols (1986, p. vii) define evidentials as devices that are used to express the speakers' attitude toward the knowledge. This broad definition includes both the probability of its truth (epistemic modality in my definition) and the evidence type (part of evidentiality in my definition). Rooryck (2001a, 2001b) takes a similar approach to evidentiality.

In this dissertation, I take evidentiality and epistemic modality to be two different semantic fields (see also Michael, 2008). Since not all evidentials seem to express the speaker's degree of commitment to the proposition, evidentiality needs to be interpreted as a separate linguistic concept. Therefore, I use the term evidentiality only to refer to the semantic field of 'mode of access to the information' and epistemic modality to refer to the semantic field of 'the speakers' degree of commitment to the truth of the proposition.'

Although I take a semantically narrow approach to evidentiality this does not mean that I do not consider that the two concepts have many similarities. As mentioned above, evidentials and epistemic modals are often used for similar reasons, such as the expression of the integration of the information in the speaker's knowledge. Evidentials and epistemic modals do not only show similar functions in language, some evidentials show a formal and functional overlap with epistemic modals. That is, some evidential markers express both the mode of access to the information and the speakers' degree of commitment to the truth of the proposition (see for instance Faller, 2002; Matthewson et al., 2007; McCready & Ogata, 2007; Peterson, 2010).

For example, the conjectural in Cuzco Quechua, -chá, contains both an evidential component and an epistemic modal component in its semantics. The use of this evidential and epistemic modal clitic is illustrated in the example below:

Cuzco Quechua
(9) Mario-qa   wasi-n-ta-chá llinphi-sha-n.
     Mario-TOP   house-3-ACC-CNJ   paint-PRG-3
     'Mario must/may be painting his house.' (I conjecture). (Faller,
     2002, p. 175; glosses and translation slightly adapted).

The conjectural *-chá* in example (9) is both an evidential and an epistemic modal. It is an evidential because the speaker does not have direct access to the fact that Mario is painting his house: she/he only conjectures this. It is an epistemic modal because the speaker only states that it is possibly or necessarily true that Mario is painting his house: she/he is not fully vouching for the truth of the information. This conjecture shows that there are hybrid forms that are both evidentials and epistemic modals, but this, as shown above, cannot be said for all evidentials and epistemic modals.

2.2.3 Evidentiality: a label for different phenomena

The definition of evidentiality used in this dissertation is a narrow semantic one: only devices that express what type of access the speakers have to the information expressed in their sentences are considered to be evidentials. Speakers' attitudes towards the information and the degree of commitment to the truth of the proposition are not included in this definition as discussed above. These aspects are considered to be part of epistemic modality. This narrow approach to the semantics of evidentials is similar to Aikhenvald's approach, which also excludes epistemic modal aspects (Aikhenvald, 2003b, 2004).

There is, however, one major difference between Aikhenvald's approach to evidentiality (Aikhenvald, 2003b, 2004) and the one taken in this dissertation. I claim that evidentiality is not a linguistic category in its own right. Rather, evidential interpretations are parasitic on other linguistic categories including tense, aspect, modality, and illocutionary force[18] / clause-typing.[19] In my view, the fact that evidentiality is

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[18] The category 'illocutionary force' is discussed in this chapter in subsection 2.3.2.

[19] Aikhenvald (2004, chapter 4) discusses the evidential interpretation of a non-evidential construction at great length and refers to them with the term 'evidentiality strategy.' Using her terminology, I claim that all evidentials can be viewed as 'evidentiality strategies.' Under this view, all evidential interpretations arise from other linguistic categories.

parasitic on many different morphosyntactic categories is an argument in favor of the idea that is not a linguistic category in its own right. Of course, in addition to the grammatical categories that can be used to express evidentiality, evidentiality can also be expressed by lexical means.[20]

I will illustrate the parasitic nature of evidentiality by discussing how the evidential interpretation arises in the domains of tense/aspect and of modality. An example of a language that has a temporal operator expressing evidentiality is Cuzco Quechua (Faller, 2003, 2004). The tense suffix *-sqa* is used to express that a speaker does not have direct access to the information, as illustrated in the example below:

Cuzco Quechua
(10) a. Para-sha-sqa.
          rain-PRG-NX.PST
          'It was raining.' (I am told/infer). (Faller, 2004, p. 46).
      b. Para-sha-rqa.
          rain-PRG-PST
          'It was raining.' (implied that the speaker saw it raining).
          (Faller, 2004, p. 46).

Because of the use of the past tense marker *-sqa* in example (10b) it has to be concluded that the speaker did not have direct access to the event of raining. The past tense marker *-rqa* in example (10b) does not give rise to an indirect evidential interpretation. This tense does not have any evidential semantics: it is only implied that the speaker has direct access to the event. This direct access interpretation can be cancelled (Faller, 2003, 2004).

The evidential interpretation of *-sqa* is reached within the temporal domain. As described by Faller (2003, 2004), the past tense marker *-sqa* marks events that happen outside the speakers' perception field. One way to understand how temporal reference yields an evidential is to think of the past tense marker *-sqa* as a marker of the relation between situations. Three points in time can be distinguished, following Reichenbach (1947) in his classical approach:

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[20] Lexical and grammatical means to express evidentiality often coexist in the same language. For instance, Squartini (2008) describes both lexical and grammatical evidentials in French and Italian. I will not go into this issue here.

1. The point at which the described situation takes place (Event Time).
2. The point at which the speaker finds out about the described event (Reference Time).
3. The point at which the utterance is made (Speech Time).

The temporal relations between these situations provide evidential readings. [21] These situations can be applied to the evidential interpretation in example (10a) in the following way. The Event Time is the time during which it was raining. The Reference Time is, in this context, the moment that the speaker finds out that it rained, for instance, when he/she sees the wet streets or is informed by someone. The Speech Time corresponds to the moment that the speaker utters the sentence in (10a).

The Event Time, i.e. the raining, precedes the Speech Time, i.e. the speech act. This corresponds to the past tense reading. The Event Time also precedes the Reference Time, i.e. the moment the speaker realized that it rained. When a speaker infers that it has rained based on wet streets, the Event Time has already ended and the speaker only observes the results of the rain. When the speaker is informed by someone else about the raining, the speaker also finds out about the rain when it is already over and the actual rain can no longer be perceived except by its effects.

Cuzco Quechua, as described by Faller (2003, 2004) is not the only language with evidentials that operate within the temporal/ aspectual domain. Other languages that are described to operate within this domain are Tibetan (Kalsang et al., in press), Korean (Chung, 2005, 2007; Lee, 2011) and Russian (Jakobson, 1971).[22] However, even in a

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[21] Authors, such as Kalsang et al. (in press) and Jakobson (1971) have provided similar accounts of evidential interpretations. These authors all describe the evidential interpretations as falling out from the relation between various reference points in time. In his analysis of Russian verbal categories, Jakobson (1971) describes these as a narrated event (E^n), a speech event (E^s) and a narrated speech event (E^{ns}) referring to a reportative evidential.

[22] Chung (2005, 2007), Faller (2003, 2004) Kalsang et al. (in press) and Lee (2011) all describe how evidential interpretations can emerge from temporal semantics. However, the authors differ in their fine-grained semantic analysis of this emergence. For instance, a difference between Chung (2005, 2007) and Faller (2003, 2004) on the one hand and Kalsang et al. (in press) and Lee (2011) on the other hand is that the former introduce a spatial dimension in their analysis and the latter opt for an analysis that is more strictly temporal. The

language such as Dutch, that has not developed a grammatical evidential that operates within the temporal / aspectual domain; the present perfect can be used in specific contexts to express indirect evidentiality. This is illustrated in the example below:

Dutch
(11)   a.

Het	is	vannacht	erg	koud	geweest,
It	is	last.night	very	cold	be.PP
want	de	vijver	is	bevroren.	
since	the	pond	is	frozen.	

'It has been very cold last night, since the pond is frozen.'

  b.

?Het	is	vannacht	erg	koud	geweest,
It	is	last.night	very	cold	be.PP
ik	heb	me	liggen	rillen!	
I	have	me	lie	shiver	

'It has been very cold last night, I was shivering so much!'

The sentence *het is vannacht erg koud geweest*, as shown in example (11a) and (11b), mostly has an indirect evidential interpretation. Therefore, it is acceptable when it is used in combination with the evidence that the speaker has for it having been cold last night, as is shown in example (11a). It is, however, less acceptable, when the speaker had direct access to the cold her/himself, as shown in example (11b). This example from Dutch and the example from Cuzco Quechua show that evidential interpretations can come about within the temporal/aspectual domain of a language. These evidential interpretations, however, arise indirectly from the temporal/aspectual semantics of the verb.

      Another domain within which evidential meanings can emerge is modality. Various authors (De Haan, 2001b; Matthewson et al., 2007; McCready & Ogata, 2007; Peterson, 2010; Von Fintel & Gillies, 2010) have shown that propositional modals can be used in various languages in order to express the speaker's access to the information. Some languages in which epistemic modals can be used to express evidentiality are the Germanic languages (De Haan, 2001b). The example below is from Dutch:

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discussion of these interesting proposals is outside the scope of this dissertation.

Dutch
(12) Het   moet   een   goede film   zijn.
      It   must   a   good   movie   be
      'It must be a good movie.' or
      'It is said to be a good movie.' (De Haan, 2001b, p. 202).

The modal *moet* in example (12) is used to express that the speaker does not have direct access to the fact that the movie is good. The statement can either be based on a report (someone told the speaker that it is a good movie) or on inference (for instance, the speaker saw long lines in front of the movie theater).

The verb *moeten* is generally taken to be a modal verb that can be used deontically or epistemically. When speakers use it as an epistemic modal as in (12), they are less committed to the truth of the statement, than when they make a statement without an epistemic modal. The evidential interpretation arises from the fact that when speakers are not fully committed to the truth of the information, they probably do not have direct access to the information. Therefore, it can be understood that the speaker only has indirect access to the information. This shows that an evidential interpretation can arise within the modal domain as well.[23]

Both the temporal and the modal domains can produce evidential interpretation, as shown in the examples above. Another domain in which evidential interpretation can appear is in the domain of illocutionary force/sentential force. Examples of languages that are analyzed as having illocutionary force or sentential force evidentials are Cuzco Quechua (Faller, 2002; Portner, 2006), Gitksan (Peterson, 2010) and Cheyenne (Murray, 2010). This is the type of evidential that is under discussion in this dissertation. The way in which this type of evidential obtains its evidential semantics will be discussed in section 2.4.

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[23] There are different opinions on whether the epistemic modal verbs are semantically evidential. According to De Haan (2001b), the modal *moeten* 'must' in Dutch does not have a grammaticalized evidential meaning. Von Fintel and Gillies (2010) argue that the English epistemic modal verb *must* does have evidential semantics. Similar claims have been made for epistemic modals in non-Germanic languages, such as St'át'imcets (Matthewson, et al., 2007) and Gitksan (Peterson, 2010). The languages have, according to these authors, morphemes that are both evidential and epistemic modal. They represent the evidential semantics as the modal basis for the statement, i.e. the information on which the statement is based.

There are important morphosyntactic differences between the evidential interpretations that arise in the temporal, modal, and sentential force domains. In this dissertation, these differences in morphosyntactic behavior will be directly related to the fact that evidential interpretations operate within different morphosyntactic domains.[24] This means that if an evidential function is part of the tense/aspect system in a language, it operates most likely within the temporal/aspectual domain in the language. If an evidential is found in a modal system, as is the case of the evidential use of the Dutch modal *moeten*, the evidential meaning probably arises from a modal meaning. If an evidential forms one system with clause-typing elements, it probably operates within the sentential force/illocutionary domain. All these different types of evidentials, the temporal/aspectual, the modal and the sentential force/illocutionary force evidential, can be interpreted as ways to express the access mode of the information, even though the different evidentials reach their interpretation in different ways.

2.3 Clause types

The focus of this dissertation is the relation between evidentiality and clause-typing. After introducing the notion of evidentiality, I will now introduce the notion of 'clause type.' This section is structured as follows: I provide definitions of the term 'clause type' and related terms in subsection 2.3.1; I show how I differentiate the term 'clause type' from the term 'speech act' in subsection 2.3.2; and I discuss the role of the speech act participants in the different clause types, in subsection 2.3.3.

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[24] A similar proposal was also presented by Blain & Déchaine (2006, 2007). These authors propose that evidentials can operate in the CP (illocutionary) domain, the IP (temporal) domain, the AspP (aspectual) domain, and the vP (predicate) domain. Blain & Déchaine (2007) show how the Algonquian language Plains Cree possesses some evidentials that operate within the CP domain and other evidentials that operate within the IP domain. Waldie (2012) shows that the Wakashan language in Nuu-chah-nulth has some evidentials that operate within the CP domain, others within the IP domain and other within the VP domain. These distinct evidentials in both languages have distinct morphosyntactic behaviors.

2.3.1 Defining clause types

Languages code the function of a sentence in their morphosyntax. Typical functions of sentences are asserting, questioning, or requesting. The sentences that are morphosyntactically marked for these different functions are often referred to as 'sentence types' or 'clause types'[25] (König & Siemund, 2007; Portner, 2009; Sadock & Zwicky, 1985). Languages have different morphosyntactic devices for marking the distinct clause types: they can use word order, particles and verbal inflection and intonation to mark the different clause types. Greenlandic Eskimo, for instance, marks the clause types on the verb:

Greenlandic Eskimo
(13)   a.   Iga-voq.
                cook-3S.DCL
                'He cooks.' (König & Siemund, 2007, p. 278).
        b.   Iga-va?
                cook-3S.INT
                'Does he cook?' (König & Siemund, 2007, p. 279).
        c.   Iga-git!
                cook-2S.IMP
                'Cook!' (König & Siemund, 2007, p. 279).

The Greenlandic Eskimo declarative portmanteau suffix *-voq* in (13a) marks both subject agreement (third person singular) and the clause type of the utterance (declarative). According to various authors (Chierchia & McConnell-Ginet, 1990; Portner, 2004, 2009) declarative clauses convey the meaning of assertion. This means that when speakers use a declarative form, they assert the information in the proposition: the speakers vouch for the truth of the information.[26]

The interrogative suffix *-va* in (13b) is used to mark a third person singular subject for a question, but not for a statement,. In example (13c), the speaker uses an imperative suffix in order to require of the addressee that she/he cooks. The morphosyntactic marking of distinct clause types is referred to as 'clause-typing' in this dissertation.

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[25] Clause types or sentence types are distinct from speech acts. Although speech acts, similarly to clause types refer to a specific function of a sentence, there is a clear difference: while the clause type function is marked morphosyntacally, the speech act function is not. The latter function is understood pragmatically. This issue is discussed in more detail in subsection 2.3.2.

[26] In section 2.4, I will show that not all sentences that have been considered as declarative sentences are assertions.

Under this definition the suffixes *-voq*, *-va* and *-git* in Greenlandic Eskimo can be considered clause-typing markers.

The three clause types declarative, interrogative and imperative, as presented for Greenlandic Eskimo in example (13), are often considered to be the basic clause types that languages possess (König & Siemund, 2007; Lyons, 1977; Portner, 2009, pp. 262-263).[27] The semantic value of these three basic clause types (asserting in declarative clauses, asking in interrogative clauses and requiring in imperative clauses) is referred to as the sentential force of a clause (Chierchia & McConnell-Ginet, 1990; Portner, 2004, 2009).

Table 2.2: An overview of the major clause types and associated sentential force (adopted from Portner, 2009, p. 263).

Clause Type	Sentential Force
Declarative	Assertion
Interrogative	Asking
Imperative	Requiring

2.3.2 Clause types and speech acts as separate notions

The terms 'clause type' and 'speech act' should be carefully distinguished. Admittedly, both involve the function of a clause. However, despite this connection between the two concepts, they should be viewed as two distinct notions. The notion 'speech act' goes back to the speech act theory that was developed by Austin (1962) and Searle (Searle, 1976). This theory was developed in order to describe the constative and performative character that utterances can have. Speakers use utterances for different communicative functions. Searle (1976, pp. 10-16) presents the following taxonomy of speech acts:

1. Representatives: the speaker commits (to a varying degree) to truth of the proposition. This speech act type refers to the speaker's beliefs. This speech act type includes action such as stating, concluding, deducing, boasting and complaining.

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[27] Some other types that have been distinguished as minor clause types are exclamatives (Beyssade & Marandin, 2006; König & Siemund, 2007; Sadock & Zwicky, 1985; Zanuttini & Portner, 2003), imprecatives (curses), optatives (speaker's wishes) (Sadock & Zwicky, 1985), echo questions and answers to questions (König & Siemund, 2007). The discussion of these less frequent clause types falls outside of the scope of this dissertation.

2. Directives: the speaker attempts to make the addressee to do something. This speech act type includes action such as ordering, requesting, asking and begging.
3. Commissives: the speaker commits her/himself to a future action. This speech act type includes action such as promising, proposing, vowing and consenting.
4. Expressives: the speaker expresses her/his attitude or emotion towards the proposition. This speech act type includes action such as thanking congratulating, condoling, apologizing and welcoming.
5. Declarations: the speaker changes the reality when she/he conducts the act successfully, that is, the proposition of the utterance becomes true. This speech act type includes action such as appointing, marrying, baptizing, firing and resigning.

There is evidently considerable overlap between the speech act types and the clause types. For instance, both the representative speech act and the declarative clause type involve the function of committing the speaker (to a certain degree) to the truth of the proposition. However, there is no one-on-one relation between speech act types and clause types. One indication of this is that questions and requirements are expressed by two distinctly marked clause types, while they represent a single speech act type, namely the directive type. The declarative clause type, by contrast, can be used for all speech act types, as illustrated in the example below:

(14) a. I think that he will come tomorrow. (Representative).
b. I would appreciate it if you could open the window. (Directive).
c. I will help you tomorrow. (Commissive).
d. I thank you for your help. (Expressive).
e. I appoint you as the chairman of the committee. (Declaration).

Examples (14a-e) show the use of a declarative clause type in a representative, directive, commissive, expressive and declaration speech act. Example (14b) shows that although the interrogative and imperative clause types are commonly used to express directive speech acts, it is also possible to use a declarative clause to express this type of speech act.

These differences between the notions are an indication that clause types and speech acts need to be kept terminologically separate. While the notion of 'clause type' is a morphosyntactic category, the notion of 'speech act' is not. The latter notion refers to the communicative function of a sentence. This function is a pragmatic one, since it often arises from the context and is not marked by a single grammatical category. This pragmatic interpretation of an utterance is often referred to as the illocutionary force (Portner, 2004, 2009).[28] The differences between the clause types and speech acts are summarized in table 2.3:

Table 2.3: Differences between clause types and speech acts

Notion	Interpretative force	Morphosyntactic marking
Clause type	Sentential force	Yes
Speech act	Illocutionary force	No

2.3.3 The role of the speech act participants in clause types

The speech act participants play different roles in the distinct clauses types. The difference between the role of the speaker and that of the addressee is crucial, especially with respect to the distinction between assertions and questions. Both assertions and questions are concerned with the transmission of knowledge. Speakers transmit knowledge when they assert something and speakers request that addressees transmit knowledge when they ask a question. So there is an essential difference between these two clause types with respect to the person who holds the knowledge. This is illustrated in the example below:

(15) a.   Jaime is at home.   (Assertion).
      b.   Is Jaime at home?   (Question).

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[28] Portner (2004; 2009, pp. 262-263) shows that the sentential force and the illocutionary force of an utterance can be distinct, showing the following two examples:

(i)   I wonder if you can tell me the time. (Portner, 2009, p. 263).
(ii)   Would you please pass the salt? (Portner, 2004, p. 235).

In example (i), the sentential force of the utterance is asserting, but the illocutionary force is asking. In example (ii), the sentential force is asking, but the illocutionary force is requesting.

When a speaker utters the assertion in (15a), it is assumed that she/he knows that Jaime is at home and the addressee probably does not. When a speaker utters the question in (15b), she/he assumes that the addressee knows whether Jaime is at home and she/he probably does not know. This shows that there are different knowledge asymmetries in assertions and in questions. The asymmetry in assertions can be described in the following way: the speaker has information that addressee does not have. In questions, knowledge asymmetry is the other way around: the addressee has information that speaker does not have.

These asymmetries in assertions and questions are grammatically marked in some languages. This is what happens in egophoric systems.[29] An egophoric system is a system in which a marker is used for first person in declarative clauses and for second person in interrogative clauses.[30] An example of such a marker is the suffix *-s* in the Barbacoan language Awa Pit. This suffix is used to mark that the verb has a first person subject in assertions and a second person subject in questions, as illustrated in the examples below:

Awa Pit

Assertion
(16)   (na=na)   pala   ku-mtu-s.
        (1S.(NOM)=TOP)   plantain   eat-IMPF-EGO
        'I am eating plantains.' (Curnow, 2002, p. 613).

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[29] These type of systems are also referred to as conjunct/disjunct systems (see for instance Curnow, 2002; DeLancey, 1992; Hale, 1980; Hargreaves, 2005). The term 'egophoric' was used by Tournadre (2008) to refer to the marker that was used for first person in assertions and second person in questions. DeLancey (2010) and San Roque, Floyd & Norcliffe (2012) used the term 'egophoric' system for a system that contains an egophoric marker.

[30] The egophoric suffixes in some languages refer to a first person subject in assertions and a second person subject in questions. However, in some languages, such as Newari and Tsafiki, the suffix does not (just) refer to a subject. In Newari, the egophoric suffix is only used when the first person in assertions and the second person in questions is a conscious voluntary instigator of the action (Hale, 1980). In Tsafiki, the egophoric marker *-yo*, referred to as 'congruent marker' is not only used for subjects, it is also used when the speaker in assertions and the addressee in questions are involved in the action (Dickinson, 2000, 2011). To illustrate this, the egophoric marker can also be used in utterances such as 'the smoke is going into my eyes' and 'is the smoke going into your eyes.'

Question
(17)   shi=ma   ki-mtu-s?
        what=INT   do-IMPF-EGO
        'What are you doing?' (Curnow, 2002, p. 613).

The egophoric marker -*s* in Awa Pit is used with a first person subject in assertions, as shown in example (16) and it is used with a second person subject in questions, as shown in example (17).
        When a verb has a second or third person subject in assertions, or a first or third person subject in questions the non-egophoric suffix -*y* is used in the language, as illustrated in the examples below:

Assertions
(18)   (nu=na)   pala   ku-mtu-y.
        (2S.(NOM)=TOP)   plantain   eat-IMPF-N.EGO
        'You are eating plantains.' (Curnow, 2002, p. 613).

(19)   (us=na)   atal   ayna-mtu-y
        (3S.(NOM)=TOP)   chicken   cook-IMPF-N.EGO
        'He/she is cooking chicken.' (Curnow, 2002, p. 613).

Questions
(20)   min=ta=ma   ashap-tu-y?
        who-ACC=INT   annoy-IMPF-N.EGO
        'Whom am I annoying?' (Curnow, 2002, p. 613).

(21)   min=ta-s   a-mtu-y?
        where=LOC-ABL   come-IMPF-N.EGO
        'Where is he coming from?' (Curnow, 2002, p. 614).

The egophoric marker in Awa Pit marks a second or third person subject in assertions, as shown in examples (18) and (19). The same marker is also used for first person and third person subjects in questions, as shown in examples (20) and (21).
        The egophoric suffix corresponds to the person who holds the knowledge, the speaker (first person) in assertions and the addressee (second person) in questions. I will refer to the person who holds the knowledge as the epistemic authority, following Curnow (1997, pp. 209-

217; 2002) and Hargreaves (1990, 1991, 2005) among others.[31] The epistemic authority is not only an important notion in egophoric systems. The difference in epistemic authority is one of the defining characteristics that separate assertions and questions in general. While both clause types are used for the transmission of knowledge, the epistemic authority is the speaker in assertions and the addressee in questions. In questions, the speaker only has the epistemically subordinate role of inquirer.

Imperative clauses lack an epistemic authority in, since this clause type does not involve the transmission of knowledge. Imperatives have a directive function and are used to make commands or requests. However, although the imperative lacks an epistemic authority, there is an authority involved in this clause type. That is to say, when speakers use an imperative clause, they take the authority to give orders. I refer to this type of authority as the deontic authority.[32] [33] This means that in both declarative and imperative clause, the speaker holds the authority. There is, however, a difference in the type of authority: the speaker holds the epistemic authority in declarative clauses and the deontic authority in imperative clauses.[34] An overview of the different types of authority is provided in table 2.4 below:

Table 2.4: Major clause types, types of authority, and their authority holder

Clause type	Type of authority	Authority holder
Declarative	Epistemic	Speaker
Interrogative	Epistemic	Addressee
Imperative	Deontic	Speaker

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[31] The person that holds the knowledge has also be referred to by terms such as knower (Bruil, 2012; Dickinson, 2011), origo (Garrett, 2001; Waldie, 2012), seat of knowledge (Speas & Tenny, 2003) and assertor (Creissels, 2008).

[32] The term 'deontic authority' was already used by Bochenski (1974) in his book on the logic of authority. It has also recently been used in discourse analysis by Stevanovic & Peräkylä (2012). These authors use the term in a very similar way as I do here.

[33] Aikhenvald (2010, p. 4) refers to what I call the 'deontic authority' as the 'commander.'

[34] See Beyssade & Maradin (2006) for another interesting approach to the different roles of speech act participants in the different clause types.

2.4 Interactions between evidentiality and clause types

Languages differ as to whether evidentials can occur in different clause types (Aikhenvald, 2004, p. 242). The use of evidentials in the different clause types has interesting semantic effects. In some cases, the sentential force of an utterance affects the interpretation of the evidential. In other cases, specific types of evidentials influence the sentential force. These interactional effects can be an indication of the domain within which the evidential operates.

Evidentials typically occur in declarative sentences. Some evidentials used in declarative clauses show interesting effects on the sentential force of the utterances. I discuss one of these effects in subsection 2.4.1. When languages have the possibility to use evidentials in non-declarative clauses, this use has other revealing effects. I describe some of these for interrogative clauses in subsection 2.4.2, and for imperative clauses in subsection 2.4.3. I provide an interim summary in 2.4.4.

2.4.1 Evidentials in declaratives

Evidentials are used by default in declarative clauses. Speakers use evidentials in these contexts in order to demonstrate how they obtained the information they are transmitting. There are to my knowledge no languages with evidentials that are deployed in interrogative or imperative clauses but not in declarative clauses. Since the declarative use of evidentials is their default use, there are no semantic effects on the interpretation of evidentials in declarative clauses; evidentials in the declarative show their default interpretation.

There are, on the other hand, evidentials that affect the sentential force of a declarative clause. Reportatives in the languages Cuzco Quechua and Cheyenne show this effect. When speakers make use of a reportative in these languages, they do not vouch for the truth of the information, they only present the information. Example (22) is from Cuzco Quechua and example (23) from Cheyenne:

Cuzco Quechua

(22) pay-kuna-s   ñoqa-man-qa   qulqi-ta   muntu-ntin-pi
      (s)he-PL-REP   1S-ILL-TOP   money-ACC   lot-INCL-LOC
      saqiy-wa-n   mana-má   riki   riku-sqa-yki   ni
      leave-1OBJ-3   NEG-SUPR   right see-PP-2S.POS   not
      un   sol-ta centavo-ta-pis saqi-sha-wa-n-chu.
      one   sol-ACC cent-ACC-ADD   leave-PRG-1OBJ-3-NEG
      'They left me a lot of money, but, as you have seen, they didn't
      leave me one sol, not one cent.' (It is said/they said that they left
      me a lot of money). (Faller, 2002, p. 191).

Cheyenne

(23) É-hó'tȧheva-sėstse Floyd   naa   oha é-sáa-hó'taheva-he-Ø.
      3-win-REP.3S   Floyd   and   CNTR 3-NEG-win-MOD-DIR
      'Floyd won, I hear, but I'm certain he didn't.' (Murray, 2010, p.
      58).

The Quechua sentence 'they left me a lot of money' in example (22) is
marked with a reportative -*s*, so the speaker is conveying that people
say that she was left with a lot of money. She does, however, not vouch
for the truth of the proposition, since she knows that the proposition is
false. The speaker is merely presenting what has been said in this case.
A similar case can be made for the Cheyenne example in (23). The
speaker is just conveying that it is said that Floyd won, but she / he
knows Floyd did not. The speaker just presents reported information
without vouching for it.

These examples show that when the reportative is used in
declarative clauses in Cuzco Quechua and Cheyenne, the interpretation
of the clause is modified. The clause does no longer carry the
interpretation of asserting, it has weakened to a mere presentation of a
proposition. The speaker does not vouch for the truth of the proposition.

This weakening of the force of the utterance by the reportative
has been analyzed by Faller (2002) and Murray (2010) as an operation
that takes place within the domain of illocutionary force. These authors
analyze the act of asserting a proposition as a type of illocutionary force.
Therefore, the weakening of the force of the utterance from assertion to
presentation is a modification of the illocutionary force, under this view.
In my view, however, weakening the force of the utterance is better
analyzed as a modification of the sentential force of the clause. It is not
simply a modification of its communicative function. Since this process
is morphologically marked, and since it shows a semantic impact on the

clause rather a purely pragmatic one, the process seems to operate within the domain of sentential force.[35]

The semantic effect of Quechua and Cheyenne reportatives on the declarative interpretation suggests that not all declarative clauses manifest the sentential force of assertion. Declarative clauses that contain reportative suffixes in these languages merely present the information in the proposition without a commitment on behalf of the speaker. That is why I make a difference between assertive clauses and reportative clauses. Assertive clauses have the sentential force of assertion, while reportative clauses have the sentential force of presentation.

These two clause types differ with respect to the assignment of epistemic authority. In assertive clauses, the speakers assign the epistemic authority to themselves. They know that the proposition is true. In reportative clauses, speakers do not assign the epistemic authority to themselves, but to a non-speech act participant. When speakers use a reportative, they state that a third person has claimed the proposition to be true. This shift in epistemic authority from the speaker to a non-speech act participant when a reportative is used is also observed by Mushin (2001, p. 34) and Nuckolls (2008) for various Quechua varieties.[36]

Not all reportatives in the languages of the world modify the sentential force of a clause. For instance, the reportative in the Salish language St'át'imcets does not modify the sentential force of the clause, as illustrated in example (24):

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[35] Portner (2006) and Peterson (2010) draw this same conclusion using the theory of dynamic semantics.

[36] Mushin (2001, p. 34) describes how 'origo' shift from the speaker to 'someone other than the current speaker.' This author uses the term 'origo' for what I refer to as 'epistemic authority.' Nuckolls (2008) provides a different description of the fact that a clause has a third person epistemic authority. This author shows how clauses with a 'direct evidential' show the perspective of 'the speaking self' and clauses with a reportative show the perspective of the other.

St'át'imcets

(24)   Context: You had done some work for a company and they said
       they put your pay, $200, in your bank account. But actually, they
       didn't pay you at all.

#um'-en-tsal-itás		ku7	i	án'was-a
give-DR.TRS-1S.OBJ-3PL.ERG		REP	DET.PL	two-EXIS

xetspqíqen'kst táola,	t'u7	aoz	kw
hundred dollar	but	NEG	DET

s-7um'-en-tsál-itas	ku	stam'
NOM-give-DR.TRS-1S.OBJ-3PL.ERG	DET	what

'[reportedly] They gave me $200, but they didn't give me
anything.'

Corrected to:

tsút-wit	kw	s-7um'-en-tsal-itás	ku7
say-3PL	DET	NOM-give-DR.TRS-1S.OBJ-3PL.ERG	REP

i	án'was-a	xetspqíqen'kst táola…
DET.PL	two-EXIS	hundred dollar…

'They SAID they gave me $200…' (Matthewson et al., 2007, p.
214).

The utterance 'they reportedly gave me $200' in St'át'imcets, as shown
in (24) is not felicitous when the speaker knows for a fact that she/he
did not receive the money. This means that the speaker vouches at least
for the possibility that the information represented in the proposition is
true. According to Matthewson et al. (2007), this is an indication that the
reportative *ku7* is a propositional modal. The evidential meaning of the
reportative arises from the morpheme's modal base, in this approach.

        To summarize this section, there seem to be some evidentials
that can modify the sentential force in declarative clauses. Some
reportative evidentials modify the sentential force by shifting the
epistemic authority from the speaker to a non-speech act participant.
The outcome of this shift is that the speaker does not vouch for the truth
of the proposition, she/he only presents the information. This is an
indication that this type of reportative is a sentential force modifier.
Other evidentials, such as the reportative in St'át'imcets, do not modify
the sentential force in this way. It may be an indication that evidentials
do not operate within a sentential force domain, when they do not

modify the sentential force of a clause, as argued by Matthewson et al. (2007) and Peterson (2010).[37]

2.4.2 Evidentials and interrogative clauses

There are several semantic effects that can be found when evidentials are used in questions. One of these effects is that the evidential does not refer to the speaker's mode of access to the information but to the mode of access that the addressee may have. This effect has been noted for evidential adverbs in English by Speas & Tenny (2003, p. 335) and an example is provided in (25):

| (25) | a. | Mary evidently knew the victim. | (must be evident to SPEAKER) |
| | b. | Who evidently knew the victim? | (must be evident to HEARER) |

The adverb *evidently* is used in declarative sentences, as shown in example (25a), when speakers have evidence for their claim. The adverb is used in interrogative sentences when the speaker believes that the addressee has evidence for the requested information.

      The same effect is found for morphologically bound evidentials. For instance, the Nakh-Daghestanian language Chechen shows this effect as well, as illustrated in the examples below:

Chechen
(26)   Zaara-s suuna koch   iic-i
          Zara-ERG 1S.DAT dress.NOM   take:PRF-DIR.REC.PST
          'Zara bought a dress for me.' (I saw it). (Molochieva, 2011, p. 219).

(27)   Zaara-s suuna koch   ec-na   xilla.
          Zara-ERG 1S.DAT dress.NOM   take:PRF-CVB.ANT be.PRF
          'Zara bought a dress for me.' (I didn't see it) (I have not seen this dress before). (Molochieva, 2011, pp. 219-220).

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[37] Another evidential that is analyzed as a modifier of illocutionary force is the conjectural *-chá* in Cuzco Quechua. According to Faller (2002, 2007), the conjectural tones down the illocutionary force of assertion. The outcome is that an utterance with a conjectural only asserts the possibility that the embedded proposition is true.

(28) naana-s   ch'eepalg-ash   d-i-r-i?
      mother-ERG cookie-PL-NOM(D) D-make:PRF-DIR.REM.PST-INT
      'Did (your) mother make some cookies? (The hearer saw this).
      (Molochieva, 2011, p. 228).

(29) cuo   ch'eepalg-ash   d-i-na   xill-i?
      3S.NOM cookie.PL-NOM(D)   D-make:PRF-CVB.ANT   be.PRF-INT
      'Did s/he make some cookies?' (The hearer did not see this).
      (Molochieva, 2011, p. 228).

The assertion in example (26) and the question in example (28) contain the direct evidential past tense.[38] The interpretation in assertions, as in (26), is that the speaker has direct access to the information. The interpretation in questions, as in example (28), is that the speaker assumes or knows that addressee has direct access. The assertion in (27) and the question in (29) contain a perfective converb and the perfective auxiliary verb *xilla* 'to be.' This periphrastic construction forms the indirect evidential past tense in Chechen (Molochieva, 2011, p. 219).

The effect of the use of this evidential in questions is the same as with the direct evidential past. When this past tense is used in assertions as in (27), it indicates that the speaker does not have direct access to the information. When it is used in questions as in example (29), the speaker assumes or knows that the addressee does not have direct access to the information. The examples from English and Chechen illustrate that the use of evidentials in questions in these languages have identical results. In both languages, evidentials express the access mode of the epistemic authority. In questions, the perspective shifts to the addressee. This shift shows that the clause type can modify the interpretation of evidentials.

The change of perspective has been described for evidentials that operate within different domains. It has been found with evidentials that are analyzed as propositional modal evidentials. Examples are found in St'át'imcets (Matthewson et al., 2007) and Gitksan (Peterson, 2010). Other types of evidentials also show this perspective change. For instance, the Cuzco Quechua and Cheyenne evidentials, which were analyzed as illocutionary evidentials, also refer to the addressee's access to the information when they are used in interrogative clauses (Faller, 2002; Murray, 2010). Because this

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[38] The witnessed past in Molochieva's (2011) terminology. This author deploys the term 'unwitnessed past' to, what I refer to as the indirect evidential past tense.

perspective change occurs with different types of evidentials, it cannot be used as a basis for establishing domains within which the evidentials operate, as Matthewson et al. (2007) argue.

A different effect is found in Cuzco Quechua when evidential clitics are used in content questions. Questions with evidential clitics are ambiguous. One interpretation is the same as in English and Chechen. The perspective in questions shifts from the speaker to the addressee; the evidential expresses the access that the speaker expects the addressee to have. The second interpretation is illustrated in the example below:

Cuzco Quechua
(30) a.   Faller to consultant's mother-in-law (who is hard of
            hearing):
            Imayna-n   ka-sha-nki?
            how-BPG   be-PRG-2S
            'How are you?' (Faller, 2007, p. 11).
      b.   Consultant to mother-in-law:
            Imayna-s   ka-sha-nki.
            how-REP   be-PRG-2S
            'How are you?' (She says). (Faller, 2007, p. 11).

In example (30b), it is shown that the reportative -s can be used in content questions in Cuzco Quechua in order to mark that the speaker is asking a question on behalf of someone else. The consultant asked this question on behalf of Martina Faller in this example. This shows that there is a perspective shift in this interpretation. This time it is not the epistemic authority that shifts, as in the case of the reportative that is used in declarative sentences. The epistemic authority is still the addressee in this question. By contrast, the role of the inquirer shifts from the speaker to a non-speech act participant. Interestingly, although the epistemic authority does not shift, the reportative is used to shift the speaker's role to a non-speech act participant, as in the case of the use of the reportative in declarative clauses.[39]

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[39] A third effect of the use of evidentials in questions is that the evidential can refer to the speaker's access to presupposed knowledge in the sentence (see for interesting examples Aikhenvald, 2004, p. 244; Maslova, 2003; McLendon, 2003). A fourth effect is that the use of certain evidentials can take away the interrogative force of a question. For instance, when the Gitksan inferential =ima is used in questions, the sentential force changes from a question to a statement of the 'I wonder' type (Peterson, 2010, pp. 146-147).

The shift of the inquirer's role seems to be a modification of the sentential force and not of the illocutionary force. It is the semantics rather than the pragmatics of the utterance that changes as a result of the use of this morpheme. Since the Cuzco Quechua evidential *-s(i)* has the capacity to modify the interrogative sentential force, it can be analyzed as a sentential force modifier.

2.4.3 Evidentials and imperative clauses

Evidentials are often used, as shown in the previous subsections, to convey the way in which the epistemic authority obtained the transmitted knowledge. Imperative clauses are directive in nature. They do not have the purpose of transmitting knowledge and therefore do not have an epistemic authority. Therefore, it is unexpected that any evidentials can be used in imperative clauses, but nevertheless some evidentials are indeed found in these contexts, as Aikhenvald (2004, pp. 250-253; 2010, pp. 138-141; 2012, pp. 266-267) shows. The evidential that is most commonly found in imperative clauses is the reportative. An example of the use of the reportative in an imperative clause presented below is from the Panoan language Shipibo-Konibo:

Shipibo-Konibo
(31)   Onpax-ki   be-wé!
        Contained.water:ABS-REP   bring-IMP
        '(S/he says that you must) bring water!' (Valenzuela, 2003, p. 42).

In example (31), the evidential clitic *-ki* is used in an imperative clause. Examples of other languages that can express reported evidentiality in imperatives are Tariana, various Tukanoan languages,[40] Warlpiri, and Cavineña, according to Aikhenvald (2004, pp. 250-253; 2008, pp. 200-202; 2010, pp. 138-141; 2012, pp. 266-267).

The effect of the use of the reportative is that this utterance expresses an order that was made on behalf of someone else. This suggests that the deontic authority is not the speaker anymore, but that it has shifted to a non-speech act participant. This is similar to the effect that is found with the use of the reportative in declarative clauses. The difference is that it is the epistemic authority that shifts in declarative

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[40] For my analysis of the 'secondhand imperatives' in Eastern Tukanoan languages see subsection 2.6.2.

clauses and the deontic authority in imperative clauses, but in both cases they shift to a non-speech act participant.

Since clause-typing concerns the marking of the deontic authority, the above presented use of the reportative in Shipibo-Konibo suggests that the reportative can operate at the clause type level. To be more explicit, the shifting function of the deontic modality that the reportative fulfills in imperatives, as in example (31), seems to be a clause-typing function.[41]

2.4.4 Evidentials clause types or evidential clause type modifiers?

In the previous subsections it was shown that the semantics of clause types and evidentials interact. In some cases the semantics of the clause type can modify the semantics of the evidentials. This is what happens when evidentials are used in questions in some languages, such as English and Chechen. The evidential refers to the assumed or known mode of access of the addressee and not of the speaker. This shift is due to a shift of the epistemic authority.

In other languages, the semantics of the clause type, the sentential force, is modified by the evidential semantics. It was shown that the reportative in various languages can modify the sentential force of an utterance. The function of a sentential force modifying reportative is that it shifts the epistemic authority of the speaker to a non-speech act participant. In declarative clauses with this type of reportative, a non-speech act participant becomes the epistemic authority, in interrogative clauses, a non-speech act participant becomes the inquirer and in imperative clauses, a non-speech act participant is the deontic authority. An overview of the shifted roles for the three major clause types is presented in table 2.5 below:

Table 2.5: Clause types and the corresponding role that shifts from speaker to non-speech act participant

Clause type	Shifted role
Declarative	Epistemic authority
Interrogative	Inquirer
Imperative	Deontic authority

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[41] See for more interesting uses of evidentials in imperative clauses Aikhenvald (2004).

The impact of the role shift from speaker to non-speech act participant is most drastic in declarative utterances. When a reportative modifies the roles in interrogative clauses, i.e. the inquirer, and in imperative clauses, i.e. the deontic authority, the clause preserves the sentential force of, respectively, asking and requiring. The only change in these clauses is that the source of the question and the source of the order changes; it is no longer the speaker, but a non-speech act participant.

By contrast, declarative clauses do not maintain their sentential force of asserting. When a reportative is used as a sentential force modifier in a declarative clause, the speaker does not assert the information. She / he does not take responsibility over the information and she / he shifts the epistemic authority to a non-speech act participant. Because of this shift, the sentential force of a declarative clause with a reportative changed from an assertion in which the speaker takes responsibility for the information to a mere presentation in which the speaker takes no such responsibility. Therefore, a distinction needs to be established between assertive declarative clauses that have *assertion* as their sentential force and reportative declarative clauses that have *presentation* as their sentential force.[42] The table 2.6 below is a modification of the overview of the major clause types and their associated sentential force shown above in table 2.2, including the assertive and reportative declarative clause types:

Table 2.6: An overview of the major clause types and associated sentential force

Clause Type		Sentential Force
Declarative	Assertive	Assertion
	Reportative	Presentation
Interrogative		Asking
Imperative		Requiring

2.5 Historical sources for evidentials

The expression of evidentiality differs from language to language, as discussed above. The languages of the world display an enormous diversity in the semantic and grammatical structures that can express

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[42] Declés & Guentchéva (2000) and Guentchéva (2011) also make a distinction between assertive clauses in which the speaker affirms that the provided information is true and non-assertive clauses in which the speaker does not do this.

evidentiality. Not only do the semantics and morphosyntax of these evidentials vary tremendously, there also is an extraordinary variety in the historical origins of grammatical evidentials. Evidentials in many languages show some transparency with respect to their origin. There are often similarities in form between an evidential and some other element in the language. These elements can stem both from the verbal and nominal domain. That is, various evidentials originate, for instance, from verbs, demonstratives and nouns (see Aikhenvald, 2004, chapter 9; 2011).

In this section, I introduce various types of origins of evidentials within the verbal domain. I discuss evidentials that have developed from a temporal or aspectual element in subsection 2.5.1; evidentials that have developed from a lexical or auxiliary verb in subsection 2.5.2; and evidentials that have developed from a subordinate verb construction in 2.5.3. In section 2.5.4, I will summarize this section.

2.5.1 Tense / aspect as an evidential

Many languages have evidentials that have developed from temporal or aspectual elements (Aikhenvald, 2004, p. 279; 2011, p. 611; Bybee et al., 1994, pp. 95-97). The most common reanalysis is that the past tense or perfective aspect becomes grammaticalized as an indirect evidential, often an inferential or a general indirect evidential. An example that illustrates this development is the Cuzco Quechua indirect evidential marker *-sqa*, which was introduced in section 2.2.3. This tense suffix marks that the described situation took place in the past and that the speaker did not have direct access to the situation. The origin of this evidential tense is the perfective marker **-sqa*, which is still found as a perfective nominalizer in the language (Cerrón-Palomino, 1987, pp. 212-213). Similar developments have been described for languages all over the world, such as the Balkan languages (Friedman, 1986, 2003), Tajik (Lazard, 2001), Turkish (Aksu-Koç & Slobin, 1986), Finno-Ugric languages such as Komi, Mari and Northern Khanty (Aikhenvald, 2004, p. 287; Johanson, 2003; Nikolaeva, 1999), the Tupi-Guarani languages (Seki, 2000, p. 344) and the Algonquian language Cree / Montagnais / Naskapi (James, Clarke, & MacKenzie, 2001).

Past tense and perfective aspect morphemes generally do not express the access mode to the information. Therefore, the question arises how these morphemes obtain an evidential interpretation over time. In order to answer this question, it is necessary to discuss the fine grained semantics of a perfective aspect marker. Following Reichenbach

(1947), the perfective is analyzed in this dissertation as the relation between situations. These situations include the Event Time, the Reference Time and the Speech Time, as introduced in subsection 2.3.3. In the case of the perfective, the Event Time, i.e. the moment at which the described event took place, has ended before the Reference Time. The Reference Time is a moment in time that is taken as a reference point in this analysis.[43] This reference point is often context specific. The relation between the Speech Time and the other two points in time is generally not crucial for the interpretation of a perfective marker.

The fine grained semantics of perfective markers is not very different from the fined grained semantics of temporal / aspectual evidentials. These evidentials often mark events that occurred before the Reference Time. However, in contrast with the case of the perfective markers the Reference Time is not a point in time that can be derived from the context. In the case of the evidentials, the Reference Time refers to a more specific moment in time: the moment that the speaker found out about the event. The speaker only has access to the event after it took place.

The main change that occurs during the grammaticalization of a temporal/aspectual evidential that derives from a perfective marker is that the Reference Time starts to be the moment during which the speaker had access to the described event. There is no change in the temporal relation between the Event Time and the Reference Time. In the case of both the perfective and the evidential the Event Time occurs before the Reference Time.[44]

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[43] Mostly the Reference Time occurs before the Speech Time in languages. However, that is a language specific feature.

[44] It seems that this temporal relation may change in the case of some temporal /aspectual evidentials. An example of a language with an temporal/aspectual evidential that has this type of interpretation is Ecuadorian Spanish, as illustrated below:

(iii) Él   ha   sido   muy   famoso.
       he   has   been   very   famous
       'He turns out to be very famous.'

In example (iii), the Event Time has not ended before the Reference Time. The event of the man being famous has started before the speaker found out, but it has not ended before the speaker found out. In this case the evidential expresses that the speaker only recently became aware of him being famous, while he has been famous for some time. This type of interpretation is often found with stative verbs. In the case of stative verbs, the evidential often

2.5.2 Clause union

Another common origin for evidentials is a matrix verb developing into an evidential affix. Possible sources for evidentials are perception verbs, speech verbs and existential or locative verbs (Aikhenvald, 2004, pp. 271-275). The evidentials that develop from verbs of perception can give rise to various types of evidentials. For instance, the Yuman language Maricopa has a visual evidential -'*yuu* that probably evolved from the verb *yuu* 'to see' in combination with the first person prefix '- (Gordon, 1986, pp. 83-84). Another example is the Tariana nonvisual evidential suffix -*mha* that seems to have originated from the verb *hima* 'to hear, to feel, to seem, to perceive' (Aikhenvald, 2003a, p. 159; 2004, p. 273; 2011, p. 607).

It is common as well for evidentials to arise from verbs expressing speech. This type of verbs often generates quotative or reportative evidentials (Aikhenvald, 2004, pp. 271-273; 2011, p. 607). An example of an evidential that probably originated from a speech verb is the evidential clitic -*ronki* that is found in the Panoan language Shipibo-Konibo. This evidential seems to have developed from the declarative marker **-ra* and the speech verb **onki*, which is still used in the form of *onke* in the related language Matses meaning 'to speak' (Valenzuela, 2003). Other examples of speech verbs that developed into reportative or quotative evidentials are found in the Wakashan language Makah (Jacobsen, 1986, p. 17), the Southern Wintuan language Patwin (Whistler, 1986, p. 65), the Northeast Caucasian language Lezgian (Haspelmath, 1993, p. 148) and the West Caucasian language Abkhaz (Chirikba, 2003, pp. 258-259).

A final example of a type of verb that gives rise to evidential morphemes is the verb category of existential or locative verbs. The evidentials that originate from this type of verbs are generally indirect evidentials. For instance, the inferential =*sud* in the Nadahup language Hup has developed from the verb root *sud-* 'to be located inside something else' (Epps, 2005, p. 633). Another example can be found in Patwin (Whistler, 1986, pp. 69-71), in which the verb -*be* / -*bo* 'to be' in combination with the definite future marker -*ti*, is used as a general indirect evidential. The inferential -*ʔel* in the Northern Wintuan language Wintu and the evidential -*nok* in the Tibeto-Burman language

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expresses that the state has started before the Reference Time. Nothing is said about the end point of the states. This suggests that there are some interesting interactions between the actionsart of a verb and the interpretation of the evidential.

Sherpa[45] have also evolved from existential verbs (De Haan, 1998; Schlichter, 1986, pp. 52-54; Willet, 1988, pp. 82-83; Woodbury, 1986, p. 192).

When a verb develops into an evidential, it is often not the verb by itself that becomes an evidential particle, clitic or affix. In many cases, the evidential historically from develops a reduced form of the verb in combination with other grammatical elements, such as a subject agreement marker, a pronoun or a complementizer, as suggested by Harris & Campbell (1995, p. 171) for quotative evidentials. The Spanish particle *dizque* that is frequently used in various Latin American dialects of Spanish consists of a third person form *dice* of the verb 'to say' and the complementizer *que*. This particle is used to express reportative evidentiality (see for instance Olbertz, 2005; Olbertz, 2007).

The grammaticalized verb forms are mostly remnants of a full main clause that has been reduced to an evidential morpheme. Clauses with this type of evidential started off as being two clauses: one clause expressing the information that the speaker wants to transmit and another one expressing mostly the mode of access that the speaker has for the information.[46] The process in which two clauses become one complex clause was named 'clause union' by Givón (see for instance 2009a, pp. 61-63). The process of clause union seems to be a common source for evidential morphemes in languages all over the world, as shown above.

2.5.3 Insubordination

Insubordination is another process that can produce evidentials. When evidentials emerge as a result of this process, they develop out of subordinate clause constructions. The subordinate clause is first used in combination with a main clause. During a second stage it is possible to delete the main clause and the subordinate structure is used as a main clause. Then the subordinate structure obtains a specific interpretation. Finally, the main clause use of this subordinate structure with its specific interpretation is conventionalized. Evans (2007) identified this

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[45] The evidential *-nok* is used as an experiential (direct) evidential in the habitual and as an inferential in the future and the past tense (Woodbury, 1986, p. 190).

[46] In the case of evidentials that developed out of existential verbs, the existential verb clause expressed the access to the information only indirectly. Before the existential verb became an evidential morpheme, it probably functioned in combination with other elements as an evidential construction.

process in various languages in the world and called both this process and its result 'insubordination.'[47] It is a strategy in language to develop new grammatical marking not only for evidentials, but also, for instance, for warnings, requests and exclamations (Evans, 2007, pp. 392-394, 403-405).

An example of an insubordinate clause that is used as an evidential is an indirect evidential construction in the Cariban language Trio as shown by Carlin (2011). The *tï-verb-se* construction is a non-finite verb construction that is used to express that a speaker does not have direct access to the information. This indirect evidential construction and its direct evidential counterpart are illustrated in the examples below:

Trio
(32) J-eemi-ton   Ø-are-ne   mekoro
      1POSS-daughter-PL   3→3-take-N.REC.PST   Maroon
      'The Maroon took (carried off) my daughters.' (I was there and I saw it). (Carlin, 2011, p. 8).

(33) J-eemi-ton   t-ëpë-se   pananakiri-ja
      1POS-daughter-PL   *tï*-take-N.FIN   white.people-GOAL
      'The white people (also: townspeople) took (grabbed) my daughters.' (I was not there).' (Carlin, 2011, p. 8).

Example (32) shows a Trio utterance with a finite verb. The verb has a subject-object marking prefix, which is here a zero marker, and a tense suffix *-ne*, which marks non recent past tense. Example (33) shows the nonfinite verb *tëpëse* 'took' that is used in this construction as the main verb in a main clause. This verb form could historically not be used this way; it used to have a nominal status and was used in subordinate clauses. The prefix *tï-* is a semantically bleached coreferential third person possessive prefix; it has lost its referential function. The suffix *-se* marks the verb as nonfinite.

The historically subordinate *tï-verb-se* construction became a main clause verbal construction because of the ellipsis of the main clause. This main clause consisted of a finite form of the verb 'to be.' Evidence for this origin of the indirect evidential construction in Trio is still found in the speech of elderly people. These speakers do not always elide the verb 'to be,' as illustrated in the example below:

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[47] Aikhenvald (2011, p. 611) called this type of development 'desubordination.'

(34) mëe_rë   t-ëta-e[48]   n-a-Ø-i   i-ja.
3PRO.ANIM.PRX_ASS *tï*-hear-N.FIN 3→3.1TR-be-PRS-N.CRT 3-GOAL
'He heard him.' (I did not witness it). (Carlin, 2011, p. 10; pers.
comm.).

The *tï-verb-se* construction is used in combination with the verb *nai* 'is'
in example (34). The use of the verb 'to be' in this indirect evidential
construction is very rare nowadays. Only some elderly people make use
of it sometimes. The main clause use of the nonfinite verb construction
in order to mark indirect evidentiality is conventionalized especially
among younger Trio speakers (Carlin, pers. com.).

  The process of insubordination, as shown for the Trio indirect
evidential construction, is not unlike the process of clause union. Both
processes refer to the change from a biclausal to a monoclausal
construction. The main difference is that in the case of clause union
some phonological material of the main clause is still present, while in
the case of insubordination the main clause has been deleted completely.

2.5.4 Difference in origin leading to difference in semantic structure?

Evidentials can have various origins within the verbal domain, as shown
above. It is likely that these various origins may generate different
outcomes with respect to the type of evidential interpretation. The
origin of an evidential and its path of grammaticalization probably
determines within which domain the evidential interpretation arises.
Specifically, when a temporal or aspectual marker develops into an
evidential, it is plausible that it keeps on functioning within that
temporal/aspectual domain and that the evidential interpretation
derives from its temporal/aspectual semantics.

  A possible example of an evidential that has emerged from an
aspectual marker and that still operates within the temporal/aspectual
domain is the indirect evidential past marker *-sqa* in Cuzco Quechua.
This suffix stems from a perfective marker, as discussed in subsection
2.5.1, and its evidential interpretation emerges from its aspectual
semantics, as discussed in subsection 2.2.3. It is not inconceivable that
there is a causal relation between these two properties of the indirect
evidential past marker *-sqa*. Because its evidential interpretation
developed historically from its aspectual semantics, it is still part of the

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[48] The suffix *-e* is one of the allomorphs of the nonfinite suffix *-se*.

tense/aspect system in the language and its evidential semantics can be analyzed in temporal/aspectual terms.

Some evidentials with a distinct origin seem to obtain their evidential interpretation in a different way. For instance, the reportative second position clitic *-ronki* in Shipibo-Konibo, as discussed in 2.5.2, has probably developed from a combination of a declarative clitic and a speech verb. This clitic has a very distinct morphosyntactic behavior from the evidential past marker *-sqa* in Cuzco Quechua. It operates within a system of second position clitics that also contains the clause-typing clitic *-ki* that is used to mark interrogative clauses (Valenzuela, 2003, p. 40). Since in some languages reportative evidentials seem to function as clause type modifiers, it is possible that the Shipibo-Konibo reportative clitic *-ronki* operates within the domain of clause-typing.

The Cuzco Quechua evidential past *-sqa* and the Shipibo-Konibo reportative clitic *-ronki* have very distinct development paths and the morphemes seem to operate in very different morphosyntactic and semantic domains. It is possible that there is a correlation between the development process of an evidential and the morphosyntactic and semantic domain within which it operates. It seems that the system in which evidentials operate can be better understood if we reconstruct the path of grammaticalization. A better understanding of the different behaviors of evidentials in languages can profit from the analysis of the differences in the grammaticalization path of these evidentials.

2.6 The expression of evidentiality in Eastern Tukanoan languages, a case study

Eastern Tukanoan languages are well-known for their interesting evidential systems. In various typological studies, Eastern Tukanoan languages are mentioned with respect to evidentiality (Aikhenvald, 2004; Bybee et al., 1994, pp. 95-97; De Haan, 1998, 1999, 2001a, 2005; Desclés & Guentchéva, 2000, p. 90; Willet, 1988, pp. 72-73). All the described languages of this branch of the family have morphosyntactic strategies to express different types of evidentiality, and some of the better known languages, such as Barasana, Tatuyo, Tukano and Tuyuka, have complex evidential systems (Aikhenvald, 2002, 2003a, 2004; Barnes, 1984; B. A. Fox, 2001; Malone, 1988; Michael, 2008, p. 61; Ramirez, 1997). In most of the languages evidentiality can be expressed in both declarative and interrogative clauses. This is discussed in subsection 2.6.1. The relation between evidentiality and the communicative function of giving orders is discussed in subsection 2.6.2.

2.6.1 Evidentiality in declarative and interrogative clauses

There are similarities between the expression of evidentiality in declarative and interrogative clauses in most Eastern Tukanoan languages, but the evidential markers are not identical in the two clause types. The similarities and differences between the evidential markers in the clause types can be explained historically. I introduce the expression of evidentiality first in declarative clauses (2.6.1.1) and then in interrogative clauses (2.6.1.2). I conclude this subsection with a discussion on the origin of the evidential marking in Eastern Tukanoan languages (2.6.1.3).

2.6.1.1 Evidentiality in declarative clauses

Most Eastern Tukanoan languages have complex evidential systems including between four and five markers that all express evidentiality. Tukano expresses four types of evidentiality is, as illustrated in the examples below:

Tukano
(35) a. diâyɨ   wa'î-re   yaha-ámi.
          dog   fish-TOP.N.S/A steal-REC.PST.VIS.3S.N.F
          'The dog stole the fish.' (I saw it). (Aikhenvald, 2004, p. 52).
      b. diâyɨ   wa'î-re   yaha-ásĩ.
          dog   fish-TOP.N.S/A steal-REC.PST.N.VIS.3S.N.F
          'The dog stole the fish.' (I heard the noise).
          (Aikhenvald, 2004, p. 52).
      c. diâyɨ   wa'î-re   yaha-ápĩ
          dog   fish-TOP.N.S/A steal-REC.PST.INFR.3S.N.F
          'The dog stole the fish.' (I inferred it). (Aikhenvald, 2004, p. 52).
      d. diâyɨ   wa'î-re   yaha-ápɨ'
          dog   fish-TOP.N.S/A steal-REC.PST.REP.3S.N.F
          'The dog stole the fish.' (I have learnt it from someone else). (Aikhenvald, 2004, p. 52).

Examples (35a-d) show that Tukano can express visual (35a), nonvisual (35b), inferential (35c) and reportative evidentiality (35d) in declarative clauses. An example of a language that can express five types of evidentials in declarative clauses is Tuyuka. These types are illustrated in the examples below:

Tuyuka
(36)   a.   díiga   apé-wi.
               He   play-3S.M.PST.VIS
               'He played soccer.' (I saw him play). (Barnes, 1984, p. 257).

       b.   díiga   apé-ti
               He   play-3S.M.PST.N.VIS
               'He played soccer.' (I heard the game and I heard him). (Barnes, 1984, p. 257).

       c.   díiga   apé-yi
               He   play-3S.M.PST.INFR
               'He played soccer.' (I have evidence that he played: his distinctive shoe print on the playing field. But I did not see him play). (Barnes, 1984, p. 257).

       d.   díiga   apé-yigɨ
               He   play-3S.M.PST.REP
               'He played soccer.' (I obtained the information from someone else). (Barnes, 1984, p. 257).

       e.   díiga   apé-hĩyi.
               He   play-3S.M.PST.ASM
               'He played soccer.'(It is reasonable to assume that he did). (Barnes, 1984, p. 257).

Example (36a-e) shows that Tuyuka expresses one additional type of evidentiality as compared with Tukano. This additional evidential category in Tuyuka is 'assumed evidentiality' as in (36e). Most of the other Eastern Tukanoan languages show similar systems with four or five types of evidential markers in declarative clauses.[49]

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[49] Examples of languages that express four types of evidentiality are, for instance, Kubeo (Chacón, 2012, pp. 269-274, 278-293; Morse & Maxwell, 1999, pp. 32-38) and Makuna (Smothermon, Smothermon, & Frank, 1995, pp. 46-56). The difference between the systems in these languages and the system in Tuyuka that shows five types of evidentials is that the Kubeo and Makuna system do not distinguish visual and nonvisual evidentials. These two languages have one general direct evidential. Examples of languages with five types are Karapana (Metzger, 2000, pp. 151-155), Siriano (Criswell & Brandrup, 2000, p. 400), Tatuyo (Gomez-Imbert, 2007a), Wanano (Stenzel, 2008a) and Yurutí (Kinch & Kinch, 2000, p. 479). Tatuyo does not have an assumed evidential. Its fifth evidential suffix is a marker for information that has been witnessed from a distance (B. A. Fox, 2001; Gomez-Imbert, 2003, p. 122; 2007a, pp. 70-71). Desano is described as a language that expresses even six types of evidentiality. This language portrays the same evidential categories as Tuyuka,

The evidentials in most of the Eastern Tukanoan languages show some interaction with tense and subject agreement marking. For instance, in Tukano and Tuyuka the evidential marking seems to have fused with tense and subject agreement marking. These categories are marked by portmanteau morphemes as shown in the examples above. Therefore, the languages have a complex subject agreement system consisting of various subject agreement paradigms for present and past and every evidential meaning. For instance, Tuyuka has 35 subject agreement suffixes divided in 9 agreement paradigms, illustrated in table 2.7:

Table 2.7: Subject agreement paradigms in Tuyuka as presented by Barnes (1984, p. 258) and Malone (1988, p. 120).

		Visual	Nonvisual	Inferential	Reportative	Assumed
Past	N.3	-wɨ	-tɨ	-yu	-yiro	-hĩyu
	3S.M	-wi	-ti	-yi	-yigɨ	-hĩyi
	3S.F	-wo	-to	-yo	-yigo	-hĩyo
	3PL	-wa	-ta	-ya	-yira	-hĩya
Present	N.3	-a	-ga	*	**	-ku
	3S.M	-i	-gi	-hĩi		-ki
	3S.F	-yo	-go	-hĩo		-ko
	3PL	-ya	-ga	-hĩra		-kua

* Tuyuka does not have a first person suffix in this paradigm and the second person is expressed by the third person suffixes.
** Tuyuka does not have any present tense reportative suffixes.

Tuyuka subject agreement paradigms show much regularity. There are various correspondences between the vowels and the subject agreement category. For instance, the third person singular feminine is always marked with -*o* and the third person plural form always contains the vowel -*a*. It is harder to generalize a single vowel as a subject agreement marker for third person singular masculine: in most cases this category is marked with the vowel -*i*, but in the past reportative it is marked with the vowel -*ɨ*.

There is some regularity in the marking of tense and evidentiality as well. For instance, the suffixes in the past visual paradigm all have the consonant -*w*, the past nonvisual -*t*, the present nonvisual -*g*, the past inferential -*y* and the present assumed -*k*. The past

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but it has two types of reportatives: a regular one and one that is used as a quotative or in folklore (Silva, 2012, pp. 253-261).

reportative suffixes show the syllable -*yi* and the present inferential and past assumed -*hĩ*. Despite the regularities it is difficult to separate a tense/evidential suffix and a subject agreement suffix. Some evidential/ tense categories do not show one consonant that marks them, such as the present visual. Although it is synchronically challenging to separate evidential/tense suffixes from subject agreement suffixes, these regularities suggest that the suffixes were diachronically at least bimorphemic. The evidential / tense suffixes and subject agreement suffixes merged into one portmanteau suffix (Malone, 1988).

Some Eastern Tukanoan languages show less fusion than others with respect to their evidential morphology. For instance, Desano (Silva, 2012, pp. 253-261) and Retuarã (Strom, 1992, pp. 90-91) have evidential suffixes that are separate from the subject agreement markers. This is illustrated for Desano:

(37) ~igɨ   pea   tabe-gɨ   i-Ø-~bi.
      3S.M   firewood   chop-3S.M   do-VIS-3S.M.IMPF
      'He is chopping the firewood.' (I saw it). (Silva, 2012, pp. 256-257).

(38) ~igɨ   pea   tabe-gɨ   i-ku-~bi.
      3S.M   firewood   chop-3S.M   do-N.VIS-3S.M.IMPF
      'He is chopping the firewood.' (I heard it). (Silva, 2012, p. 257).

(39) widi-~dɨga-~ya   ~igɨ ~bɨdɨ uu-pudi-i-~yu-~bi
      leave-stand.up-see 3S.M   tobacco suck-blow-do-REP-3S.M.IMPF
      'He left home looking around and smoking tobacco.' (I heard this in a traditional story). (Silva, 2012, p. 259).

The examples (37-39) all show the subject agreement marker -~*bi* despite the presence of the evidential suffixes. Visual, nonvisual, regular reportative and folklore reportative sentences all show the same subject agreement marking. Inferential and assumed evidential sentences, however, do not seem to show any subject agreement marking at all.

There is yet another way in which evidentiality is expressed in declarative clauses in Eastern Tukanoan languages. Some languages show periphrastic constructions that mark evidentiality. An example of such a language is Wanano. The categories of nonvisual and inferential evidentiality are expressed in this way as illustrated in the examples below:

Wanano

Nonvisual
(40) ~dubi-a   ~ya'a-~ida ta-a   ~di-a
      woman-PL catch-NLZ.PL come-NLZ be.PRG-NLZ
      koa-ta-ra.[50]
      N.VIS-come-VIS.IMPF.2/3
      'Women-kidnappers are coming.' (I can hear them). (Stenzel,
      2008a, p. 417).

Inferential
(41) yoa-ta-pɨ   wiha-tu'sɨ-ri
      be.far-REF-LOC mov.outward-just.complete-NLZ.INFR
      hi-ra.
      COP-VIS.IMPF.2/3
      'They're already gone (they've escaped).' (I infer). (Stenzel,
      2008a, p. 419).

It is shown in example (40) that the nonvisual is formed by a nonvisual element *koa-* that probably derives historically from a verb root that means 'to make noise' (Stenzel, 2012), the verb *ta-* 'to come' and a subject agreement marker. The inferential, as illustrated in (41), consists of a nominalized verb that ends in the nominalizer *-ri* and an inflected form of the copula *hi-*. Visual, assertive and reportative evidentiality are expressed by suffixes in Wanano, similar to the expression of evidentiality in declarative clauses in other Tukanoan languages.

2.6.1.2 Evidentiality in interrogative clauses

It is possible in various Eastern Tukanoan languages to express evidentiality in questions. An example of an evidential used in a question from Tatuyo is presented in example (42):

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[50] Stenzel (2008a) analyzes the suffix *-ra* as a visual evidential marker, because when it is used outside of the nonvisual and inferential constructions this marker has a visual interpretation. However, when it is used in the nonvisual and inferential constructions it does not have a visual interpretation.

Tatuyo
(42)   kó⌄-ɨgá-kɨ-tí?
        3S.F-eat-N.VIS-INT
        '(Do you hear if) she is eating?' (Gomez-Imbert, 2007a, p. 76;
        glosses and translation are mine).

When an evidential is used in questions in Eastern Tukanoan languages, as in example (42), speakers are not referring to their own access to information; they are referring to the addressee's possible source of evidence. The fact that the access mode switches from the speaker to the addressee shows that the evidential meaning is affected by the clause type of the sentence. The evidential expresses the access mode of the epistemic authority in Eastern Tukanoan languages.

    The evidential systems are not as large in interrogative clauses as in declarative clauses in the languages. There is a more restricted set of evidential options in interrogative clauses. For instance, in Tatuyo, there is only one form to ask for the addressee's inferential knowledge or reportative knowledge (Gomez-Imbert, 2007a, p. 77). There is a general indirect evidential in interrogative clauses in Tuyuka instead of the three specific indirect evidential in declaratives (inferential, reportative and assumed) (Barnes & Malone, 2000, p. 443; Malone, 1988, p. 122).[51]

    There are not only modifications with respect to the evidential meanings in questions in Eastern Tukanoan languages. There are differences in the forms as well. For instance, there is less fusion between expressed categories in some languages. The Tuyuka interrogative evidentials -*Ri*[52] 'visual present,' -*ri* 'visual past,' -*gari* 'nonvisual present & indirect present,' -*tari* 'nonvisual past' and -*yiri* 'indirect past' are analyzable in an evidential suffix and an interrogative suffix. The visual suffixes do not contain a specific evidential marker. The first syllable in the other suffixes contains the evidential value and

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[51] A similar reduction of the evidential meanings in questions is described for many of the Eastern Tukanoan languages, such as Barasana (Jones & Jones, 1991, pp. 115-119), Makuna (Smothermon, Smothermon, & Frank, 1995, p. 61), Siriano (Criswell & Brandrup, 2000, p. 403), Tukano (Aikhenvald, 2004, pp. 85-86; Ramirez, 1997, pp. 143-144), Wanano (Stenzel, 2008a, pp. 432-436; C. Waltz & Waltz, 2000, p. 457) and Yurutí (Kinch & Kinch, 2000, p. 462).

[52] The spelling of the suffix -*Ri* is taken from Malone (1988, p. 121) This author states that the capital *R* is a reconstructed consonant. This reconstruction was based on the interrogative suffixes in other Eastern Tukanoan languages. The suffix is pronounced as -*i* in present day Tuyuka.

the second syllable the interrogative value, as illustrated in the table below:

Table 2.8: The segmentation of the interrogative evidential suffixes (Barnes & Malone, 2000, p. 443; Malone, 1988, pp. 121-122)

Suffix	Evidential	Interrogative	Interpretation
-Ri	Ø	*-Ri*	visual interrogative present'
-ri	Ø	-ri	visual interrogative past'
-gari	-ga	-ri	nonvisual interrogative present & indirect interrogative present
-tari/ -tiri	-ta / -ti	-ri	nonvisual interrogative past
-yiri	-yi	-ri	indirect interrogative past

The interrogative suffix *-ri* replaces the declarative subject agreement morphology and therefore, interrogative verb forms are unmarked for subject in many Eastern Tukanoan languages. This is illustrated below for Desano:

Desano
(43)　a.　　wã?gã-ri　　bɨ̃?
　　　　　　get.up-INT　　2S
　　　　　　'Did you get up?' (Miller, 1999, p. 130)
　　　b.　　wã?gã-bɨ.
　　　　　　get.up-N3.PAST
　　　　　　'I got up.' (Miller, 1999, p. 130).

The verb *wã?gãri* 'get up' in the question in example (43a) does not contain any subject agreement morpheme; it only carries an interrogative suffix *-ri*. This suffix is replaced by the subject agreement past suffix *-bɨ* in the answer in example (43b). Other languages, such as Tatuyo as shown in example (42), have developed separate interrogative prefixes. The prefix *kó↓-* on the verb *kó↓ɨgákɨtí* '(do you hear if) she is eating?' is used to express that the verb has a third person singular feminine subject. Tatuyo has suffixes, just as most other Eastern Tukanoan languages, in order to mark subject agreement in declarative clauses (Gomez-Imbert, 2003, 2007a).

2.6.1.3 The origin of the expression

Malone (1988) provides a historical explanation for the regularities and irregularities in the Eastern Tukanoan and especially the Tuyuka subject agreement systems. The first regularity is found in the elements that seem to express evidentiality. According to this author, many of the different paradigms developed out of phonologically reduced periphrastic constructions. For languages that have little fusion of categories this is easier to image. For instance in Tatuyo, the evidential suffixes, that were probably auxiliary verbs in the past, can be distinguished more easily. This will be illustrated for the example below:

Tatuyo
(44)   ɨga-kɨ-~bo.
         eat-NVIS-3S.F
         'She is eating.' (I hear).
         (Gomez-Imbert, 2007a, p. 76; glosses and translation are mine).

The Tatuyo nonvisual suffix -kɨ, as illustrated in example (44), seems to originate from an auxiliary verb in Eastern Tukanoan languages. Possible evidence for its origin is found in Kubeo. This language contains the verb kɨ- that is used in existential predicates, as shown in the example below:

Kubeo
(45)   u   kɨ-abẽ   bãkã-dõ-i
         sloth   exist-3M   jungle-CNT-LOC
         'the sloth lives in the jungle.' (Chacón, 2012, p. 263).

An existential verb *kɨ-, which is still used in this way in Kubeo, may have been the source for the nonvisual evidential suffix in Tatuyo. Crosslinguistically, it is not uncommon that auxiliary verb constructions with the verb 'to be' develop into evidential constructions,[53] as discussed in subsections 2.5.2 and 2.5.3.

In languages with more fusion such as Tuyuka, the evidential element is highly fused with the subject agreement morphology. Despite this difficulty, Malone (1988, pp. 126-127) reconstructs the evidential elements for Tuyuka and shows that various of these elements are (almost) identical to auxiliary verbs used in other Eastern Tukanoan

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[53] These evidential constructions are not necessarily non-visual evidentials. Auxiliary verb constructions may develop into other types of evidentials as well.

language. For instance, the non-visual past evidential developed from a periphrastic construction with an auxiliary verb *ti, according to this author. She provides both language internal and external evidence for this reconstruction. A construction with the auxiliary *tii* in Tuyuka and *ti* in Yurutí is used to express progressive aspect, as illustrated below:

Tuyuka
(46)   yai   wede-gɨ   tii-gí
       jaguar speak-S.M   AUX-NVIS.PRS.3S.M
       'A jaguar is crying.' (Speaker hears but does not see the animal).
       (Malone, 1988, p. 130).

Yurutí
(47)   yai   uti-gɨ   ti-gawi
       Jaguar cry-S.M AUX-ASM.PRS.3S.M
       'A jaguar is crying.' (Malone, 1988, p. 130).

The auxiliary verb *tii* seems to have been the auxiliary verb in a nonvisual evidential construction in Tuyuka. The auxiliary verb then became a suffix and eventually it fused with the subject agreement morphology. This fusion consisted of a replacement of the vowel *i* by the vowel that marks the subject agreement morphology: *ti* + *-ɨ* = *-tɨ* for the non-third person marking, *ti* + *-i* = *-ti* for third person singular masculine, *ti* + *-o* = *-to* for third person singular feminine and *ti* + *-a* = *-ta* for third person plural (see table 2.7 for an overview of the forms). The original nonvisual past suffix can still be recognized in the nonvisual interrogative past suffix *-tiri* (see table 2.8 for an overview of the interrogative forms). According to Malone (1988), a similar process of fusion took place in the case of the nonvisual present paradigm, the inferential past and the assumed past for which she reconstructs the evidential markers *ga*, *yu* and *ku*.

There is another indication that Malone's reconstruction of the evidential paradigms as originating in auxiliary verb constructions is correct. The evidential element *-hĩ* that appears in the inferential present and the assumed past has a cognate in Wanano. The Wanano cognate *hi-* is found as an auxiliary verb in the periphrastic inferential construction in Wanano. This construction was illustrated in (41) and is repeated here in (48):

Wanano

(48) yoa-ta-pɨ   wiha-tu'sɨ-ri
      be.far-REF-LOC mov.outward-just.complete-NLZ.INF
      hi-ra
      COP-VIS.IMPF.2/3
      'They're already gone (they've escaped).' (I infer). (Stenzel,
      2008a, p. 419).

Example (48) shows that the copula *hi* is used in combination with the nominalizer *-ri* that appears on the lexical verb in order to express inferential evidentiality. It is, therefore, not inconceivable that these types of auxiliary verb constructions have given rise to the evidentials in other Eastern Tukanoan languages.

There is a second type of regularity that is found in the Tuyuka subject agreement paradigms. That is, the subject agreement elements in the suffixes are often the same or similar. For instance, the vowel *o* is often found for third person feminine and *a* for third person plural, as mentioned above. However, it is not possible to identify a single subject agreement marker for all the persons. Malone (1988) provides a solution for this problem. According to this author, these irregularities are due to the use of two different subject agreement sets to form the different evidential morphemes. The two sets are given in table 2.9:

Table 2.9: The two subject agreement sets in Proto-Tuyuka (Malone, 1988, p. 125).

	Set 1		Set 2
	Past	Present	
N.3	-ɨ	-Ø	-ro
3S.M	-i		-i/-gi
3S.F	-o		-o/-go
3PL	-a		-ra

Set 1 is used for most paradigms. This set seems to be the original subject agreement paradigm in the language. The paradigms that contain this person marking have developed out of auxiliary verb constructions that fused and became portmanteau suffixes. These constructions probably had the following form:

(49)   *[[VERB-NLZ]   AUX-SBJ.AGREE][54]

The auxiliary and the subject agreement morphology, as shown in (49), probably fused and became the evidential portmanteau suffixes that are found today in Tuyuka.

Set 2 is only used for the reportative past paradigm and the inferential present paradigm. These suffixes probably did not originate in the language as finite subject agreement suffixes. The markers from set 2 show the peculiarity that they are identical to the subordinate verb suffixes and the nominalizers: *-ro* (inanimate), *-gɨ* (singular masculine), *-go* (singular feminine), *-ra* (plural) (Malone, 1988, p. 125). It is not uncommon that dependent verbs gradually start to be used in main clause contexts as the main verb (Aikhenvald, 2004, pp. 281-283; Campbell, 1991; Comrie, 1981, pp. 153-154; Epps, 2005; Evans, 2007; Mithun, 2008). As discussed in subsection 2.5.3, the use of dependent verbs as main verbs in main clauses can give rise to structures with an evidential interpretation.

I hypothesize that the reportative past suffixes and the inferential present suffixes developed from a more complex auxiliary verb construction. These two evidential/tense categories display traces of first an auxiliary verb and then a nominalization. Therefore, I reconstruct these two evidential/tense categories in the following way:

(50)   *[VERB-AUX-NLZ].

The auxiliary verb, as presented in (50), developed into the evidential element in the evidential suffixes in present day Tuyuka. The reportative past consists of a putative historical auxiliary *-yu* in

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[54] This reconstruction is based on Malone's (1988, p. 135). One difference between Malone's reconstruction and mine is that Malone reconstructs the subject agreement marking as evidential marking. I however believe that this was plain subject agreement marking without any evidential value. The evidential interpretation used to arise from the combination of elements in the auxiliary verb construction. Another possible source of doubt with respect to Malone's reconstruction is the nominalization of the lexical verb, which Malone refers to as gender marking. It is not clear whether this gender marking is necessary in the reconstruction of these paradigms, since there is no trace of it in Tuyuka. These paradigms may also have developed out of serial verb construction in which the auxiliary verb was directly attached to the lexical verb. Serial verb constructions are very common in Tukanoan languages. Therefore, another possible reconstruction of these portmanteau forms is VERB-AUX-SBJ.AGREE.

combination with one of the nominalizers and the inferential present consists of the historical auxiliary -*hĩ* in combination with a nominalizer. There is evidence from Wanano for the latter construction. The cognate of the Tuyuka inferential present marker -*hĩ* in Wanano is the auxiliary *hi* 'to be.' This auxiliary verb is used in the Wanano inferential construction as well, as illustrated in subsection 2.6.1.1 in example (41).

At an even earlier stage, the nominalization was probably used in combination with an auxiliary verb. The use of the auxiliary made it possible to use a nominalization. This reconstructed structure is presented below:

(51) *[[VERB-AUX-NLZ]   AUX-SBJ.AGREE].

The structure AUX-SBJ.AGREE in (51) represents the auxiliary verb that was used in these reconstructed auxiliary constructions. This inflected auxiliary verb may have introduced the nominalization at an earlier stage. The inflected auxiliary verb was then lost later on and the nominalization was reanalyzed as subject agreement morphology.

There are not only suffixes found in declarative contexts that are historically nominalizers. Idiatov & Van der Auwera (2004, 2008) observe that interrogative clauses are also marked with suffixes that were historically nominalizers in Eastern Tukanoan languages. Interrogative verbs are marked by the suffixes -*ri* or -*ti*, as shown in subsection 2.6.1.2. These interrogative suffixes are identical to the nominalizers -*ri* and -*ti* that exist in many of these languages. The interrogative verb forms were probably used in combination with an auxiliary verb in the past. This auxiliary was then lost over time, just as in the case of the Tuyuka reportative past and inferential present suffixes.

In summary, the evidentials in declarative and interrogative sentences in Eastern Tukanoan languages seem to have developed out of complex auxiliary verb constructions, as Malone (1988) has argued. The evidential interpretation can often be assigned to the phonological remains of the auxiliary verb. The irregularities in the subject agreement marking between evidential paradigms in some of the Eastern Tukanoan languages can be explained historically as well. It is not the original subject agreement morphology that is used in all the paradigms. In some paradigms, suffixes that seem to have originated as nominalizers are used as subject agreement markers. These nominalizers were probably introduced as main clause subject

agreement markers as a result of the loss of a nonfinite auxiliary verb. It is possible that the interrogative marker *-ri / -ti* has a similar origin.

2.6.2 Indirect orders

Various Eastern Tukanoan languages have ways to express that the speaker makes an order or request on behalf of someone else. The verbal marking that is used for this function is discussed in 2.6.2.1 from a synchronic perspective and in 2.6.2.2 from a diachronic perspective.

2.6.2.1 Indirect orders from a synchronic perspective

Many Eastern Tukanoan languages have a specific verbal suffix that is regularly used to express that a speaker indirectly orders someone to do something or to repeat the order that was issued by someone else. An example of this specific suffix in Tukano is presented below in (52):

Tukano
(52)   A'ti-ato!
        come-IND.IMP
        'Come!' (on his order). (Aikhenvald, 2002, p. 130).

The speaker in example (52) uses the verbal suffix *-ato* in Tukano to express that she / he repeats what was ordered by someone else. Cognates in other Eastern Tukanoan languages are *-ato* and *-haro* in Barasana (Jones & Jones, 1991, pp. 81-82; Gomez-Imbert, pers. comm.), *-to* and *-ro* in Karapana (Metzger, 2000, p. 147), *-haro* in Makuna (Smothermon et al., 1995, p. 63), *-ato* and *-paro* in Tatuyo (Gomez-Imbert, pers. comm.), *-aro* in Tuyuka (Barnes, 1979, p. 92), *-jaro*[55] in Wanano / Kotiria (N. E. Waltz & Waltz, 1997, p. 40) *-aro* in Yurutí (Kinch & Kinch, 2000, p. 482).

    Aikhenvald (2002, p. 130; 2004, p. 250; 2008, pp. 200-202; 2010, p. 138; 2012, pp. 266-267) analyzes this type of verbal suffixes in Eastern Tukanoan languages as a 'secondhand imperative.' In her view,

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[55] The orthographic <j>, as used in the Wanano indirect imperative *-jaro*, is pronounced as a glottal fricative [h], just like the /h/ in Barasana and Makuna. The third person imperative forms in the three languages are pronounced in a very similar way; they only differ in orthography. The Wanano orthography used by Waltz & Waltz (1997) is based on the Spanish orthography, and the Barasana orthography by Jones & Jones (1991) and the Makuna orthography by Smothermon et al. (1995) are probably based on IPA.

this is an evidential imperative suffix. The use of these suffixes in repeating an order or ordering on behalf of someone else is very similar to the function of the combination of a reportative and an imperative suffix in Shipibo-Konibo, which was discussed above in subsection 2.4.3. This is illustrated in the examples below:

Shipibo-Konibo
(53)   Onpax-ki   be-wé!
        Contained.water:ABS-REP   bring-IMP
        '(S/he says that you must) bring water!' (Valenzuela, 2003, p. 42).

The Tukano indirect imperative suffix *-ato* in example (52) expresses a function very similar to the Shipibo-Konibo combination of the reportative suffix *-ki* and the imperative suffix *-wé* shown in example (53) (and repeated from example (31)). In both cases, the speaker defers the responsibility for the order.

Although the Tukano and Shipibo-Konibo examples above have a very similar pragmatic function, namely reporting some else's order, I claim that there is a major difference between the two sentences. In my analysis, while the Shipibo-Konibo sentence in (53) does contain an evidential form, namely the reportative *-ki*, the Tukano sentence in (52) does not. Contrary to Aikhenvald's analysis (2002, p. 130; 2004, p. 250; 2008, pp. 200-202; 2010, p. 138; 2012, pp. 266-267), I do not analyze the verbal suffix *-ato* in Tukano and its cognates in other Eastern Tukanoan languages as evidential suffixes. My reasons for this are twofold.

The first and minor reason is that the suffix *-ato* is not part of the regular tense-evidential paradigms in Tukano, as also noted by Aikhenvald (2002, p. 130; 2003a, p. 163 note 5; 2008, p. 201). The form *-ato* does not resemble the form of the reportative suffixes in declarative clauses, which all contain the consonant *-p* in their form, such as the third person non-feminine recent past suffix *-ápɨ'* as shown in example (35d). It is not possible to identify separate reportative and imperative elements in the suffix *-ato*. The same holds for the cognates in other Tukanoan languages.

The second and major reason why I claim that this type of suffixes in Eastern Tukanoan languages is not an evidential suffix is that it does not always simply express a reported order. The suffix is also used when speakers express that they want a third person to do something. This is illustrated in the example below:

Tukano
(54) Dãâ   basâ-ato!
      they   dance-IND.IMP
      'May they dance!' (Ramirez, 1997, p. 146).

In example (54), the speaker indirectly orders a non-speech act participant to dance. This use does not have an evidential interpretation. The speaker does not shift the deontic authority; she/he expresses her/his wish. This use is also found for the cognate suffix in Barasana, as illustrated in the example below:

Barasana
(55) kẽda-a-to   so.
      good-PRX-IND.IMP   3S.F
      'May she be well!' or
      'I hope she is well.' (Jones & Jones, 1991, p. 81).

The second translation of example (55) demonstrates that the speaker expresses her / his own wish with the indirect imperative. It appears that the third person order use of the cognates of Tukano -*ato* is more common in the Eastern Tukanoan languages. While this use has been described for many of the languages, the 'secondhand imperative' use has not been described for all these forms (See for Tuyuka Barnes, 1979, p. 92; for Barasana Jones & Jones, 1991, pp. 81-82; for Karapana Metzger, 2000, p. 147; for Makuna Smothermon et al., 1995, p. 63; for Wanano N. E. Waltz & Waltz, 1997, p. 40).

The two uses of the Eastern Tukanoan suffixes described above are clearly related; in both uses a wish is being expressed. When speakers use the suffix as a third person imperative, they express their own wish for a non-speech act participant to do something. When speakers use the suffixes to order the addressee to do something on behalf of someone else, they express a non-speech act participant's wish for the addressee to do something. Since both uses concern the expression of a wish, the suffixes can be analysed as optative suffixes. The exact interpretation can be inferred from the context. Whether it is the speaker's or a non-speech act participant's wish can be interpreted pragmatically. The exact party receiving the order can be understood either from the presence of pronouns, as shown in example (54) and (55) or from the context, as shown in example (52). Therefore, I consider the evidential interpretation of the suffixes in its use as a 'secondhand imperative' to be a pragmatic extension of the optative function.

2.6.2.2 Indirect orders from a diachronic perspective

The flexible use of the optative in Eastern Tukanoan languages can be better understood from a historical point of view. Most of the optative suffixes in Eastern Tukanoan languages are probably bimorphemic historically, containing a morpheme *-a* or *-ha* and another morpheme *-ro* or *-to*.[56] These suffixes are found as verbal suffixes in other Eastern Tukanoan languages as well. The suffix *-a* marks tense or aspect in various languages. For instance, it is used to mark present tense in Barasana (Jones & Jones, 1991) and Makuna (Smothermon et al., 1995), it is used in Kubeo to mark past tense (Chacón, 2012), it is used in Karapana in various past tense paradigms (Metzger, 2000), and it is used as an evidential perfective form in Wanano (Stenzel, 2008a). The suffix *-a* may even go back to an (auxiliary) verb. A verb *a* is used in Kubeo to express either 'to say' or 'to do.' A bound verb *-a* is used as an existential copula in various Western Tukanoan languages (see Johnson & Levinsohn, 1990; Schwarz, 2011 for Ecuadorian Sekoya; and see Wheeler, 1987b for Colombian Siona).

The suffix *-ha* also seems to be an original tense / aspect suffix. For instance, a suffix *-ha* is found in imperfective contexts in Wanano. It marks imperfective first person singular visual and it is used as an imperfective marker in the imperfective interrogative suffix *-hari* (Stenzel, 2013, p. 269). The above presented data provide some indications that the suffixes *-a* and *-ha* developed either from tense or aspect uses of these forms. However, synchronically it is for most languages difficult to deduce what these elements add to the semantics of the optative.[57]

The suffixes *-ro* and *-to* in the optative probably stem from an inanimate nominalizer *-ro*. The two forms are cognates, and the *r/t* distinction has a morphophonological background, which will be discussed in chapter 7. Cognates of the nominalizer *-ro* still exist in various Eastern Tukanoan languages, such as Barasana (Jones & Jones, 1991, p. 89), Desano (Silva, 2012), Kubeo (Chacón, 2012) and Tuyuka

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[56] Jones and Jones (1991, pp. 81-82) synchronically analyze the indirect imperative forms *-a-to* and *-ha-ro* as bimorphemic as well. The suffixes *-a* and *-ha* mark a non-proximate action. It is, however, probably difficult to sustain this analysis (Gomez-Imbert, pers. comm.).

[57] The existing data does not provide enough information for most languages in order to make a claim about the contemporary semantics of the elements *-a* and *-ha*. More research on these forms is needed in order to decide whether the elements form a single suffix together with *-ro* or *-to* or whether they could be analyzed as separate morphemes.

(Malone, 1988). These nominalizers are used in some languages to mark complement clauses, as shown for Kubeo in the example below:

Kubeo
(56)   [ɨre   jai   kɨ-dõ]-de   bãhĩ-wa-i-wɨ   çiã   jɨ
       [a.lot liana   exist-NLZ]-OBJ know-HAB-ST-N.3.ANIM   VOC   1S
       'I know where there are a lot of lianas.' (Chacón, 2012, p. 348).

The nominalizer -dõ, which is derived from *-ro, is used in example (56) in order to nominalize the clause 'there are a lot of lianas,' so that it can be used as a complement of the verb bãhĩwaiwɨ 'I know.'

        This complementation use of the nominalizer *-ro probably developed into an optative. Crosslinguistically, it is not uncommon that such types of complement clauses obtain an optative use. For instance, in Romance languages it is possible to use a complement clause as a main clause in order to express a wish:

Spanish
(57)   Que   viva   la cumpleañera!
       that   live.3S.SUBJ   the birthday girl
       'May the birthday girl live (long)!'

In example (57), from Spanish, a subordinate subjunctive clause is used as a main clause. This use may be the result of the loss of a main clause such as espero 'I hope' / deseo 'I wish' and is now conventionalized in the language. This type of development from a complement clause to an optative main clause can explain the use of an erstwhile nominalizer as a third person imperative form.

        The 'reported order' use of the optative in Eastern Tukanoan languages can also be explained in a similar way. This use may have developed from the main clause use of a complement clause as well. Again Spanish may provide an interesting parallel:

Spanish
(58)   A: Come!
               eat.IMP
               'Eat!'
       B: Qué   dijiste?
               what   say.2S.PST
               'What did you say?'

> A: (Dije) que comas!
> (say.1S.PST) that eat.2S.SUBJ
> '(I said) that you should eat!'

Example (58) represents a short conversation in which speaker A orders speaker B to eat. Speaker B does not hear speaker A and asks what she/he has said. Speaker A then uses a complement clause in order to repeat the order omitting the main clause *dije* 'I said.'

This type of structure does not necessarily need to be used in Spanish to repeat one's own order. It can also be used to repeat someone else's order omitting the main clause *dijo* 'she/he said.' The use of a complement clause in order to repeat an order was probably the basic structure from which the reported order use of the optative developed. It was first a complement clause with an omitted main clause and then it developed into a separate verb form.

The emergence of two uses for the optative can be explained by assuming that the form developed from complement clauses. The difference in interpretation may be due to the historical omission of the main clause. Due to the omission of the main clause, speakers could reconstruct different main clauses for the optative. In the case of the 'third person imperative' use the reconstructed main clause would be something along the lines of 'I wish' and the reconstructed main clause in the case of the reported order would be something along the lines of 'she/he said.' This development of the optative suffixes in Eastern Tukanoan languages from complement clauses seems to be a typical case of insubordination, as it was discussed in 2.5.3.

2.6.3 Evidentiality in Eastern Tukanoan languages, a summary

The expression of evidentiality in Eastern Tukanoan languages is dependent on the clause type of the utterance. Most types of evidentiality are expressed in declarative clauses. The languages show up to six types of evidentials in declarative clauses. These evidentials refer to the mode of access that the speaker has for the information expressed by the utterance. The languages contain far less evidential types in interrogative clauses, if any. In this type of clause, the evidentials refer to the addressee's supposed mode of access for the asked information.

The evidentials in declarative clauses and the evidentials in interrogative clauses are historically related. The evidential suffixes in some languages and the portmanteau tense evidentiality and subject

agreement forms in other languages show traces of auxiliary verb constructions from which the suffixes have developed. The elements that can be identified as the evidential markers are often similar to auxiliary verbs in other Tukanoan languages. The elements that can be identified as subject agreement markers can often be reconstructed as original subject agreement suffixes or nominalizers. The difference between the evidential forms in declarative and interrogative clauses is mostly that interrogative clauses have an interrogative suffix that probably developed out of the nominalizer *-ri* and that replaces the declarative subject agreement marking at the end of the verb.

In my analysis, imperative clauses do not show any evidentials. That is, there is a special verb form that is used in order to express that the speaker is reporting the order on behalf of someone else: the optative. However, this verb form is not related to declarative and interrogative evidential systems and its reportative function is not its sole use. The verb form is also used for third person imperatives. Historically, this verb form should probably not be considered an imperative form and it remains a question whether it should be synchronically. Further research is needed to determine whether this form can be considered synchronically to be an evidential imperative.

In conclusion, the expression of evidentiality is typically part of the declarative and the interrogative domain in Eastern Tukanoan languages. These two clause types are both used in order to facilitate the transmission of knowledge. Therefore, it seems that the evidentials this group of language functions within the domain of knowledge transmission.

This interaction with clause types does not provide any clear indications that the expression of evidentiality takes place within the domain of clause-typing in Eastern Tukanoan languages. If an evidential operates within the domain of clause-typing, one expects that the evidential can modify the interpretation of the clause type. In this group of languages, the clause types do not seem to be modified by the evidentials. It seems to be the other way around: the evidential interpretations are modified by the use in different clause types. When the evidentials are used in questions, locus of the access mode shifts from the speaker to the hearer.

The use of evidentials in declarative clause does not seem to modify the assertive sentential force of the clauses. There is no indication that the speakers claim that they do not commit to the truth of the information expressed in the utterance. A possible exception may be the Kubeo reportative clitic *-ja*, as illustrated in the examples below:

Kubeo

(58) ã-o-abẽ=ja.
      eat-CAUS-3S.M=REP
      'he fed (him), so they say.' (Chacón, 2012, p. 53).

(59) ɨ̃   hiaðo=kũ-de   hapɨwa-kɨjɨ-be=ja
      he   river=CLS-OBJ   drive-FUT.NLZ.M-COP.3S.ANIM=REP
      'He will be a boat pilot (as for what they say).' (Chacón, 2012, p. 279).

The translation in example (58) and (59) suggest that the speaker does not vouch for the truth of the information. It seems that the speaker is assigning the epistemic authority to a non-speech act participant. Further testing will have to clarify, whether the Kubeo reportative clitic is used to shift the epistemic authority. As for the other evidentials in Eastern Tukanoan languages there are no indication that the evidentials modify the sentential force of a clause. However, further research will have to determine, whether this is never the case.

Chapter 3: A phonological sketch of Ecuadorian Siona

3.1 Introduction

In this chapter I will discuss some of the main features of the Ecuadorian Siona phonological system. There are two reasons why this system is relevant for the analysis of clause typing and evidentiality in Ecuadorian Siona in this dissertation. The first, minor, reason is that this will make it easier to understand the phonological background of the system that expresses clause typing and evidentiality. The second and major reason is that the reconstruction of the verbal system requires insight into the phonological system of Ecuadorian Siona; the reconstruction has both a phonological and a semantic side.

In order to describe the phonological system of Ecuadorian Siona, I first present the prosodic structure of a word in subsection 3.2. I provide an overview of the phonemic inventory of the language in subsection 3.3. I discuss the consonantal phonemes and their allophonic realization in subsection 3.4 and the vocalic phonemes and their allophonic realization in subsection 3.5. I address the topic of nasal harmony in subsection 3.6. Finally, I explain the practical orthographies used in the rest of this dissertation in subsection 3.7.

3.2 Prosodic structure

The prosodic structure of words in Ecuadorian Siona is important for the understanding of other phonological features of the language. I follow the theory of Prosodic Morphology which was developed by various authors (Hayes, 1995; McCarthy, 1982; McCarthy & Prince, 1995; Nespor & Vogel, 1986 among others), in order to describe the prosodic structure of words in Ecuadorian Siona. This theory applies the notion of templates, which "are defined in terms of the authentic units of prosody: mora (μ), syllable (σ), foot (F), prosodic word (PrWd)" (McCarthy & Prince, 1995, p. 318). Every template consists of constraints that need to be satisfied. These constraints are determined by prosodic principles that can be either universal or specific to a language.

3.2.1 Syllable structure

The basic syllable structure in Ecuadorian Siona is (C)V(V)(H). There are some restrictions on this syllable structure. For instance, the occurrence

of a long vowel or a diphthong in a syllable is as a rule restricted to open syllables; syllables with a consonant in their coda generally contain one short vowel. Syllables that contain two vowels or a long vowel are analysed as bimoraic here. There are further restrictions on the type of sound that can occur in the coda position of a syllable: codas can only contain a non-moraic glottal stop /ʔ/ or fricative /h/. These glottal sounds are represented in the syllable structure template by the capital H. The use of the non-moraic glottal sounds is illustrated in example (1):

(1)   a.   b.

          w a h   t i   w a ʔ   t i

         'bad spirit'   'machete'
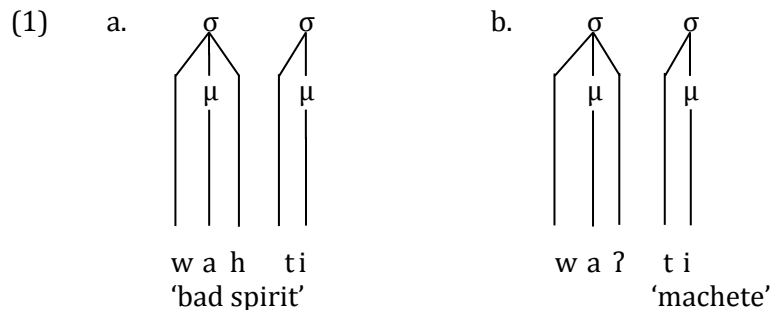
The use of the non-moraic /h/ in a coda position is illustrated in (1a) and of the /ʔ/ in (1b). Another restriction with regard to codas in the language is that words always end in a vowel,[58] as illustrated in (1).

There are additional restrictions with respect to the syllable structure depending on the type of morpheme. Ecuadorian Siona stems have the following structures: CVV, CVCV or CVHCV. Suffixes can be formed in the following ways: -V, -CV, -CVCV, -CVH,[59] and -HCV. The glottal sounds in the suffixes of the shape -HCV occur in the coda position of the previous syllable. A suffix of this shape is the verbal suffix [-ʔ.ne] that can be used to mark an information question. The syllabification of a word containing this suffix is illustrated below:

(2)   [kaa.kɨʔ.nẽ]
       ka-kɨ-'ne?
       say-2/3S.M.PRS.N.ASS-INT
       'Do(es) you (m)/he say?'

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[58] Except for borrowings, such as [moh.tor].

[59] The glottal in the coda position is not realized in word final position. Only when the suffix is followed by another suffix it is realized.

In example (2), it is shown that the glottal stop /ʔ/ that is part of the suffix [-ʔ.ne] is pronounced as the coda of the previous syllable [kɨʔ]. This shows that a syllable cannot start with a glottal sound followed by a consonant.

3.2.2 Bimoraic structure

One prosodic constraint in Ecuadorian Siona is that a word stem is minimally formed by two morae. This means that lexical monosyllabic stems contain either two distinct short vowels or one long vowel that carries two morae. A stem consists of a root, which can be followed by at most one derivational suffix. For instance, the stem [sao] 'to let go' consists of the monomoraic root [sa] 'to go' and the derivational suffix -*o* 'causative', which together form a bimoraic stem. Other roots, such as [soe] 'to pluck', [ka:] 'to say' and [t̪uh.ta] 'to pull out', are bimoraic by themselves. The prosodic structures of these bimoraic roots are illustrated in example (3):

(3) a.

s o e
'to pluck'

b.

k a
'to say'

c.

t̪ u h t a
'to pull out'
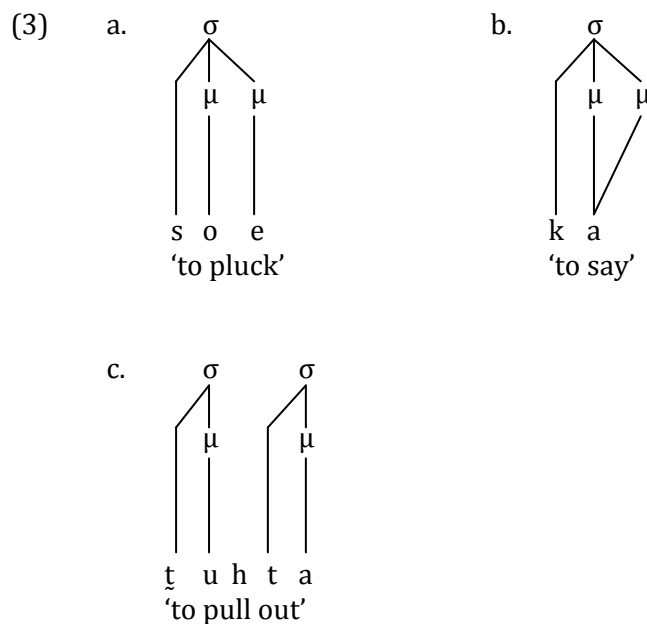
Another prosodic constraint seems to be that stems are maximally bimoraic. [60] Stems are predominantly monosyllabic or disyllabic. There is a small number of trisyllabic words, but it is likely that these contain fossilized morphology. The bimoraic constraint was also observed for other Tukanoan languages, such as Barasana (Gomez-Imbert, 1997), Tatuyo (Gomez-Imbert, 2004) and Wanano (Stenzel, 2007).

3.2.3 Stress and tone

It is difficult to draw conclusions about the existence of any stress or tone system in Ecuadorian Siona. The main reason for this is that I am not aware of any minimal tone or stress pairs at this stage of the study of the language.[61] The regular prosodic pattern in the language is that the pitch goes up in the last syllable of the word. Since there is no conclusive evidence for a contrastive tone or stress system and it is not relevant for the main topic of this dissertation I will leave this issue for future analysis.[62]

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[60] Roots on the other hand can be monomoraic, as mentioned above. One verb class contains only verbs with monomoraic roots. These verbs need additional morphology in order to form bimoraic stems. This verb class is discussed in chapter 5, subsection 5.4.2.

[61] According to some speakers, there is a prosodic difference between [toa] 'fire' and [toa] 'Pouteria caimito, fruit species' However, there is no substantial difference in the realization of these words in a sentence when analyzed in PRAAT. Therefore, I treat these as homophones. Further data collection is necessary in order to provide an analysis of the stress / tone system.

[62] In future analysis it is important to take the prosodic systems of the other Tukanoan languages into account. The Western Tukanoan language Máíjì̀kì (Orejón) (Michael, 2012b; Velie, 1975; Velie, Brend, & Gordon, 1976) and Eastern Tukanoan languages such as Barasana (Gomez-Imbert, 1997, 2004; Gomez-Imbert & Kenstowicz, 2000; Jones & Jones, 1991), Tatuyo (Gomez-Imbert, 2004) and Wanano (Stenzel, 2007) are described as tone languages. Other Tukanoan languages are described as stress languages, such as the Western Tukanoan languages Ecuadorian Sekoya (Johnson & Levinsohn, 1990; Johnson & Peeke, 1975) and Colombian Siona (Wheeler, 1970, pp. 20-21; 1987b, pp. 89-92; Wheeler & Wheeler, 1975), and the Eastern Tukanoan language Tuyuka (Barnes, 1996). Some Tukanoan languages, such as the Eastern Tukanoan language Kubeo (Chacón, 2012, pp. 108-172; Wetzels & Meira, 2010) and the Western Tukanoan language Koreguaje (Gralow, 1985) are described as having a combined system in which tone and stress co-occur. Ecuadorian Siona shows similar features as Ecuadorian Sekoya and Colombian Siona, however, it is not evident to me that they are generated by a stress system.

3.3 Phonemic inventory

Ecuadorian Siona has a large phonemic inventory compared to other Tukanoan languages; it comprises 17 consonantal and 12 vocalic phonemes. Barnes (1999) proposes 9 consonants and 12 vowels for proto-Tukanoan, following Malone (1987). One of the reasons that the phoneme inventory is rather large in Ecuadorian Siona is that the nasal consonants and vowels have the status of independent phonemes, while they are not in many Eastern Tukanoan languages (Chacón, 2012; Gomez-Imbert, 2004; Stenzel, 2013). Table 3.1 presents the consonantal phonemes of the language and table 3.2 the vocalic phonemes.

Table 3.1: The consonantal phonemes

		La-bial	Coro-nal	Pala-tal	Dorsal		Laryn-geal
					Plain	Labial	
Stops	Plain	p	t		k	kʷ	
	Laryngealized	p̰	t̰ (d)		k̰	k̰ʷ	ʔ
Affricates			tʃ				
Tap			(ɾ)				
Frica-tives	Plain		s				h
	Laryngealized		s̰				
Nasal		m	n				
Approximants		(w)		(j)			

Table 3.2: The vocalic phonemes

	Coronal		Dorsal			
			-round		+round	
	-nasal	+nasal	-nasal	+nasal	-nasal	+nasal
High	i	ĩ	ɨ	ɨ̃	u	ũ
Mid	e	ẽ			o	õ
Low			a	ã		

3.4 Consonants

The Ecuadorian Siona consonants are susceptible to phonotactic restrictions. The realization of the consonants depends on their position in the word: some phonemes are realized differently at the beginning of a word, stem-internally, or at a morpheme boundary; and some

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consonant phonemes do not occur in certain positions. Consonants cannot occur in coda position except for the glottal consonants. All these properties will be discussed in this subsection for the different classes of consonants: for the stops in 3.4.1, for the fricatives and affricates in 3.4.2, for the nasals in 3.4.3, and for the approximants in 3.4.4.

3.4.1 Stops

Ecuadorian Siona stops manifest two types of phonemic contrasts. The stops contrast in place of articulation and in a plain /p, t, k, kʷ/[63] or a laryngealized realization /p̰, t̰, k̰, k̰ʷ, ʔ/. The contrast between plain and laryngealized consonants can be considered phonemic, because they are contrastive in word-initial position. In the examples below, (near) minimal pairs are presented for the labial, coronal, dorsal and labial dorsal series:

(4)   a.   [paɨ]
                paɨ-ɨʔ[64]
                scare.off-2/3S.M.PST.N.ASS
                'Did he scare (it) off?'
    b.   [p̰aɨ]
                ba-ɨʔ
                have-2/3S.M.PST.N.ASS
                'Did he have (it)?'

(5)   a.   [te.ʔo]
                teʔ-o.
                one-CLS:F
                'one woman'
    b.   [t̰e.ʔo]
                de'o-o
                be.good-3S.F.PST.ASS
                'She was good.'

[63] The plain stops are often slightly aspirated: [pʰ, tʰ, kʰ, kʷʰ]. However, since the plain stops are not always aspirated, this feature seems to be optional in the language.
[64] The segmented examples are given in the practical adapted orthography that is used throughout the rest of this dissertation. This adapted orthography is explained in section 3.7 of this chapter.

(6)   a.   [ko.ʔe.hi]
                    ko'e-hi.
                    search-3S.M.PRS.ASS
                    'He is searching.'

        b.   [ko̥.ʔi.hi]
                    go'i-hi.
                    return-3S.M.PRS.ASS
                    'He is returning.'

(7)   a.   [kʷɨɨ.hi]
                    kʷɨ-hi.
                    swim-3S.M.PRS.ASS
                    'He is swimming.'

        b.   [k̥ʷii.hi]
                    gʷi-hi.
                    scream-3S.M.PRS.ASS
                    'He is screaming.'

The properties of the plain stops will be discussed in 3.4.1.1 and those of the laryngealized stops in 3.4.1.2. The glottal stop will be discussed in a separate subsection (3.4.1.3), because it behaves differently than the other stops.

3.4.1.1 Plain stops

Almost all plain stops occur in every onset position of the word, that is, word-initially, stem-internally, and suffix-initially. However, there are some restrictions on their use. For instance, stops only occur under specific conditions stem-internally: they always follow a laryngeal / ʔ, h/. There exist even more restrictions in the case of the labial plain stop /p/: it does not occur in suffix-initial position.[65] The occurrence of plain stops is illustrated in the table below:

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[65] This is probably due to a sound change, as discussed in this subsection.

Table 3.3: Examples of words with the plain stops /p, t, k, kʷ/ in word-initial position (#_), stem-internal (VH_V) and suffix-initial position (V-_V).

	#_	VH_V	V-_V
/p/	[pɨ.βɨ] 'pile' [pee.ɾi] 'cockroach' [paɨ.je] 'to scare off'	CVʔ.pV [pũʔ.pu.je] 'to smoke' [paʔ.pa] 'palm leaf' CVh.pV [ah.pa.si] 'sapote (fruit sp.)'	-
/t/	[tiʔ.wi] 'side' [to.ja] 'pattern' [ta.ɾi] 'turtle'	CVʔ.tV [waʔ.ti] 'matchet' [toʔ.te.je] 'to sting' CVh.tV [wah.ti] 'bad spirit' [tuh.tu] 'wind'	-tV [kʷaʔ.ko.-to] 'when someone cooks' h-tV [sah.-te.-ɲã] 'they went, they say'
/k/	[kɨa.je] 'tell' [kɨ.wi.ɾa] 'whirlpool' [ka.ja.je] 'two'	CVʔ.kV [kʷaʔ.ko.je] 'to cook' [waʔ.ke.je] 'to tear off' CVh.kV [koh.ka] 'word' [p̪ah.ku] 'pomfret, fish sp.'	-kV [kʷaʔ.ko.-ko] 'she is cooking.' h-kV [sah.ko.-ɲã] 'she left, they say.'
/kʷ/	[kʷɨ:.je] 'to swim' [kʷaʔ.ko.je] 'to cook' [kʷẽ.nẽ.ɲẽ] 'to dry oneself'	CVʔkʷV [k̪ʷeʔ.kʷe.je] 'to make fun of something' CVhkV [mah.kʷe] 'sand fly'	-kʷV [ɲã:.-kʷa.ʔi] 'the ones who see'

3.4.1.1.1 The rarity of /p/

The labial stop /p/ is not only more restricted in its use, but it is also less frequent than the other stops. There seems to be a historical reason

for this low frequency: the labial plain stop *p of Proto-Tukanoan became debuccalized in Ecuadorian Siona, as well as in various other Tukanoan languages,[66] and is now reflected in the language as /h/ (Chacón, to appear; N. E. Waltz & Wheeler, 1972). Despite this diachronic process that has occurred in the language, there are some words that still contain a plain stop [p]. The most likely explanation for the origin of this sound in Ecuadorian Siona is that these words containing [p] are loanwords. One example of a loanword with [p] is [pai.ɾi] 'priest' from the Spanish word *padre*. In other cases, it is more difficult to find a Spanish counterpart for the word containing [p]. Spanish, however, does not need to be the only source language for loanwords in Ecuadorian Siona. It is likely that Ecuadorian Siona also borrowed words from other languages in the region. This means the language may have acquired words containing the stop [p] from different languages as well.[67]

3.4.1.1.2 /kʷ/ as a phoneme

There are various indications that /kʷ/ is a phoneme and not a combination of the phonemes /k/ and /w/ or of /k/ and a rounded dorsal vowel in Ecuadorian Siona. The first combination is ruled out, because the language does not have consonant clusters. The first indication that it is not a combination of /k/ and a rounded dorsal vowel is that monosyllabic stems starting with /kʷ/ all contain a long vowel, such as the vowels /ɨ/ and /ẽ/ in the stems [kʷɨɨ] 'swim' and [kʷẽẽ] 'take down'. If /kʷ/ were to be analyzed as a combination of /k/ and a rounded dorsal vowel /u/ or /o/, these monosyllabic stems would violate the bimoraic stem constraint. The stems would consist of three morae, as illustrated in (8a). In the representation in (8b), /kʷ/ is interpreted as one phoneme and the stem does no longer violate the bimoraic stem constraint.

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[66] Other Tukanoan languages that have undergone this process of debuccalization are all the other Western Tukanoan languages: Koreguaje, Sekoya and Orejón and some Eastern Tukanoan languages: Kueretu, Makuna and Barasana (Chacón, to appear; N. E. Waltz & Wheeler, 1972, pp. 129-131).

[67] Another possibility is that the plain stop [p] in Ecuadorian Siona reflects a different phoneme of Proto-Tukanoan. In order to confirm this hypothesis, one should find cognates in other Tukanoan languages. This task remains for further research.

(14)   a.   *σ   b.   σ

```
              σ                                    σ
             /|\                                  /\
            μ μ μ                                μ   μ
            | | |                                |   |
            k u ɨ ɨ                            kʷɨ   ɨ
                                               'swim'
```
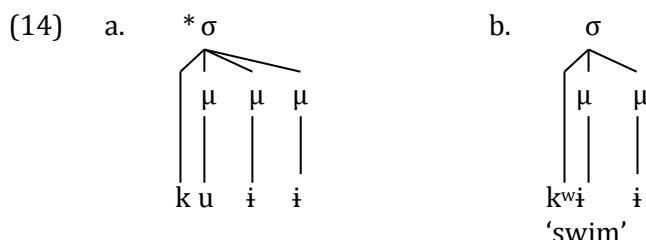
A second indication for the phonemic status of /kʷ/ is the occurrence of the phoneme in disyllabic stems. Examples of such stems are [kʷaʔ.ko] 'to cook' and [kʷẽnẽ] 'to dry oneself.' If /kʷ/ were a combination of /k/ and /u/ or /o/, these disyllabic stems would also violate the bimoraic stem constraint, because the stem would consist of three morae. The labial vowel /u/ or /o/ and the other two vowels in the stem, [a] and [o] in the case of [kʷaʔ.ko], would all carry a mora.

A final indication is that stems with a combination of /k/ and /u/ are realized differently in the language. The verb stem [kua] 'to take (someone) around' contains this combination, and in this stem the vowel /u/ is realized as a full vowel while the vowel /a/ is short. In other words, this vowel only carries one mora. The moraic structure of this stem is presented in the example below:

(15)

```
              σ
             /\
            μ   μ
            |   |
            k u  a
     'to take (someone) around'
```
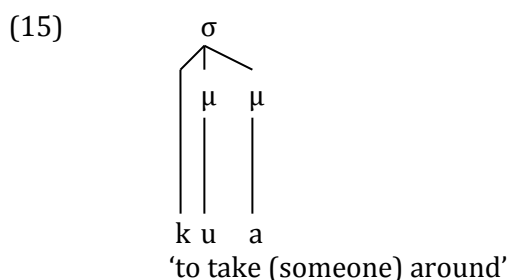
3.2.1.2 Laryngealized stops

The realization of the laryngealized stops /p̰, t̰, k̰, k̰ʷ/ depends on the position in the word. In word-initial position these stops are realized as creaky stops [p̰, t̰, k̰, k̰ʷ]. This laryngealization generally spreads to the beginning of the following vowel. The word-initial laryngealized stops [p̰

t̪] occur in complementary distribution respectively with intervocalic [β, ɾ]. There are no stem-internal or suffix-initial counterparts of the word-initial /k̰, k̰ʷ/ in the language. The only intervocalic position in which these two stops can occur is in compounds. The table below shows examples of words containing laryngealized stops and their allophones in different positions in the word:

Table 3.4: Examples of words with the laryngealized stops /p̰, t̪, k̰, k̰ʷ/ and their allophones in word-initial position (#_), stem-internal (V(ʔ)_V) and suffix-initial position (V-_V).

	#_	V(ʔ)_V	V-_V
/p̰/	[p̰i̯a] 'pepper' [p̰e̯o.je] 'to not be/have' [p̰ah.ku] 'pomfret, fish Sp. *Palometa*'	[p̰ã.βi.je] 'to touch' [ho.βo] 'the middle' [k̰ʷe.βe.je] 'to be drunk'	[teo.-βë] 'traditional dish Sp. *maito*' [wɨo.-βi] 'he began' [toa.-βo] 'fire'
/t̪/	[t̪uh.ta.je] 'to pull out' [t̪oʔ.ɾo.wɨ] 'basket' [t̪ai.je] 'to come'	[aʔ.ɾi] 'small' [we.ɾo.je] 'to buy' [ka.ɾa.je] 'to lack'	[ho.-ɾo] 'flower' [wẽh.kɨ.-ɾe] 'the sea cow'
/k̰/	[k̰o.he] 'hole' [k̰a.he.je] 'to go down' [k̰u.ja.je] 'to wash oneself'		
/k̰ʷ/	[k̰ʷe.βe.je] 'to be drunk' [k̰ʷiː.je] 'to scream' [k̰ʷah.tʃa.je] 'to think'		

3.4.1.2.1 The laryngealized stops /p̰/ and /t̪/

As we have seen, the laryngealized stops [p̰, t̪] in word-initial position alternate with [β, ɾ] in stem-internal and in suffix position. This distribution is probably due to a lenition process of the stops in intervocalic position. The allophonic relation between the laryngealized stops and their lenited counterparts can also be observed in compounds and in fast speech. When a word, starting with [p̰] or [t̪], forms the second part of a compound or when it is pronounced rapidly in regular

speech, these sounds tend to be realized as [β] and [ɾ], as illustrated in the example below:

(16) a.   [ɨ.ha.βã̃ɨ]
               ɨha-bã̃ɨ[68]
               foreign-people
               'non-Sionas'
      b.   [p̰eo.roʔ.ro.wɨ]
               beo-do'do-wɨ
               NEG.EXIS-basket-CLS:CONTAIN
               'containing nothing'

It is not the case, however, that there are no intervocalic [p̰, t̰] in Ecuadorian Siona at all, because the lenition of these sounds is not generalized for compounds.

There is an additional complication in the case of the laryngealized dental stop /t̰/. There are additional allophonic realizations of this phoneme in bound morphemes. Specifically, in a set of bound morphemes /t̰/ is realized either as [t̰], [d̰] or [d]. Examples are the counterfactual suffix [-t̰aʔ] shown in example (17), the plural that is mostly used for family members [-t̰owɨ] shown in example (18) and the nominal classifier for water [-t̰aʔka] shown in example (19):

(17) [sah.ti.t̰aʔ.wɨ]
       sah-ti-daʔ-wɨ.
       go-EP-CTF-OTH.PST.ASS
       'I almost went.'

(18) [wao.t̰o.wɨ]
       wa-o-dowɨ.
       child.in.law-CLS:F-PL.FAM
       'daughters in law.'

(19) [kɨo.hai.t̰aʔ.ka]
       kɨo-hai-da'ka.
       warm-VLZ-CLS:WATER
       'warm water.'

---

[68] The laryngealized stops [p̰, t̰, k̰] are written as <b, d, g> in the Siona orthography and in the adapted orthography. See section 3.7 for further conventions in the practical orthographies.

A comparable phenomenon occurs in the eastern Tukanoan language Wanano (Stenzel, 2013, pp. 30-32). The tap [ɾ] is an allophonic variant of the voiced stop /d/ that occurs in intervocalic position. The phonetic voiced stop [d], however, does occur intervocalically in serialized verbs and nominal classifiers. Stenzel (2013, p. 32) argues that these morphemes have a different status in the phonology, because they are roots or reduced roots in Wanano.

A similar argument can probably be made for the occurrence of intervocalic [t̪] that occurs in specific bound morphemes in Ecuadorian Siona. The suffixes that start with this laryngealized stop are likely to be recently grammaticalized roots. These bound roots, therefore, have a different status in the phonological system of the language.

3.4.1.3 The glottal stop

The glottal stop has a different distribution from that of the other consonants in the language.[69] However, the phonemic glottal stop neither occurs in word-initial nor in word-final position. Furthermore, it occurs in coda position in contrast to most other consonants. Some examples of stems containing a glottal stop in different positions are presented in the table below:

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[69] The glottal stop occurs in a similar way in many other languages of the Tukanoan family, such as most Western Tukanoan languages: Colombian Siona (Wheeler, 1987b), Koreguaje (Cook & Criswell, 1993) and Secoya (Johnson & Levinsohn, 1990) and in some Eastern Tukanoan languages: Desano, Piratapuyo, Siriano, Tukano and Wanano (Stenzel, 2007, p. 332). In the Western Tukanoan languages the glottal stop has been analyzed as a phonological segment, probably because it behaves in some aspects as other phonological segments.

However, because of the different distribution of the glottal stop, some authors (Ramirez, 1997, pp. 66-68; Stenzel, 2007) have proposed that its occurrence is a suprasegmental feature in Eastern Tukanoan languages. Ramirez (1997, pp. 66-68) analyses the glottal stop in Tukano as a 'laryngealized or glottalized tone' that interferes with the other tones in the language. Stenzel (2007) gives a similar analysis for the glottal stop in Wanano. Although this author does not analyze the glottal stop as a tone, she does analyze it as a suprasegmental feature. In Stenzel's analysis, glottal stops are found when vowels possess the feature 'constricted glottis.' It would be interesting to explore the question whether a suprasegmental analysis also applies to the glottal stop in Ecuadorian Siona.

Table 3.5: Examples of stems with a glottal stop/ʔ/ in stem-internal position in coda position (V_C) or in intervocalic position (V_V).

	V_C	V_V
/ʔ/	[t̪oʔ.ɾo.wɨ] 'basket'	[ma.ʔa] 'path'
	[kʷaʔ.ko.je] 'to cook'	[jɨ.ʔɨ] 'I'
	[jaʔ.hi.je] 'to ripen'	[t̪e.ʔo.je] 'to be good'

There is some variation in the realization of the glottal stop. The glottal stop in Ecuadorian Siona often lacks complete closure as in many languages of the world (Ladefoged & Maddieson, 1996, p. 75). Especially, in intervocalic position it tends to be realized as a creaky voice on the vocalic stream. Before a consonant, glottal stops are more often articulated as a full closure.

The glottal stop is contrastive in the positions described above. In table 3.6 below, there are examples of minimal pairs that differ in meaning with respect to the presence of a glottal stop:

Table 3.6: Examples of pairs that differ with respect to the presence of a glottal stop in coda position (V_C) or an intervocalic position (V_V).

	/ʔ/	/h/ or Ø
V_C	[waʔ.ti] 'machete'	[wah.ti] 'evil spirit'
	[kaʔ.ra-je] 'to be afraid'	[ka.ra-je] 'to lack'
V_V	[ma.ʔa] 'path'	[ma:] 'parrot'
	[wa.ʔi] 'fish, animal'	[wai] 'kill'

As shown in table 3.6, the glottal stop contrasts with /h/ before a voiceless stop and with Ø before a lenited stop or a vowel.

The occurrence of the glottal stop in Ecuadorian Siona, as described up until here in this subsection, is very similar to the occurrence of the glottal stop in other Tukanoan languages, such as Wanano (cf. Stenzel, 2007). However, there is a major difference between the use of the glottal stop in Ecuadorian Siona and Wanano. Whereas the glottal stop does not occur in suffixes in Wanano, it does in Ecuadorian Siona. The glottal stop in the latter language has a quite similar distribution as the glottal stop in the stem: it can occur in intervocalic position as the onset of a suffix (-ʔV) or suffix-internally (-CVʔV), and as the coda of a suffix (-CVʔ). However, in the case of the suffixes there is a fourth option: a glottal stop that is part of the suffix can also be added to the previous syllable as a coda (-ʔ.(CV)). Examples of these four types of glottal stop involving suffixes are given in the table below:

Table 3.7: Examples of suffixes with a glottal stop /ʔ/ in an onset position (-#_), (-V_V) or in a coda position (V_C), (-_.(CV)).

Position	Template	Examples
Onset	-ʔV	-'ɨ 'ОТН' [kʷaʔ.ko.kʷa.ʔɨ] 'I am a cook' / 'I cook.'
	-VʔV	-jũ'ũ 'HORT' [ã.ɲũ.ʔũ] 'Let's eat'
		-hɨ̃'ɨ̃ 'IMP' [kah.ka.hɨ̃.ʔɨ̃] 'Enter!'
		-hã'ã 'LIM' [ʂia.ja.hã.ʔã] 'until the river'
Coda	-CVʔ	-ta̱' 'CTF' [to.me.ta̱ʔ.wɨ] 'I would have fallen.'
		-hã' 'PRP' [kɨa.hãʔ.kɨa.ʔɨ] 'I am going to tell'
		-sa' 'CNJ' [he.ɾo.saʔ.ɾe] 'where?'
	-ʔ.(CV)	-Ṽ' 'REM.PST'[70] [bãʔ.kɨ.ɲã] 'He was, reportedly.'
		-'ne 'INT' [dah.teʔ.nẽ] 'Did you (pl.) come?'

Table 3.7 shows that the use of the glottal stop in Ecuadorian Siona is not restricted to stems, as in some Tukanoan languages. This sound in Ecuadorian Siona is frequently used in various positions of the suffixes.

There is one final remark that needs to be made about glottal stops in Ecuadorian Siona. This concerns the use of the sound in word-initial position. The glottal stop does occur in this position, but this use

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[70] The remote past suffix consists of the nominalization of the final vowel of the root and the insertion of a glottal stop before the next syllable.

is not contrastive. It often disappears in fast speech, as illustrated in the example below:

(20)   [ʔɨha] ~ [ɨha]
        'Foreign'

The fact that the glottal stop disappears in fast speech in word-initial position is one indication that it is not contrastive. Another, more important, indication is that there are no minimal pairs in Ecuadorian Siona that show a contrast between /ʔ/ in word-initial position and an empty onset in the same position. Because of its non-contrastive nature, the word-initial glottal stop can probably be analyzed as a prosodic device that is used for the demarcation of a word boundary. This is a very common use of the glottal stop in the world's languages (Ladefoged & Maddieson, 1996, p. 74). Due to the fact that the glottal stop is not contrastive in word-initial position, this use is not analyzed as a realization of the phoneme /ʔ/.

3.4.2 Fricatives & Affricates

The Ecuadorian Siona phoneme inventory contains three fricatives /s, ṣ, h/ and one affricate /tʃ/. These four phonemes are contrastive in word-initial position:

(21)   a.   [sua.hi]
                sua-hi.
                light-3S.M.PRS.ASS
                'He is lighting (a fire).'
        b.   [ṣoa.hi]
                zoa-hi.
                wash-3S.M.PRS.ASS
                'He is washing.'
        c.   [tʃoo.hi]
                cho-hi.
                laugh-3S.M.PRS.ASS
                'He is laughing.'
        d.   [hoa.hi]
                hoa-hi.
                cleave-3S.M.PRES.ASS
                'He is cleaving.'

The sibilants will be discussed in the first part of this subsection, in 3.4.2.1. Secondly, I will show the properties of the affricate /tʃ/ in 3.4.2.2. The distribution of the glottal fricative /h/ will be discussed in 3.4.2.3.

3.4.2.1 The sibilants

Ecuadorian Siona contains a plain-laryngealized distinction in the domain of the sibilants,[71] akin to the opposition that exists in that of the stops. The two phonemes in question have the same distribution as some of the stops: the plain sibilant occurs in any onset position in the word, whereas the laryngealized sibilant only occurs in word-initial position. The lack of laryngealized sibilants in word-internal position is not the only similarity the sibilants share with stops. The word-internal plain sibilant /s/ behaves like the word-internal plain stops. In stem-internal position, it mostly follows a glottal occlusion, as in [ãʔ.so] 'cassava', or it is preceded by the sound /h/ that occurs in the coda of the preceding syllable as in [nãh̃.so] 'wooly monkey'.[72] The table below presents examples of words containing sibilants:

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[71] Laryngealized sibilants, such as /ʂ/ in Ecuadorian Siona, are even rarer in the world's languages than laryngealized stops (Ladefoged & Maddieson, 1996, p. 178). The contrast between the plain sibilant /s/ and the laryngealized sibilant/ʂ/ is currently not very strong in Ecuadorian Siona. It is possible that the contrast between the plain sibilant /s/ and the laryngealized sibilant /ʂ/ will eventually disappear from the language. In the corpus that was gathered for this dissertation, it is often difficult to distinguish the two. In the case of the laryngealized sibilant, the creakiness on the following vowel is often minimal.

[72] There seem to be some words, such as [bõsɨ] 'young person,' in which [s] seems to occur without being preceded by a glottal. A possible analysis of these cases is that the sibilant [s] reflects an exceptional intervocalic realization of the laryngealized sibilant /ʂ/. Possible evidence for this analysis is that, as shown below, /ʂ/ is realized as [s] when they occur as the second part of a compound.

Table 3.8: Examples of words with the sibilants /s, s̱/ in word-initial position (#_), stem-internal (V(ʔ)_V) and suffix-initial position (V-_V).

	#_	VH_V	V-_V
/s/	[si.wa.je] 'to be happy' [soh.to] 'clay' [sai.je] 'to go'	CVʔsV [ãʔ.so] 'cassava' [weʔ.se] 'outside' [mõʔ.se] 'day' CVhsV [nãh.so] 'wooly monkey' [seh.so.je] 'to spear' [sih.so.je] 'to vomit'	-sV [t̠aa.si.ʔi] 'I will bring.' [saa.sio] 'She will take.' H-sV [t̠ah.si.ʔi] 'I will come.' [sah.sio] 'She will go.'
/s̱/	[s̱i.wa.ʔo] 'girl' [s̱oa.je] 'to wash' [s̱aʔ.ku] 'step'		

When a laryngealized /s̱/ is used in word-internal position in a compound, it is realized as [s]. In this position, the contrast is lost, as illustrated below:

(22)   [soh.to.sia.ja]
        sohto-zia-ja
        clay-river-CLS:RIVER
        'Clay River'

The merging of /s/ and /s̱/ in compounds can also explain why there are no stem-internal and suffix-initial laryngealized sibilants: they only occur in word-initial position. In any other position of the word, they would be expected to be pronounced as a plain sibilant.

        Both the plain and the laryngealized sibilant are frequently articulated as an affricate [ts] in word-initial position, as shown in the example below:

(23)   a. [sai.je] ~ [tsai.je] 'To go'
        b. [s̱ia.ja] ~ [ts̱ia.ja] 'River'

There is inter-speaker variation with respect to the use of affricate allophones. Some speakers only use affricates sporadically, while other speakers seem to pronounce every sibilant as an affricate.

3.4.2.2 The affricate /tʃ/

Disregarding the allophonic variants of /s/ and /s̠/, [ts] and [ts̠], Ecuadorian Siona only has one phonemic affricate: /tʃ/. This phoneme does not occur very frequently, but it occurs both word-initially and word-internally. Nevertheless, there are no suffixes that start with this affricate. Although this phoneme does not have a laryngealized counterpart, it does share one feature with the stops, namely, in word-internal position it can be preceded by /h/. In fact, the affricate is preceded by /h/ in all its word-internal occurrences in the corpus. Table 9 shows examples of occurrence of /tʃ/ in the language:

Table 3.9: Examples of words with the affricate /tʃ/ in word-initial position (#_), stem-internal (VH_V) and suffix-initial position (V-_V).

	#_	VH_V	V-_V
/tʃ/	[tʃao.je] 'to finish' [tʃo:.je] 'to laugh'	[ah.tʃa.je] 'to hear / to listen' [k̠ʷah.tʃa.je] 'to think' [k̠oh.tʃo.je] 'to lie'	

3.4.2.3 The glottal fricative /h/

In addition to the sibilants /s, s̠/ Ecuadorian Siona has a third fricative, namely /h/. I will discuss the occurrence of /h/ in onset position in subsection 3.4.2.3.1. I will address the occurrence of [h] in coda position in subsection 3.4.2.3.2.

3.4.2.3.1 The glottal fricative /h/ in onset position

The phoneme /h/ occurs frequently in any onset position of the word. It is found in word-initial, stem-internal and suffix-initial position. This is illustrated in table 3.10 below:

Table 3.10: Examples of words with the fricative /h/ in word-initial position (#_), stem-internal (V(H)_V) and suffix-initial position (V-_V).

	#_	V(H)_V	V-_V
/h/	[hɨo.je] 'to slash' [hoa.je] 'to cleave' [hai.ɾa] 'lake'	[ka̠.he-je] 'to descend' [nã.hõ] 'catfish' [ɨ.ha] 'foreign' [jaʔ.hi.je] 'to ripen' [joʔheo] 'younger sister'	[joʔ.hɨ] 'while they are making' [ka:.hi] 'he says' [mã.ʔã.hã.ʔã] 'over the road'

The phoneme /h/ in onset position developed most likely due to the debuccalization of the plain stop /p/ (Chacón, to appear; N. E. Waltz & Wheeler, 1972, pp. 129-131) as mentioned above. Gomez-Imbert (2004, p. 58) reports that this same process also occurred in Barasana. According to this author, *p has lost its place of articulation and is now pronounced as a glottal fricative /h/.

3.4.2.3.2 The glottal fricative [h] in coda position

Both the glottal [h] and /ʔ/ can occur in coda positions in Ecuadorian Siona. One of the restrictions for both glottal sounds is that that they cannot occur in word-final position, as mentioned above for /ʔ/. A further restriction is that [h] can only occur in the coda position before a specific set of mostly voiceless consonants [p, t, tʃ, s, k, ɲ]:

(24) a. [ah.pa.si] 'sapote (fruit sp.)'
      b. [soh.to] 'clay'
      c. [ah.tʃa.je] 'to listen'
      d. [nãh.so] 'wooly monkey (monkey sp.)'
      e. [pah.ku] 'pomfret, fish sp.'
      f. [t̃oh.ɲa] 'boards'

One major question in the analysis of the occurrence of [h] in coda position is whether it is a realization of the phoneme /h/ or whether it is produced by a phonological process. Interestingly, there are indications for both analyses in the language. I will present the indications for [h] being a reflex of a phonological process in 3.4.2.3.2.1 and the indications for it being a realization of the phoneme /h/ in 3.4.2.3.2.2.

3.4.2.3.2.1 Coda [h] as preaspiration

One reason to analyze the coda [h] in Ecuadorian Siona as the reflex of a phonological process is that it mostly occurs under very specific phonological conditions. It generally occurs before a voiceless consonant, as shown in examples (24a-e).[73] This restricted occurence of a glottal fricative in coda position is not uncommon in Tukanoan languages. It has also been observed in Colombian Siona (Wheeler, 1987b) and Ecuadorian Sekoya (Johnson & Levinsohn, 1990) from the Western Tukanoan branch, and in Piratapuyo, Tukano, Desano, Tuyuka, Siriano and Wanano (Stenzel, 2007, p. 355) from the Eastern branch.

The appearance of [h] in coda positions shows similar restrictions in these languages. For instance, the coda [h] only appears in root-internal position before voiceless consonants in Wanano. This suggests that there is a relation between the voiceless consonants and the emergence of the coda [h]. This emergence is a predictable phonological process in the language: all root-internal voiceless consonants are preaspirated in Wanano (Stenzel, 2007, pp. 355-356).

A difference between Wanano and Ecuadorian Siona is that the coda [h] does not only occur root-internally in Ecuadorian Siona, as shown in (24a-e), but also in other word-internal positions. The occurrence of [h] in the coda position in non-root-internal position is phonologically predictable as well. Coda [h] generally occurs on morpheme boundaries when the phonological structure of the word meets the following three requirements. First of all, the second morpheme needs to start with a voiceless stop in order for it to be preceded by a coda [h]. Secondly, [h] only appears in the coda of a monomoraic morpheme when it is used on a morpheme boundary. Thirdly, the second morpheme fills the second mora of a bimoraic prosodic foot. This is shown in the example below:

(25)   a.   [sah.ko]
                sah-ko
                go-2/3S.M.PST.N.ASS
                'Did you (F) / she go?'
       b.   [ah.kɨ]
                ah-kɨ
                COP-CLS:ANIM.M
                'The one (M) from'

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[73] The examples are presented above in 3.4.2.3.2. The reason why /h/ in example (24f) does not precede a voiceless stop is explained in 3.4.2.3.2.2.

c.   [sai.sih.kɨ.bi]
sa-i-sih-kɨ-bi
go-IMPF-CMPL-CLS:ANIM.M-SBJ
'The one (M) who had gone'

The inflected verb *sahko* in (25a), the nominalized verbs *ahkɨ* in (25b) and *saisihkɨbi* in (25c) all show [h] in coda position at a morpheme boundary. In all three cases, the sound appears before a voiceless stop, after a monomoraic syllable and it appears before the syllable that forms the second mora of a bimoraic foot.[74] Because the occurrence of coda [h] can be predicted from the phonological structure of the word, it is possible to analyze the occurrence as a phonological process, namely as preaspiration.[75]

There is a further evidence in the language that coda [h] can be analyzed as preaspiration. This evidence comes from a loanword, which is illustrated in (26):

(26)   [moh.toɾ]
'motor'

The source of the loanword [moh.tor] shown in (26) is the Spanish word [mo.ˈtoɾ] 'motor.' The Spanish word does not have a glottal fricative in the coda position. This means that the glottal fricative [h] was inserted when it was borrowed in Ecuadorian Siona. This indicates as well that the occurrence of the glottal fricative [h] in coda positions before a voiceless consonant is the result of a regular phonological process in Ecuadorian Siona as well, just as in other Tukanoan languages.

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[74] The verbs *sah* 'to go' in (25a) and *ah* 'to be' (25b) are monomoraic forms, that seem to violate the bimoraic stem constraint. Nevertheless, these verbs form a bimoraic foot in combination with additional morphology: the past tense suffix -*ko* in (25a) and the nominalizer -*kɨ* in (25b). The suffix -*sih* 'completive' in (25c) is a monomoraic bound root. This bound root needs the nominalizer –*kɨ* in order to form a bimoraic foot as well.
[75] The pronominal form [ĩõh.te] 'her' seems to be counterevidence to the claim that the coda /h/ is found before a consonant in the second half of a prosodic foot. It is possible that this form emerged due to the deletion of a velar /g/. However, the reconstruction of this form falls outside of the scope of this dissertation.

3.4.2.3.2.2 Coda [h] as a realization of /h/

However, not all glottal fricatives in coda positions can be attributed to the predictable phonological process of preaspiration of voiceless consonants in Ecuadorian Siona. This can be understood from the occurrence of [h] before [ɲ]. This occurrence is illustrated in examples (27b) and (28b):

(27) a. [toh.to]   b. [toh.ɲã]
          tohto   toh-jã
          board   board-PL
          'board'   'boards'

(28) a. [hɨ̃h.tɨ]   b. [hɨ̃h.ɲã]
          hɨ̃htɨ   hɨ̃h-jã
          hand   hand-PL
          'hand'   'hands'

The plural forms [toh.ɲã] in (27b) and [hɨ̃h.ɲã] in (28b) show that the coda [h] can occur before the palatal nasal [ɲ]. This does not mean that this palatal nasal can be added to the list of consonants that trigger preaspiration. The consonant does not trigger preaspiration in other contexts, such as root-internally:

(29) a. [wã.ɲũ.mĩ] 'anaconda'
      b. [ɲã.ɲɨ̃] 'moon'

The example in (29) shows that the palatal nasal [ɲ] does not trigger preaspiration in root-internal position. In this sense, the palatal nasal [ɲ] behaves different from the voiceless consonants, because they do show regular preaspiration in root-internal position.

Because the palatal nasal [ɲ] does not trigger preaspiration, it is problematic to analyze the appearance of [h] in examples (27b) and (28b) as the result of a predictable process of preaspiration. This use of the glottal fricative seems to be best analyzed as the use of the phoneme [h] in coda position. This coda [h] is maintained when the disyllabic roots [toh.to] 'board' and [hɨ̃h.tɨ] 'hand' are reduced to one syllable during the process of pluralization. When these nouns are pluralized, their roots are reduced to [toh] and [hɨ̃h] and the plural suffix [ɲã] is attached to this reduced root. Therefore, the coda [h] precedes the nasal consonant [ŋ], which does not trigger preaspiration in any other

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occasion. This is an indication that the coda [h] is best analyzed in these cases as an occurrence of the phoneme /h/.

In summary, there are indications that the [h] in coda position is produced by a phonological process, similarly as in other Tukanoan languages. Its occurrence can be predicted in most cases and it is also inserted in the loanword [moh.tor]. Nevertheless, there is counterevidence against this analysis as well. Before the palatal nasal [ɲ] it is more difficult to predict the occurrence of [h] phonologically. Therefore, it is difficult to decide whether the coda [h] can be analyzed as a case of preaspiration in Ecuadorian Siona. I leave this as an open question in this dissertation.[76]

3.4.3 Nasals

Ecuadorian Siona seems to have two phonemic nasal consonants, namely a bilabial nasal /m/ and a dental nasal /n/. The nasals occur in specific contexts: they are followed by nasal vowels.[77] In many Tukanoan languages, the nasals /m, n/ are not considered to be phonemes. For instance, in Eastern Tukanoan languages such as Barasana (Gomez-Imbert, 2004), Kubeo (Chacón, 2012), Tuyuka (Barnes, 1996) and Wanano (Stenzel, 2007, 2013), [m] and [n] are

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[76] A third analysis has been proposed for the occurrence of [h] in coda position in Tukanoan languages. Many scholars (Barnes & Malone, 2000; Criswell & Brandrup, 2000; Johnson & Levinsohn, 1990; Ramirez, 1997; N. E. Waltz, 2002; Wheeler, 1987b) have analyzed this phenomenon as the appearance of a voiceless vowel. I do not analyze the consonant [h] as a voiceless vowel, because, as Gomez-Imbert (2011) and Stenzel (2013) have pointed out, this would mean that the roots that show this phenomenon have a trimoraic root. This would violate the bimoraic root structure that exists in many Tukanoan languages. The bimoraic root structure suggests that the [h] does not hold a vowel position, but rather a consonantal position. This consonantal analysis of the occurrence of [h] in coda positions provides a more unified analysis of the Tukanoan languages in general. Tukanoan languages that do not have preaspiration often show a phonetic gemination of the root-internal consonants (Gomez-Imbert, 2011). Gomez-Imbert (2004, 2011) analyses the preaspirated consonants as a reflex of these geminated consonants in which the first part of the geminate has debuccalized. As Stenzel (2013) points out, the advantage of this analysis is that it unifies the explanation for various related phenomena in the Tukanoan languages and the bimoraic root structure that is found throughout the languages is maintained.
[77] The nasal quality of the vowels that follow the nasal consonants is probably due to nasal spread.

nasal allophones of /b/ and /d/. When the voiced labial and coronal stops are part of a nasal syllable, they are realized as nasal stops. There is a complementary distribution between [b] and [m] and [d] and [n] in these languages.

In Ecuadorian Siona, the labial and coronal nasals are not allophonic variants of labial and coronal stops. There is no complementary distribution involved. The plain stops /p, t/ and the laryngealized stops /pˀ, tˀ/ can occur under the same conditions as the nasals /m, n/; these consonants can all precede nasal vowels, just as the nasals /m, n/. This is shown in table 3.11 below:

Table 3.11: Examples of different types of labial and coronal stops (plain: C, laryngealized: C̣ and nasal: C̃) in nasal syllables

	CṼ	C̣Ṽ	C̃Ṽ
Labial stops	[põʔ.ka] 'rotten' [pũʔ.pu.je] 'to smoke'	[p̣ãĩ] 'people' [p̣õ.nɨ̃.ɲẽ] 'to turn around'	[mãi] 'we incl.' [mõ:.ɲẽ] 'to fish'
Coronal stops	[tãĩ.ɲẽ] 'to plant' [tũ.mã.ɲẽ] 'to ascend'	[ṭãɨ.ɲẽ] 'to pull' [ṭĩ.ɲẽ] 'to stay'	[nã.hõ] 'fish, Sp. paiche' [nɨ̃h.ka.je] 'to stand'

Table 3.11 shows that the labial and coronal stops and nasals all occur in syllables that contain nasal vowels in Ecuadorian Siona. This suggests that the nasal consonants cannot be analyzed as stops that are nasalized under influence of the nasal vowel that follows them. As shown in the table above, stops are not affected by the following nasal vowels. Therefore, I analyze the nasals /m, n/ as phonemes in Ecuadorian Siona.

The language has another nasal consonant, namely the palatal nasal [ɲ]. This nasal, however, cannot be analyzed as a phoneme. The palatal nasal is an allophonic realization of the palatal approximant /j/. These two consonants are in complementary distribution: [j] is found in oral contexts and [ɲ] in nasal contexts as shown in the examples below:

(30) a. [jaɨ]
ja-ɨ
puma-CLS:M
'male tiger'

> b.   [p̪aa.je]
> ba-je
> have-INF
> 'to have'
>
> c.   [ui.jo]
> ui-jo
> spear-CLS:LONG.THIN.RIGID
> 'spear'

(31) a.   [ɲãɨ̃]
> jã-ɨ?
> [see-2/3S.M.PST.N.ASS]
> 'Did he see?'
>
> b.   [p̪ãã.ɲẽ]
> bã-je
> NEG.COP-INF
> 'to not do'
>
> c.   [uiɲõã]
> ui-jo-ã
> spear-CLS:LONG.THIN.RIGID-PL
> 'spears'

The examples in (30) show that /j/ is realized as [j] in oral contexts, and the examples in (31) show that it is realized as [ɲ] in nasal contexts. This complementary distribution shows that [j] and [ɲ] are allophones.

3.4.4 Approximants

Phonetically, Ecuadorian Siona has two approximants: a labio-dorsal and a palatal glide [w, j]. These approximants occur frequently and can occur in any onset position of the word: word-initially, stem-internally and suffix-initially. This is shown in table 3.12:

Table 3.12: Examples of words with the approximants [w, j] in word-initial position (#_), stem-internal (V(ʔ)_V) and suffix-initial position (V-_V).

	#_	V(ʔ)_V	V-_V
[w]	[wa.ʔi] 'fish/ animal' [wɨ.ʔe] 'house' [wɨo.je] 'to begin'	[si.wa.je] 'to be happy' [tiʔ.wi] 'side' [se.wo.je] 'to answer'	[si.ʔa.-wa.ʔi] 'everyone' [hɨo.-wɨ] 'I / you / we / they slashed'
[j]	[ji.ha] 'earth' [joʔ.je] 'to make' [jɨi.ɲɨ̃] 'kapok, tree sp.'	[to.ja] 'pattern' [kã̃ʔ.jo.je] 'to play' [ho.je.je] 'to unfold'	[hɨo.-je] 'to slash' [hɨo.-jɨ] 'I / you / we / they slash'

The palatal approximant [j] is not only realized as an approximant, but it is also frequently realized as an affricate [dʒ], as shown in the example below:

(32) [jɨi.ɲɨ̃] ~ [dʒɨi.ɲɨ̃]
      jɨi-jɨ̃
      kapok-CLS:TREE
      'kapok tree'

The realization of the approximant /j/ as an affricate [dʒ] occurs in all positions of the word, except in nasal contexts. The allophones[j] and [dʒ] are generally in free distribution. The palatal approximant [j] has another allophone, as mentioned above. It is realized as [ɲ] in nasal contexts, as shown in example (32).

Phonologically, the analysis of the approximants [w, j] is more challenging. It is not clear whether the approximants [w, j] must be analyzed as phonemes. There are some indications that [w] and [j] are consonantal realizations of the vowels /o/ and /i/. One indication is that the vowels /o/ and /i/ can be reduced to [w] and [j]. The addition of the derivational suffixes -a 'transitive' and -o 'causative' causes reduction of the preceding vowel. When the preceding vowels are /o/ and /i/, they become, respectively, the approximants [w] and [j], as illustrated in the examples below:

(33)   a.   [t̪e.ʔo.je]   b.   [t̪eʔ.wa.je]
            de'o-je   de'o-a-je
            be.good-INF   be.good-TRS-INF
            'to be good'   'to fix (something).'

(34)   a.   [ḵo.ʔi.je]   b.   [ḵoʔ.jo.je]
            go'i-je   go'i-o-je
            return-INF   return-CAUS-INF
            'to return'   'to make someone return'

Both the underived roots in (33a) and (34a) and the derived complex stems in (33b) and (34b) have a bimoraic structure. It seems that during the process of derivation the vowel /o/ in (33) and /i/ in (34) were reduced to, [w] and [j] respectively, in order to maintain a bimoraic stem structure.[78] The vowels lose their syllabic position and are then realized as onsets of the second syllable. The vowels no longer carry moraic weight due to this change. This process suggests that the approximants [w, j] can be analyzed as the allophonic realizations of /o, i/ in a non-syllabic position.

There is, however, a possible counterargument for this analysis of the approximants at least in the case of the palatal approximant [j]. This counterargument concerns the allophonic realization [dʒ]. When the vowel /i/ comes to fill the onset position of a syllable, it behaves in some cases just as a regular [j], namely, the [j] is mostly pronounced as [dʒ]. This is illustrated in the example below for [ḵoʔ.jo.je] 'to make someone or something return':

(35)   [ḵoʔ.jo.je] ~ [ḵoʔ.dʒo.dʒe]
       go'i-o-je
       return-CAUS-INF
       'to make someone or something return.'

The onset /i/ phonetically represented as [j] in [ḵoʔ.jo.je] can be realized as [dʒ], as shown in (35). This is not possible for all occurrences of /i/ that fill an onset position due to a morphological process. An example is provided below:

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[78] It seems that /u/ can undergo a similar process, where it can also reduce in order to maintain a bimoraic structure as will be explained in section 3.5.1. There are no cases that /e/ reduces to [j]. This may be accidental.

(36)   [sa.jo.nã] ~ *[sa.dʒo.nã]
        sa-i-o-na
        go-IMPF-S.F.PRS-DS
        'While she went...'

The dependent verb form [sa.jo.nã] in example (36) illustrates that not every /i/ that is realized in an onset position due to a morphological process can be pronounced as [dʒ].

     Therefore, there seems to be a difference between /i/ pronounced in onset position and the approximant /j/. This could be an argument to analyze /j/ as a phoneme in Ecuadorian Siona. The behavior of /i/ as an approximant in [ḵoʔ.jo.je] does not need to be a counterargument against this analysis.[79] It seems that the form has lexicalized and that this causative derivation is no longer a productive process.[80] The formation of dependent verbs is very productive in the language and the glide [j] is recognized as an underlying /i/. There are no indications that the labio-velar approximant [w] has to be analyzed as a phoneme in the language, as there are for the palatal approximant.

3.5 Vowels

The Ecuadorian Siona vocalic phoneme inventory consists of twelve vowels: six oral vowels /i, ɨ, u, e, o, a/ and six nasal counterparts /ĩ, ɨ̃, ũ, ẽ, õ, ã/. The examples below present (near) minimal pairs for the oral vowels:

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[79] It is possible that the /j/ developed out of various sources: an /i/ in onset position in some cases and a consonant in other cases. One indication for the latter source is that some cognates of the Ecuadorian Siona word with a palatal approximants /j/ have a different consonant in other Tukanoan languages. For instance, intervocalic /j/ in Siona is /s/ or /h/ in various Eastern Tukanoan languages (Chacón, to appear).

[80] Another indication that this derivation is no longer productive is that the suffix cannot be applied to every verb root. It seems to be restricted to a lexicalized set of verbs. Furthermore, some of these derivations have unpredictable meanings. For instance, *sa-o-je* 'go-CAUS-INF' does not mean 'to make someone go,' but 'to send away.'

/a/ vs. /e/

(37)   a.   [je?.ja.hi]   b.   [je?.je.hi]
            je'je-a-hi   je'je-hi
            teach-TRS-3S.M.PRS.ASS   learn-3S.M.PRS.ASS
            'He is teaching.'   'He is learning.'

/a/ vs. /i/

(38)   a.   [ku.ɾi]⁸¹   b.   [ku.ɾa]
            kudi   kuda
            'money'   'chicken'

/a/ vs. /ɨ/

(39)   a.   [wao.nĩ]   b.   [wɨo.nĩ]
            wa-o-ni   wɨ-o-ni
            child.in.law-CLS:F-OBJ   get.up-CAUS-SS
            'the daughter in law'   'after beginning'

/a/ vs. /u/

(40)   a.   [t̪uh.ta.jɨ]   b.   [t̪uh.tu.jɨ]
            duhta-jɨ   duhtu-jɨ
            pull.out-OTH.PRS.ASS   fall.in.water.PL-OTH.PRS.ASS
            'They are pulling (it) out.' 'They are falling into the
                                          water.'

/a/ vs. /o/

(41)   a.   [eh.ta.hi]   b.   [eh.to.hi]
            ehta-hi   ehto-hi
            go.out-3S.M.PRS.ASS   take.out-3S.M.PRS.ASS
            'He is going out.'   'He is taking (it) out.'

/e/ vs. /i/

(42)   a.   [nẽẽ.se.ʔe]   b.   [nẽẽ.si.ʔi]
            ne-seʔe   ne-si-ʔi
            do-NLZ.PST   do-FUT-OTH.ASS
            'The thing that happened.' 'I will do (it).'

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⁸¹ This is probably a Quechua loanword from the word for gold, which is *kuri* in Ecuadorian Kichwa and *qori* in Peruvian varieties of the language.

/e/ vs. /ɨ/

(43) a. [sai.je]   b. [sai.jɨ]
          sa-i-je   sa-i-jɨ
          go-IMPF-INF   go-IMPF-OTH.PRS.ASS
          'To go.'   'I am going.'

/e/ vs. /u/

(44) a. [ṯuʔ.te.wɨ]   b. [ṯuh.tu.wɨ]
          du'te-wɨ   duhtu-wɨ
          pull.out.PL.ACT-OTH.PST.ASS   fall.in.water.PL-OTH.PST.ASS
          'They pulled (them) out.'   'They fell into the water.'

/e/ vs. /o/

(45) a. [jeh.ke]   b. [jeh.ko]
          jehk-e   jehk-o
          other-CLS:GEN   other-CLS:F
          'Other things'   'Another woman'

/i/ vs. /ɨ/

(46) a. [sai.hi]   b. [sai.hɨ]
          sa-i-hi   sa-i-hɨ
          go-IMPF-3S.M.PRS.ASS   go-IMPF-PL.PRS.DEP
          'He is going.'   'While they are going.'

/i/ vs. /u/

(47) a. [siʔ.si.ɾe]   b. [suh.si.ɾe]
          si'si-de   suhsi-de
          gather-OTH.PST.N.ASS   nettle-OBJ
          'Did they gather?'   'The nettle'

/i/ vs. /o/

(48) a. [sai.hi]   b. [sao.hi]
          sa-i-hi   sa-o-hi
          go-IMPF-3S.M.PRS.ASS   go-CAUS-3S.M.PRS.ASS
          'He is going.'   'He is sending (it) off.'

/ɨ/ vs. /u/

(49) a. [hɨa.je]   b. [hua.je]
          hɨa-je   hua-je
          be.hard-INF   put.inside-INF
          'Hard'   'To put (it) inside'

/ɨ/ vs. /o/

(50)   a.   [hɨa.je]   b.   [hoa.je]
                  hɨa-je   hoa-je
                  be.hard-INF   cleave-INF
                  'Hard'   'To cleave'

/u/ vs. /o/

(51)   a.   [hua.hi]   b.   [hoa.hi]
                  hua-hi   hoa-hi
                  put.inside-3S.M.PRS.ASS   cleave-3S.M.PRS.ASS
                  'He is putting (it) inside.'   'He is cleaving (it).'

The Ecuadorian Siona vocalic phoneme inventory is twice the size of the inventories of many Eastern Tukanoan languages (see Barnes, 1996, p. for Tuyuka; see Chacón, 2012, p. for Kubeo; see Gomez-Imbert, 2004, p. for Barasana and Tatuyo; see Stenzel, 2007, p. for Wanano). This difference is due to the lack of nasal vowels in the Eastern Tukanoan inventories. Although these languages do employ nasal vowels, they are not considered to be phonemes. Nasality is a feature that can spread to the following syllables and is often viewed as a feature that is assigned to the entire word (Barnes, 1996; Gomez-Imbert, 2004; Stenzel, 2007). Although Ecuadorian Siona displays this type of nasal harmony, there are syllables that consist of an oral consonant and a nasal vowel. Accordingly, the nasality cannot be considered a quality of the entire syllable, but only of the vowel in these cases.

There are some phonotactic restrictions concerning the occurrence of vowels. These restrictions do not depend on the position of the vowel in the word, as in the case of the consonants. Phonotactic restrictions of vowels depend on their occurrence with other vowels. Most of the vowels can be used in combination with other vowels; they can form diphthongs. However, the vowels can undergo various phonological processes when they come in contact with other vowels. In order to understand the morphological verb forms that are under discussion in this dissertation, it is useful to briefly discuss these processes. Subsection 3.5.1 is devoted to coalescence, subsection 3.5.2 to vowel assimilation and vowel harmony, subsection 3.5.3 to the reduction of vowels and subsection 3.5.4 to the dissimilation of vowels.

3.5.1 Coalescence

The first phonological processes that some Ecuadorian Siona vowels undergo is coalescence. There are various types of coalescence in the language with restrictions specific to each type.

The first type of coalescence is not restricted to any type of vowel. This process consists of merging two equal vowels into a single short vowel. This process occurs when a suffix that consists of a single vowel is attached to a morpheme that ends in the same vowel. The process is represented schematically in the example below:

(52) $CVCV_i$ + $-V_i$ → $CVCV_i$

The schema in (52) represents the merging of two identical vowels. There are various suffixes that consist of a single vowel, such as the suffix /-a/ that is part of a negation construction, and the suffixes /-ɨ/ and [-o] which have various functions in nominal and verbal morphology marking amongst other features, masculine and feminine gender, respectively.

(53)   a.   [ɲãã p̯ah.ko]
                jãã-a   bah-ko?
                see-NEG   be-2/3S.F.PST.N.ASS
                'Didn't you (F)/ she see?'
        b.   [p̯õ.nɨ̃]
                bõnɨ-ɨ?
                turn.around-2/3S.M.PST.N.ASS
                'Did you / he turn around?'
        c.   [kʷaʔ.ko]
                kʷa'ko-o?
                cook-2/3S.F.PST.N.ASS
                'Did you (F)/ she cook?'

When the suffixes that consist of a vowel are attached to morphemes that end in an identical vowel, there is no lengthening of the final vowel. These suffixes only emerge in the surface structure when the preceding morpheme ends in a different vowel:

(54)   a.   [wɨʔ.wɨa p̯ah.ko]
                wɨ'wɨ-a   bah-ko?
                run-NEG   be-2/3S.F.PST.N.ASS
                'Didn't you (F)/ she run?"

b.   [kah.ka**ɨ**]
kahka-ɨ?
enter-2/3S.M.PST.N.ASS
'Did you (M)/ he enter?'

c.   [kah.kao]
kahka-o?
enter-2/3S.F.PST.N.ASS
'Did you (F)/ she enter?'

The examples in (54) show that the suffix *-a* 'negation' and the suffixes *-ɨ* and *-o* with various functions appear in the surface structure on the condition that the vowel in the stem and in the suffix are not identical. This is in contrast with the examples in (53) in which the one vowel suffixes are attached to stems that end in the same vowel. In the case of identical vowels, as shown above, the vowels merge into one short vowel.

      The second type of coalescence is restricted to the vowel /i/. The vowel coalesces with preceding vowels that are [+front, -low, -high], that is, with /e/. Coalescence of /e/ and /i/ occurs when the imperfective suffix *-i* is added to a monomoraic root that ends in the vowel /e, ẽ/. The two vowels are realized as a long vowel [e:]. This is illustrated in the example (55) below:

(55)   a.   [wee.ko]
we-i-ko.
lie.in.hammock-IMPF-3S.F.ASS
'She is lying in a hammock.'

b.   [hẽẽ.ko]
hẽ-i-ko.
cross-IMPF-3S.F.ASS
'She is crossing (it).'

Example (55) shows that /i/ coalesces with the vowels /e, ẽ/. When /i/ follows other vowels this process does not occur, as illustrated in (56):

(56)   a.   [ṯai.ko]
da-i-ko.
come-IMPF-3S.F.ASS
'She is coming.'

b.   [wɨi.ko]
wɨ-i-ko.
get.up-IMPF-3S.F.ASS
'She is getting up.'

c.   [tʃoi.ko]
cho-i-ko.
call-IMPF-3S.F.ASS
'She is calling.'

d.   [tui.ko]
tu-i-ko
be.on.top-IMPF-3S.F.ASS
'She is (sitting) on top of something.'

The monomoraic verbs in (55) and (56) form bimoraic stems in combination with the imperfective suffix *-i*. This suffix is not visible in the surface structure when it follows the vowels /e, ẽ/. The suffix *-i* is visible when it follows any other vowel. It follows from the morphosyntactic behaviour of the verbs [wee.je] 'to lie in a hammock' and [hẽẽ.ɲẽ] 'to cross,' that the suffix is present in these cases. They behave identically to the other monomoraic verbs.

The third type of coalescence concerns the vowel /ɨ/. This vowel is more susceptible to changes than the vowel /i/. The vowel /ɨ/ coalesces with the other high vowels /i, u/. This is illustrated in the examples below:

(57)   a.   [ko̰.ʔi]
go'i-ɨ?
return-2/3S.M.PST.N.ASS
'Did you (M)/he return?'

b.   [pũʔ.pu]
pũ'pu-ɨ?
smoke-2/3S.M.PST.N.ASS
'Did you (M)/he smoke?'

Example (57a) shows that /ɨ/ coalesces with /i/ when it is attached to this vowel. The fused vowel is realized as /i/. Example (57b) shows that /ɨ/ coalesces with /u/ when it is attached to this vowel. The fused vowel is realized as /u/.

3.5.2 Partial vowel assimilation & vowel harmony

The vowel /ɨ/ can undergo further phonological changes. It assimilates to the preceding vowel under specific circumstances. First of all, /ɨ/ assimilates when it follows the mid vowels /e, o/. This is illustrated in the examples below:

(58)   a.   [oh.tei]
                    ohte-ɨ?
                    sow-2/3S.M.PST.N.ASS
                    'Did you (M)/he sow?'
      b.   [hɨou]
                    hɨo-ɨ?
                    slash-2/3S.M.PST.N.ASS
                    'Did you (M)/he slash?'

Example (58a) shows that the vowel /ɨ/ is realized as a high front vowel [i] when it follows the mid front vowel /e/. When it follows the mid rounded vowel /o/, as shown in (58b), it is realized as the high rounded [u].[82]
      The vowel /ɨ/ can also assimilate to the mid front vowel /e/ when it is not directly preceded by this vowel. The two vowels can be separated by a glottal stop. This process of vowel harmony is illustrated below:

(59)   [te.ʔi]
       te'-ɨ
       one-CLS:ANIM.M
       'one man'

Example (59) illustrates that despite the presence of the glottal stop the dorsal vowel /ɨ/ is assimilated to the front vowel /e/ and realized as [i].
      This process of vowel harmony does not only occur when /ɨ/ follows the mid vowel /e/, but also when it follows the high vowel /i/:

(60)   [kɨa.si.ʔi]
       kɨa-si-ʔɨ
       tell-FUT-OTH.ASS
       'I am going to tell.'

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[82] These final vowel [i] and [u] are often reduced to glides: [j] and [w], respectively. The language does not seem to tolerate triphtongs.

It is illustrated in example (60) that the high dorsal vowel /ɨ/ is assimilated to the high front vowel /i/ and realized as a high front vowel [i] as well. This process of vowel harmony has not yet been observed for the rounded dorsal vowels.

3.5.3 Vowel reduction

A third process that affects the vowels in Ecuadorian Siona is vowel reduction. The language displays two types of reduction:

1. The deletion or reduction of a vowel in a disyllabic root when a derivational suffix is added.
2. The deletion of a vowel after a glottal stop

The first type of reduction takes place during the derivation of transitive or causative disyllabic verb stems. When the derivational suffixes *-a* 'transitive' or *-o* 'causative' are applied to a disyllabic root that has a bimoraic structure and that ends in /ɨ, ɨ̃, e, ẽ, a, ã/, the final vowel is deleted and the derivational suffix takes its place. As a result of this process the bimoraic structure of the stem is maintained. This process is illustrated by the examples presented below:

(61) a. [jeʔ.je.je]   b. [jeʔ.ja.je]
        je'je-je   je'je-a-je
        learn-INF   learn-TRS-INF
        'to learn'   'to teach'

(62) a. [kʷẽ.nẽ.ɲẽ]   b. [kʷẽ.nã.ɲẽ]
        kʷẽne-je   kʷẽne-a-je
        dry.oneself-INF   dry.oneself-TRS-INF
        'to dry oneself'   'to dry (something).'

(63) a. [eh.ta.je]   b. [eh.to.je]
        ehta-je   ehta-o-je
        go.out-INF   go.out-CAUS-INF
        'to go out'   'to take (someone/thing) out.'

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(64) a. [hɨ.jɨ.je]   b. [hɨ.jo.je]
          hɨjɨ-je   hɨjɨ-o-je
          break-INF   break-CAUS-INF
          'to break'   'to break (something)'

Some vowels undergo a different process in order to maintain the bimoraic structure when a transitive or causative stem is derived from a disyllabic root. When a C₁VC₂V root holds the consonant /k/ in C₂ position and the root ends in one of the vowels /u, o/, the final vowel loses its syllabic value. When the dorsal stop /k/ is followed by the vowels /u/ and probably /o/, the vowel is realized as a secondary articulation of the stop. This is realized as a labial dorsal consonant /kʷ/, as illustrated as (65):

(65) a. [ũh.ku.je]   b. [õh.kʷa.je][83]
          ũhku-je   ũhku-a-je
          drink-INF   drink-TRS-INF
          'to drink'   'to give someone some-
                                      thing to drink'

In example (65b), the combination of /kua/ is realized as [kʷa] in the (di)transitivized verb [õh.kʷa.je] 'to give someone something to drink.' The stem [õh.kʷa] maintains its bimoraic structure this way, similarly to the examples of vowel deletion shown in the example (61-64).

This type of vowel reduction does not only occur within the stem. It also occurs when the bound copula -*a* is attached to the suffix -*ko* that has various functions. This is illustrated in the examples below:

(66) [saakʷao]
      sa-a-ko-a-o
      go-TRS-NLZ.F-COP-3S.F.ASS
      'She is the one who takes.'

The sequence /koao/ is reduced to [kʷao] in example (66). This reduction process is highly regular in the language.

Another example of vowel reduction was already presented in section 3.4.4 and it occurs after a glottal stop. In C₁V.C₂V stems with a

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[83] There are no clear indications that the lowering of the vowel /ũ/ to /õ/ in this example is a productive process in Ecuadorian Siona. This process occurs on some occasions and needs to be further studied in order to determine a possible phonological rule.

glottal stop /ʔ/ in C_2 position followed by the vowels /i/ or /o/.[84] The examples are repeated below:

(67) a. [t̪e.ʔo.je] b. [t̪eʔ.wa.je]
          de.'o-je   de.'o-a-je
          be.good-INF   be.good-TRS-INF
          'to be good'   'to fix (something).'

(68) a. [k̰o.ʔi.je] b. [k̰oʔ.jo.je]
          go'i-je   go'i-o-je
          return-INF   return-CAUS-INF
          'to return'   'to make someone return'

Examples (67b) and (68b) show that the vowels /u, i/ are realized as approximants as a consequence of the derivation process. The vowel /o/ is pronounced as a labio-velar approximant /w/ and the vowel /i/ as a coronal approximant /j/. Due to this change, the syllable structure of the new formed stem is different from the syllable structure of the root. The structure $C_1V.ʔV$ is changed into CVʔ.CV. The suffixation of the transitive and causative jeopardizes the bimoraic stem structure. However, thanks to the processes of vowel reduction described above, the bimoraic stem constraint is also satisfied in these contexts.

A second process of vowel reduction occurs in stems and suffixes that have a vowel that follows a glottal stop. This vowel is deleted under specific conditions. The deletion is shown in (69):

(69) $CV_i.ʔV_i$ + -CV → CVʔ.CV

In (69) it is shown that a vowel that follows a glottal stop is deleted when it is identical to the previous vowel and followed by a suffix. When both these constraints are satisfied, the vowel is deleted and the syllable structure is different from the underlying structure. The glottal stop is no longer in the onset position, but it appears in the coda position. Examples of this rule are illustrated in (70):

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[84] It is not clear whether this choice of vowels is structural or accidental. It is possible that the process includes all vowels with the feature [-low], but there are no examples with the vowels /ɨ, u, e/ to back up this analysis. More data is needed in order to shed light on this phonological rule.

(70)   a.   [mãʔ.ɲã]
               ma'a-jã
               path-PL
               'paths'
       b.   [p̪a.ʔi.seʔ.-ɾe]
               ba'i-se'e-de
               be-NLZ.PST-OBJ
               'the history'
       c.   [jɨʔ.βi]
               jɨ'ɨ-bi
               1S-SBJ
               'I'

Three examples are provided in (70) that show the deletion of a vowel that follows a glottal stop. The vowel that is deleted in (70a) is the second vowel /a/ in *maʔa* 'path,' in (70b) the vowel /e/ in the suffix *-seʔe* 'past nominalizer' and in (70c) the vowel /ɨ/ in the pronoun *jɨʔɨ* 'I.'

The different types of vowel reduction presented in this subsection are probably caused by prosodic constraints in Ecuadorian Siona. A constraint that instigates one of these processes is bimoraic constraint of the stem. The first type of reduction, the deletion or reduction of second vowel of the root when the causative suffix *-o* or the transitive suffix *-a* are attached to it, is motivated by this constraint. The second type of deletion, which occurs after a glottal stop, may be caused by prosodic constraints as well.

3.5.4 Dissimilation

A final phonological process that affects Ecuadorian Siona vowels is dissimilation. This process occurs when a monosyllabic root that ends in the vowel /u/ obtains the causative derivational suffix *–o*. In this context, the vowel /u/ loses its rounding and is pronounced as [ɨ]. It is possible to recognize the dissimilation of /u/ in contact with /o/, because in other contexts it is pronounced as [u].

(71)   a.   [tui.je]
               tu-i-je
               sit.on.top-IMPF-INF
               'To sit on top (of something).'

b. [tua.je]
tu-a-je
sit.on.top-TRS-INF
'To sit down on top (of something).'

c. [tɨo.je]
tu-o-je
sit.on.top-CAUS-INF
'To put down on top (of something).'

(72) a. [uu.je]
u-je
burn-INF
'To burn.'

b. [ɨo.je]
u-o-je
burn-CAUS-INF
'to burn something.'

(73) a. [t̪ui.je]
du-i-je
fall.in.water-IMPF-INF
'To fall in the water.'

b. [t̪ɨo.je]
du-o-je
fall.in.water-CAUS-INF
'To make someone/something fall into the water.'

Examples (71a-b), (72a) and (73a) are illustrations of the roots *tu* 'to sit on top of something,' *uu* 'to be hot' and *t̪u* 'to fall into the water,' respectively, when they are not followed by the causative suffix *-o*. In (71c), (72b) and (73b) the causative morpheme is suffixed to the roots ending in /u/. In these examples, the vowel /u/ dissimilates: the cluster /uo/ is pronounced as [ɨo].

However, this dissimilation process is not generalized to all /uo/ sequences. It only occurs with the derivational suffix *-o* that marks the stem as a causative verb. The process does not occur with the inflectional suffix *-o* that has the function of marking various types of feminine subjects:[85]

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[85] For further information on functions of the inflectional suffix *-o* see chapter 5.

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(74)   [pŭʔ.puo]
        pŭ'pu-o
        smoke-3S.F.PST.ASS
        'She smoked.'

In example (74), the /uo/ cluster is realized as such. The main difference between the causative suffix illustrated in (71c), (72b) and (73b) and the subject agreement suffix illustrated in (74) is that the causative is part of the stem and the subject agreement suffix is not. The dissimilation process only seems to take place stem-internally.

3.6 Nasal harmony

The nasal consonants and vowels in Ecuadorian Siona are analyzed as phonemes here. Minimal pairs of oral and nasal consonants were presented in table 3.11 above. An example of a minimal pair of oral and nasal vowels is:

(75) a.   [n̪aa.βi]   vs.   b.   [n̪ãã.βi]
            ba-a-bi.   bã-bi.
            be-TRS-3S.M.PST.ASS   NEG.COP-3S.M.PST.ASS
            'He had.'   'He did not do.

Example (75a) contains the item with the oral vowel and (75b) with the nasal vowel.

The nasal phonemes can trigger nasal harmony. Nasal harmony is a typologically common process, but languages differ as to its application, with respect to three factors. The first variable is the direction in which the process applies; nasal harmony can be regressive (towards the beginning of a word) or progressive (towards the end of a word). The second variable is the domain in which the process applies. It can apply within a syllable, within a word, within a phrase etc. The third variable concerns the behavior of the segments. The different segments can either trigger, block nasal harmony, they can be a target or be transparent to this process (Jurgec, 2011; Walker, 2000).

Ecuadorian Siona, similarly to other Tukanoan languages (Chacón, 2012; Gomez-Imbert, 2004; Kaye, 1971; Stenzel, 2007, pp. 340-345), exhibits nasal harmony.[86] This process is bidirectional in the

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[86] However the variables with respect to this process are different for the other Tukanoan languages.

language: it shows both regressive and progressive harmony. The occurrence of regressive nasal harmony is illustrated in the examples below:

(76) a. [toa.βo]   b. [toa.β̃õã]
          toa-bo   toa-bo-ã
          fire-CLS:ENCLOSED.AREA   fire-CLS:ENCLOSED.AREA-PL
          'fireplace'   'fireplaces'

(77) a. [t̪oʔ.ɾo.wɨ]   b. [t̪oʔ.ɾo.w̃ɨ̃ã]
          do'do-wɨ   do'do-wɨ-ã
          basket-CLS:CONTAIN   basket-CLS:CONTAIN-PL
          'basket'   'baskets'

(78) a. [ui.jo]   b. [ui.ɲõã]
          ui-jo   ui-jo-ã
          spear-CLS:LONG.THIN   spear-CLS:LONG.THIN-PL
          'spear'   'spears'

It is shown in examples (76-78) that the plural suffix -ã causes the other preceding segments in the syllable to nasalize. Regressive vowel harmony only applies within a syllable. It can be observed in the examples above that only the preceding segments within the syllable to with the plural suffix -ã are nasalized. For instance, only the segments /j/ and /o/ are nasalized in example (78b), because these segments form one syllable with the suffixed /ã/. The segments /u/ and /i/ from the preceding syllable in (78b) do not become nasal. The examples above show that the domain of regressive nasal harmony in Ecuadorian Siona is restricted to the segments within the syllable to which the nasal segment is attached.

      Progressive nasal harmony applies within a less restricted domain, namely, nasality can spread to the rest of the prosodic word. This is illustrated in the examples below:

(79) a. [kaa.jɨ]
          ka-jɨ
          say-OTH.PRS.ASS
          'I, you, we, you (PL), they say.'

b. [ɲãã.ɲɨ̃]
    jã-jɨ
    see-OTH.PRS.ASS
    'I, you, we, you (PL), they see.'
c. [p̯ãã.ɲɨ̃]
    bã-jɨ.
    NEG.AUX-OTH.PRS.ASS
    'I, you, we, you (PL), they don't.'
d. [ĩõ.w̃ã.ʔĩ]
    ĩ-o-wa'i
    DEM.PRX-CLS:ANIM.F-PL
    'they'

Example (79a) shows that when the verbal suffix *-jɨ* follows an oral vowel, the segments in the suffix are oral. Example (79b-c) show that the sequence /jɨ/ is realized as the nasal sequence [ɲɨ̃] when it follows a nasal vowel. It is shown in example (79d) that the nasality can spread even further than the following syllable. In this example, nasality spreads within the same syllable to the vowel /o/, to the next syllable to the sequence /wa/ and to the last syllable to the final syllable /ʔi/. This suggests that the domain within which progressive nasal harmony applies is broader than in the case of regressive nasal harmony; the former process applies to the entire prosodic word.[87]

Regressive and progressive nasal harmony do not seem to differ with respect to the behavior of the segments. The segments that seem to trigger nasal harmony are the nasals /n, m, ĩ, ɨ̃, ũ, ẽ, õ, ã/. The segments that clearly block nasal harmony are most of the stops and the fricatives /t, k, kʷ, p̯, t̯, s/. These consonants do not become nasal when they occur in a nasal environment and they block the spreading of nasality to adjacent segments. This is illustrated in the examples below:

(80) a. [ɲãã.to]
         jã-to
         see-CLS:PLACE
         'when (someone) sees'
     b. [ɲãã.ko]
         jã-ko
         see-3S.F.PRS.ASS
         'she sees'

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[87] It may even apply to the whole word, but more research on nasal harmony in Ecuadorian Siona is needed to determine this.

c. [ɲãã.kʷa.ʔi]
jã-ko-wa'i
see-CLS:ANIM.F-PL
'the ones that see'
d. [ɲãã.βi]
jã-bi
see-3S.M.PST.ASS
'he saw'
e. [ɲãã.ɾe]
jã-de
see-OTH.PST.N.ASS
'did I / we / you (PL) / they see?'
f. [ɲãã.si.ʔi]
jã-si-'ɨ
see-FUT-OTH.ASS
'I / you / we / you (PL) / they will see'

The examples in (80a-f) show that nasality does not spread to segments that follow the consonants /t, k, p̰, t̰, s/. Therefore, these consonants are analyzed as blockers of nasal harmony. In the case of the other stops /p, k̰, kʷ/, the affricate /tʃ/ and the laryngealized sibilant /s̰/, it is unclear whether they are blockers. They do not become nasal in nasal environments, but since they do not occur in suffixes, it is impossible to determine whether they block nasal harmony.

The third type of segments are the targets. The segments that are targeted by nasal harmony are the vowels /i, ɨ, u e, o, a/, the approximants /w, j/ and the glottal /h, ʔ/. The vowels are always nasal when they occur in a nasal environment. The approximants show a similar behavior, as shown in the examples below:

(81) a. [nẽẽ.w̃ɨ̃]
ne-wɨ
do-OTH.PST.ASS
'I / you / we / you (PL) / they did.'
b. [nẽẽ.ɲẽ]
ne-je
do-OTH.PRS.N.ASS
'Do I / we / you (PL) / they do?'

Examples (81a-b) show that both /w/ and / j/ become nasal when they follow a nasal vowel. Therefore, the approximants can be considered targets of nasal harmony.

It is more difficult to perceive whether the glottal sounds /h, ʔ/ are targets of nasal harmony. The fricative /h/ seems to become nasal however only in nasal environments. This is illustrated in the examples below:

(82) a.   [kaa.hi]
           ka-hi
           say-3S.M.PRS.ASS
           'he says'
    b.   [nẽẽ.h̃ĩ]
           ne-hi
           do-3S.M.PRS.ASS
           'he does'

(83) a.   [p̪ah.kɨ]
           bah-kɨ?
           be-2/3S.M.PST.N.ASS
           'were you (M) / was he?'
    b.   [ãh̃.kɨ]
           ãh-kɨ?
           eat-2/3S.M.PST.N.ASS
           'did you (M) / he eat?'

Example (82b) illustrates that /h/ is realized as [h̃] in an onset position when it occurs after a nasal vowel. Example (83b) shows that /h/ becomes nasal as well when it occurs after a nasal vowel. Since /h/ seems to become nasal in both onset and in coda position, I consider this sound a target of nasal harmony.[88]

It is almost impossible to perceive whether the glottal /ʔ/ becomes nasal in a nasal environment. One can, however, perceive that the following segments become nasal, as illustrated in the example below:

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[88] I perceive /h/ as nasal in examples (82b) and (83b), however, this needs to be studied in more detail.

(84)   [sai.hãʔ.ɲẽ]
       sa-i-hã'-je
       go-IMPF-PRP-INF
       'for the purpose of going'

Example (84) shows that /ʔ/ does not block nasal harmony. Since the sequence /je/ is realized as [ɲẽ], it is clear that /ʔ/ does not prevent nasality from spreading to the next syllable.[89] Since the glottal sounds /h, ʔ/ do not block nasal harmony and /h/ seems to become nasal in a nasal environment, these two sounds are considered to be targets of nasal harmony.[90] The table below summarizes the behavior of the consonants with respect to nasal harmony.

Table 3.13: The behavior of the segments with respect to nasal harmony

Behavior of segment	Segment
Triggers	n, m, ĩ, ɨ̃, ũ, ẽ, õ, ã
Blockers	(p), t, k, kʷ, p̠, t̠, (k̠, k̠ʷ, tʃ̠) s, (s̠)
Targets	(h, ʔ,) w, j, i, ɨ, u e, o, a
Transparent segments	-

3.7 Practical orthographies

So far I have provided an overview of the main properties of the Ecuadorian Siona phonological system. Now I will clarify the practical orthographies that I use in the other chapters of this dissertation. Regarding the fact that there exists an orthography for Ecuadorian Siona, I will use this orthography in the examples. This orthography was developed by the missionaries Orville and Maria Johnson of the Summer Institute of Linguistics. The missionary couple taught this orthography to the Ecuadorian Siona people, who still use it today.

    In addition, I use an adapted orthography that is closer to the International Phonetic Alphabet and that shows some features that are

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[89] There is one case in which /ʔ/ seems to block the spread of nasality. The phoneme /j/ in the verb [k̠ãʔ.jo] 'play' is not nasalized, although it follows a nasal vowel and a glottal stop. The difference between the glottal stop in [k̠ãʔ.jo] and the one in [saihãʔɲẽ] is that it occurs root-internally in the former and on a morpheme boundary in the latter. It is possible that this difference is related to the difference in behavior of a morpheme-internal glottal stop and a glottal stp at morpheme boundaries.

[90] /ʔ/ does not become nasal, because, as Piggott (1992, p. 39) argues, a nasalized glottal stop is "an impossible phonetic entity."

relevant in this dissertation, such as /h/ in coda position. The Siona orthography is adopted in the first line of the example and the adapted orthography in the second line. The layout of an example is illustrated in (85):

(85) sani ñu'iona wȩequë gajereña.
      sa-ni   jũ-'i-o-na   wẽhkɨ
      go-SS   sit-IMP-S.F.PRS-DS   tapir
      gahe-de-jã.
      go.down-OTH.PST.N.ASS-REP
      'She went away and sat down and then the tapirs came down.'
      (20110328slicr001.007).

The Ecuadorian Siona orthography is based on the Spanish orthography. The Ecuadorian Siona phonemes are as far as possible represented as their (nearest) match in Spanish. This means that the phoneme /k/ is represented as <c> before the vowels /a, o, u/ and as <qu> before the vowels /i, ɨ, e/. The affricate /tʃ/ is represented as <ch>, the fricative /h/ as <j> and the approximate /w/ as <hu>. The approximant /j/ is represented as <y> in oral environments and as <ñ> in nasal environments.

There are some Ecuadorian Siona phonemes that do not exist in Spanish. The first phoneme that does not exist in Spanish is /kʷ/. This phoneme is represented as <cu>. A second group of phonemes that do not exist in Spanish are the laryngealized consonants. Because Ecuadorian Siona lacks voiced obstruents, the symbols for voiced stops are used to represent the laryngealized stops: <b> corresponds to the labial laryngealized stop /p̰/. The coronal laryngealized stop /t̰/ is represented as <d> in stem- and bound-root-initial position and as <r> in stem-internal and suffix-initial position. The symbol <g> corresponds to a dorsal laryngealized stop /k̰/ in front of the vowel /a, o, u/ and <gu> in front of /i, ɨ, e/. The symbol <gü> stands for the dorsal labial laryngealized stop /k̰ʷ/. The laryngealized coronal fricative /s̰/ is written as /ts/. The last consonant that does not exist in Spanish is the glottal stop /ʔ/. This phoneme is represented as <'>. The vowel /ɨ/ is another phoneme that exists in Ecuadorian Siona but not in Spanish. The symbol <ë> is used to express this vowel. The final symbol that is used in the Ecuadorian Siona orthography is <V̱> to mark that a vowel is nasal. An example of a representation of a nasal vowel is <a̱>. Nasal vowels are not marked when they follow a nasal consonant, as in <naso>

[nãh̃.so] '*Lagothrix lagotricha*, monkey species.' The glottal /h/ in coda position is not represented in the Ecuadorian Siona orthography.

In the adapted orthography, I adopt some symbols from the Ecuadorian Siona orthography. The phonemes /pʼ, ʔ, tʃ/ are represented as <b, ', ch> in the adapted orthography. Furthermore, the laryngealized /t̰/ is represented as <d> independently of its position in the word. The dorsal stops /k, k̰, kʷ, k̰ʷ/ are represented as <k, g, kʷ, gʷ>. This is a simplified system in comparison with the Ecuadorian Siona orthography. Since all other laryngealized consonants are represented by symbols that normally represent voiced stops, the symbol <z> is used to represent the laryngealized sibilant /s̰/. The phonemes /h, w, ɨ/ are represented in the same manner as in the International Phonetic Alphabet: <h, w, ɨ> in the adapted orthography. The coronal approximant /j/ is expressed as <j> in both oral and nasal contexts. It is predictable when /j/ is realized as [j] or as [ɲ]. When <j> is followed by an oral vowel, it is realized as [j] and when it is followed by a nasal vowel, it is realized as [ɲ]. Nasal vowels are only marked as nasal, as in <ĩ, ɨ̃, ũ, ẽ, õ, ã>, when they are inherently nasal. The nasal quality can be derived from the context when vowels are not inherently nasal. A final difference between the Ecuadorian Siona orthography and the adapted orthography is that the coda [h] is expressed in the latter; it is represented as <h>. An overview of both orthographies is provided below in table 3.14.

Table 3.14: An overview of the practical orthographies used in this dissertation

Phoneme	Siona orthography	Adapted orthography
p	p	p
p̰	b	b
t	t	t
t̰	d / r	d
k	c / qu	k
k̰	g / gu	g
kʷ	cu	kʷ
k̰ʷ	gu / gü	gʷ
ʔ	'	'
s	s	s
s̰	ts	z
tʃ	ch	ch
h	j	h
hC	C	hC
m	m	m
n	n	n
w	hu	w
j	y / ñ	j
i	i	i
ĩ	i̠	ĩ
ɨ	ë	ɨ
ɨ̃	ë̠	ɨ̃
u	u	u
ũ	u̠	ũ
e	e	e
ẽ	e̠	ẽ
o	o	o
õ	o̠	õ
a	a	a
ã	a̠	ã

Chapter 4: Ecuadorian Siona nominal morphology

4.1 Introduction

In this chapter, I describe the nominal morphology in Ecuadorian Siona. This morphology is crucial to the reconstruction of the evidential and clause-typing system in the language. Some of the nominal morphemes have 'escaped from the noun phrase' into the verbal system.[91] In order to understand how these morphemes were introduced in the verbal system it is essential to understand their function and use in the noun phrase.

I describe the three main classes of nominal morphemes that exist in Ecuadorian Siona. The first class is that of nominal classifiers. In my analysis, some nominal classifiers have been reanalyzed as a set of subject agreement suffixes, which are essential for the expression of evidentiality and clause-typing in the language. In order to understand these changes, it is important to have an understanding of the Ecuadorian Siona nominal classification system. Therefore, I provide an overview of the functions and meanings of the classifiers in subsection 4.2.

The second class of nominal morphemes that I discuss in this section are the plural markers. Since plural marking is different for nouns and verbs, the nominal plural markers provide a good indication of whether a word functions in a nominal or in a verbal domain. The nominal plural morphemes indicate that a phrase is a noun phrase. I describe Ecuadorian Siona plural markers in subsection 4.3.

The third class that is addressed here is case marking. I argue in this thesis that two case markers have possibly been reanalysed as switch reference markers in Ecuadorian Siona. The description of the use of the system of case markers will provide a background for the development of switch reference forms. Subsection 4.4 provides a short sketch of the functions of various case markers in the language.

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[91] I use Epps' (2009) expression here, because it very well captures the historical process that some nominal suffixes in Ecuadorian Siona underwent. Epps uses the expression in order to describe a similar process in Hup, a Nadahup language spoken in the Vaupés area in Brazil. In this language headless relative clause markers have been reanalyzed as converbs and are currently used in main clauses as well.

4.2 Nominal classification

Many languages possess some type of nominal classification system. Well-known examples are the Indo-European gender systems and the Bantu noun class system (Grinevald, 2002; Seifart, 2010). Tukanoan languages are known to have nominal classification systems as well. These languages tend to have elaborate sets of nominal classifiers (See Barnes, 1990 for Tuyuca; Chacón, 2007 for an overview; 2012, pp. 235-257 for Kubeo; Gomez-Imbert, 1997, pp. 60-76 for Barasana; 2007b for Tatuyo; Miller, 1999 for Desano; Schwarz, 2011 for Ecuadorian Sekoya; Stenzel, 2013, pp. 98-130 for Wanano; Wheeler, 1987b, pp. 106-110 for Colombian Siona). Following Allan (1977, p. 285), I consider nominal classifiers to 'index some salient perceived or imputed characteristics of the entity to which an associated noun refers.' The Tukanoan classifiers meet this definition.

The classifier systems of Tukanoan and other Amazonian languages have been characterized as complex and challenging for the typology of nominal classification (Grinevald, 2000, pp. 82-83; Grinevald & Seifart, 2004; Senft, 2000, p. 17). This complexity is due to two properties of the systems:
1. They are used in different morphosyntactic positions.
2. The languages both have general and specific classifiers.

Classification systems with these types of properties are described for various Amazonian languages of different families: Miraña of the Bora family (Seifart, 2005) and Uitoto of the Witotoan family (Petersen de Piñeros, 2007), Baniwa of Içana/Kurripako (Aikhenvald, 2007) and Tariana (Aikhenvald, 2000) of the Arawak family and Tatuyo and Barasana amongst others (Gomez-Imbert, 2007b) of the Tukanoan family.

The Ecuadorian Siona system is not as large as some other Tukanoan systems, such as the one in Tuyuka that contains over ninety classifiers (Barnes, 1990) or the Desano classifier system that contains over a hundred (Miller, 1999, pp. 35-44). Nonetheless, it shows all the abovementioned properties that make the Amazonian systems complex. A first challenge for a typology of nominal classification is the fact that Ecuadorian Siona classifiers are used in different morphosyntactic positions. Nominal classifiers are often categorized into different types, such as numeral classifiers, noun classifiers, genitive classifiers and verbal classifiers, depending on the morphosyntactic position of the classifier (Allan, 1977, pp. 286-288; Grinevald, 2000, pp. 64-69). The Ecuadorian Siona classifiers are not restricted to a single

morphosyntactic position. The examples below show that the classifiers can be used on nouns, numerals,[92] demonstratives, adjectives and verbs:

Nouns
(1)   a.   mej̯a̰hu̯ë
            mẽha-wɨ
            sand-CLS:CONTAIN
            'beach'
    b.   ja̰ërë
            hãĩ-dɨ
            hammock-CLS:MAZE
            'hammock'
    c.   uiyo
            ui-jo
            spear-CLS:LONG.THIN
            'spear'

Numerals
(2)   a.   te'o
            te'-o
            one-CLS:ANIM.F
            'one female.'
    b.   te'huë
            te'-wɨ
            one-CLS:CONTAIN
            'one canoe'
    c.   te'rë
            te'-dɨ
            one-CLS:MAZE
            'one knotted bag.'

Demonstratives
(3)   a.   ja̰ë
            hã-ɨ
            DEM.DST-CLS:ANIM.M
            'he'

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[92] According to my main consultant, the use of the classifiers on numerals is disappearing. Only a restricted set of classifiers, namely the gender classifiers, are still used productively on the numerals.

b. jạrë̈
   hã-dɨ̃
   DEM.DST-CLS:TIME
   'back in the day'
c. iye
   i-je
   DEM.PRX-CLS:GEN
   'this, these'

Adjectives
(4) a. a'riñë
        a'di-jɨ̃
        small-CLS:TREE
        'small tree'
     b. jaiya
        hai-ja
        big-CLS:RIVER
        'big river, Aguarico river'
     c. neabë
        nea-bɨ
        black-CLS:ROUND
        'black round thing'

Verbs
(5) a. de'oto
        de'o-to
        be.good-CLS:PLACE
        'good place, field around the house'
     b. ñaquë
        jã-kɨ
        see-CLS:ANIM.M
        'the man who see, shaman'
     c. ba'ico
        ba-'i-ko
        live-IMPF-CLS:ANIM.F
        'the woman/girl that lives'

As shown in the examples above, the Ecuadorian Siona classifiers can be used in various environments. Aikhenvald (2000, pp. 204-241) calls languages with this type of classification system a 'multiple classifier language.'

One of the functions that the classifiers used on numerals, demonstratives, adjectives and verbs can carry out is agreement within the noun phrase. The modifier agrees with the head of the noun phrase by means of the classifier. An example of this agreement relation is shown in example (6):

(6)   si'awë ë̱newë̱
        si'a-wɨ   ĩne-wɨ
        all-CLS:CONTAIN peach.palm-CLS:CONTAIN
        'The whole peach palm bunch.' (20110807salsu001.013).

In example (6), the modifying quantifier *si'a* 'all' agrees with the head of the noun phrase *ĩnewɨ* 'peach palm bunch'; both words carry the classifier *-wɨ* 'container.'
      Agreement within the noun phrase is also one of the possible functions of the classifiers that occur on verbs. When a verb carries a classifier, it is nominalized and can then be used to modify a noun as a relative clause. The nominalized verb agrees with the noun in these constructions, as illustrated in example (7):

(7)   ëjaëmaca yequë yija aquëbi
        ɨha-**ɨ**ᵢ-mahka   jehk-ɨ   jiha
        foreign-**CLS:ANIM.M-**DIM   other-CLS:ANIM.M   land
        ah-**kɨ**ᵢ-bi
        COP-**CLS:ANIM.M**-SBJ
        'The foreigner who is from another country'
        (20100630srocr001.023).

The nominalized verb *ahkɨbi* 'who is from,' in example (7), carries a masculine classifier just as the head noun of the noun phrase *ɨhaɨmahka* 'foreigner,' and therefore, the verb agrees with the head. However, because numerals, demonstratives, adjectives and nominalized verbs in combination with a nominal classifier can be considered to be part of a noun class, they do not need to occur in combination with a nominal head. Since they are nominal, nominalized verbs can head a noun phrase themselves. This is how these forms are predominantly used. They occur mostly as the head of a noun phrase without any head noun.
      A second indication of the complexity of the nominal classification system in Ecuadorian Siona is that it consists of both general and specific classifiers. General classifiers mark broad heterogeneous noun classes, such as animate, inanimate and gender

classes. The specific classifiers mark semantically restricted noun classes that are constructed around a function, shape or some other characteristic that most of the nouns in the class have in common (Gomez-Imbert, 2007b; Grinevald, 2007, pp. 99-100). Ecuadorian Siona has a small set of general classifiers: *-o/-ko* 'animate, feminine,' *-ɨ/-kɨ*, 'animate, masculine' and *-je/-e* 'neutral.' These classifiers are found throughout the grammar of the language. They occur as suffixes on nouns, adjectives, numerals, demonstratives, question words and verbs. When the classifiers are suffixed to verbs, their function is to nominalize the verb. Additionally, the general classifiers are found in the finite verb paradigms as a result of a process of reanalysis. (This reanalysis process is treated in chapter 8 of this dissertation). There are two other classifiers that have an extensive use as well: *-do/-to* 'place' and *-dɨ̃* 'time'. However, they are not used on finite verbs.

Ecuadorian Siona has a larger set of specific classifiers. These classifiers mark a class of a specific shape, such as the classifiers *-bɨ* 'round object,' *-me* 'filiform object,' *-do* 'concave object,' or some other characteristic, such as *-jɨ̃* 'tree, plant' and *-ja* 'river.' These classifiers have a more restricted use than the general classifiers. They are only found on nouns, adjectives and to a minor extent on numerals. When the nouns that are marked with specific classifiers are combined with a demonstrative, the demonstrative carries one of the general classifiers, as in example (8):

(8)   yeque jachowa
       jehk-e   hahcho-wa
       other-CLS:GEN   weapon-CLS:CONTOUR
       'Another weapon.' (20100701swicr001.014).

The demonstrative *jehke* 'other' in example (8), carries the general classifier *-e* despite the fact that it is headed by a noun that contains the specific classifier *-wa* 'an object with a contour.'[93]

A further indication of the complexity of the nominal classification system in Ecuadorian Siona is that the nominal classifiers in Ecuadorian Siona have different grammatical functions. A function that was shown above is agreement. Another function is that the classifiers are used to derive new words, as illustrated in the examples below:

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[93] I am using the definition of the classifier *-wa* that was presented by Schwarz (2011) the same classifier in Ecuadorian Sekoya.

(9)   a.   meja̱
              meha
              'sand'
      b.   meja̱huë
              meha-wɨ
              sand-CLS:CONTAIN
              'beach'

(10) a.   gu̱e̱na
              gĩnã
              'stone, metal, something brilliant'[94]
      b.   gu̱e̱naro
              gĩna-do
              brilliant.material-CLS:POT
              'metal pot'
      c.   gu̱e̱nahuë
              gĩna-wɨ
              brilliant.material-CLS:CONTAIN
              'sky'

(11) a.   hua'jo
              wa'ho
              'type of palm'
      b.   hua'jo-ñë
              wa'ho-jɨ̃
              type.of.palm-CLS:TREE
              'type of palm tree'
      c.   hua'joyo
              wa'ho-jo
              type.of.palm-CLS:LONG.THIN.RIGID
              'arrow'

Examples (9-11) show the derivational function of the nominal classifiers. Various nouns can be created from one root using the classifiers.

      Another important function of the classifiers is individuation. Mass nouns and other non-individuated nouns need to undergo this process in order for them to refer to single countable referents (Seifart, 2009, p. 2). When speakers refer to a non-specific concept, they can use

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[94] This last translation was taken from Wheeler's dictionary on Colombian Siona (Wheeler, 1987a, p. 30).

an unclassified noun. For instance, a woman in a story from the corpus suggests to a man that they go to the forest to collect some coconuts. Because she is not talking about a specific coconut or a specific bunch of coconuts, she uses the unclassified form *behto*, in example (12):

(12)   airo sani beto hua'quejañu'u̱ caoña.
         ai-do   sa-ni   behto   wa'ke-ha-jũ'ũ
         big-CLS:PLACE   go-SS   coco   tear.off-go-HORT
         ka-o-jã.
         say-2/3S.F.PST.N.ASS-REP
         '"Let's go to the forest and tear off some coconut," she said, it is said.' (20100913slicr001.017).

However, in the next sentence when the man arrives to a specific tree, the speaker uses a classifier in order to refer to a single tree:

(13)   (…) saiquëbi ti̱'a̱ëña betoñë.
         sa-i-kɨ-bi   tĩ'ã-ɨ̃-jã
         go-IMPF-CLS:ANIM.M-SBJ   arrive-2/3S.M.PST.N.ASS-REP
         behto-jɪ̆.
         coco-CLS:TREE
         'The   one   who   went   arrived   to   a   coconut   palm.' (20100913slicr001.018).

The classifier *-jɪ̆* in example (13) has two functions in this context. It is used to derive the word 'coconut palm' from the word *behto* 'coco.' The second function of the suffix is essential in this context as well. Without the classifier, the speaker would not be able to single out a tree. In summary, the classifiers in Ecuadorian Siona have multiple functions: agreement, derivation and individuation.

An overview of the nominal classifiers in Ecuadorian Siona, including both the specific and general classifiers, is presented in the table below:

Table 4.1: The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-bã	wall	tẽtẽba̱ tῖhtῖ-bã shore-CLS:WALL 'river bank' neaba̱ nẽa-bã black-CLS:WALL 'black wall'
-be	mass / piece	hui'yabe wi'ja-be grease-CLS:MASS 'grease' tẽcabe tɨhka-be cut-CLS:MASS 'straight piece of land'
-bɨ / -hɨ	animate collective[95]	aibë ai-bɨ big-CLS:COL 'the elders' huasibë wahsi-bɨ worm-CLS:COL 'worms' mamajë̱ mama-hῖ child- CLS:COL 'children'

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[95] A cognate of the animate collective classifier with a similar function is found in many Tukanoan languages (Gomez-Imbert, 2007b, p. 424).

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Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-bɨ	round:	tsi̠u̠bë zĩũ-bɨ head-CLS:ROUND 'head' guë̠nabë gĩ̠nã-bɨ brilliant.material-CLS:ROUND 'rock'
-bo	enclosed area	yeo'-bo jeo'-bo mouth-CLS:ENCLOSED.AREA 'mouth' nocabo nõhka-bo banana-CLS:ENCLOSED.AREA 'banana plantation'
-da	lake	jaira hai-da big-CLS:LAKE 'big lake' so̠'cora sõ'ko-da type.of .tree-CLS:LAKE 'Zancudococha'[96]

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[96] Zancudococha is a lake in Sucumbios, close to Cuyabeno river. The consultant was not certain about the translation of 'sõ'ko.'

Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-dɨ	maze	ja̱ërë hã̃ɨ-dɨ hammock-CLS:MAZE 'hammock' te'rë te'-dɨ one-CLS:MAZE 'one knotted bag, one hammock'
-dɨ̃	time	omerë̱ ome-dɨ̃ stay-CLS:TIME 'summer' jãrë̱ hã-dɨ̃ DEM.DIST-CLS:TIME 'back then, in the past.'
-do	flat round	sotoro sohto-do clay-CLS:FLAT.ROUND 'clay pot' a̱ọso'coro ã̱õ-so'ko-do cassava-bread-CLS:FLAT.ROUND 'cassava bread'

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Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-do / -to	place	airo ai-do big-CLS:PLACE 'forest' ja̱ro hã-do DEM.DIST-CLS:PLACE 'there' jeto heh-to DEM-CLS:PLACE 'there'
-ja	river	bi̱'aña bĩ'ã-jã bird-CLS:RIVER 'Bird river, Siona village' sëokë'iya sɨo-kɨ'i-ja pile-have-CLS:RIVER 'The river that has piles (of leaves), the Cuyabeno river'

Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-je / -e	collective inanimate / general	iye i-je DEM.PRX-CLS:GEN 'this, these' yeque jehk-e other-CLS:GEN 'other' neañe nea-je black-CLS:GEN 'black things' cayaye kaja-je two-CLS:GEN 'two things'
-jɨ̌	tree	soquëñë sohkɨ-jɨ̌ tree-CLS:TREE 'tree' yëiñë jɨi-jɨ̌ cotton-CLS:TREE 'cotton plant, kapok tree'
-jo	long, thin and rigid	uiyo ui-jo spear-CLS:LONG.THIN 'spear' hua'joyo wa'ho-jo type.of.palm-CLS:LONG.THIN 'arrow'

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Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-ka	grain	hueaca wea-ka corn-CLS:GRAIN 'grain of corn'
-kɨ /-ɨ	animate masculine	bë'ka'kë bɨ'ka'-kɨ parent-CLS:ANIM.M 'father' ye'yaquë je'ja-kɨ teach-CLS:ANIM.M 'teacher' jo̱taë hõhta-ɨ nephew-CLS:ANIM.M 'nephew'
-ko /-o	animate feminine	baco ba-ko spouse- CLS:ANIM.F 'wife' toyaco toja-ko write-CLS:ANIM.F 'writer (F)' yo'jeo jo'he-o younger.sibling-CLS:ANIM.F 'younger sister'

Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-me	filiform	tame ta-me excrements-CLS:FILIFORM 'intestines' ñocuame jõhkʷa-me chambira-CLS:FILIFORM 'a twisted string made of the fibers of Astrocaryum chambira, palm sp.'
-mo	cylindrical and flexible	nocamo nohka-mo banana-CLS:CYL.FLEX 'banana' mëtomo mɨhto-mo tobacco-CLS:CYL.FLEX 'traditional cigar'
-tu'u	bag	tatu'u ta-tu'u excrements-CLS:BAG 'stomach' gua̰ jḛtu'u gʷãhẽ-tu'u male.genitals-CLS:BAG 'male genitals'
-wa	having a contour	yaji-hua jahi-wa sweet.potato-CLS:CONTOUR 'sweet potato' jachohua hahcho-wa weapon-CLS:CONTOUR 'weapon'

Table 4.1 (Continuation): The nominal classifiers, their meaning and examples

Classifier	Meaning	Examples
-wɨ	container	yohuë jo-wɨ canoe-CLS:CONTAIN 'canoe' do'rohuë do'do-wɨ basket-CLS:CONTAIN 'basket'

There is a split between animate and inanimate nouns in Ecuadorian Siona. Animate nouns are largely marked by the feminine and masculine feminine classifiers *-o* / *-ko* and *-ɨ* / *-kɨ*.[97] The animate class also includes entities such as the thunder, the stars, spirits and 'yaje.'[98] Inanimate nouns are either unmarked or have a specific classifier that categorizes the objects into a class with a characteristic that the noun possesses. Examples of unmarked nouns are: *gohe* 'hole,' *mo'se* 'day,' *ma'a* 'path' and *tohto* 'board.'

In summary, different types of classifiers have different behaviours: general classifiers are found throughout the grammar, whereas specific classifiers only have a restricted use. The specific classifiers that are used with inanimate nouns are found on nouns and adjectives. There seem to be two types of nouns: animate and inanimate nouns. The difference between the two types is that the animate nouns carry the general gender classifiers, whereas the inanimate classifiers either carry a specific classifier or they are unclassified. The general

[97] Animal names seem to constitute an intermediate class. Some animal names behave as other nouns that refer to other animate entities. Examples are *ho'jaɨ* 'dog' and *ho'jao* 'bitch.' Other animal names are unmarked: *bahku* 'pomfret, fish sp.', *ma* 'ara' and *mie* 'anteater.' There is possible phonological evidence that there is a third group of animal names. This set of animal names are all trimoraic, such as *jãmedo* 'type of big bees' *naodo* 'type of toad' and *tahkado* 'hawk,' *suada* 'Prochilodus magdalenae, fish sp,' *i:di* 'small parrot sp.', *pe:di* 'cockroach,' *pɨ'pɨdi* 'condor,' *tudi* 'mouse,' *mimi* 'hummingbird,' *wãjũmi* 'anaconda,' *zimi* 'catfish' and *jãnami* 'stingray.' Since stems are regularly bimoraic, these animal names seem to consist of a stem and a suffix. The forms *-do*, *-di* and *-mi* may therefore be frozen noun classifiers.
[98] *Yaje* is the hallucinogenic drink that the shamans in the lowlands of Ecuador drink in order to have visions.

classifiers are the set of morphemes that play a crucial role in the emergence of grammaticalized evidentiality and clause-typing in Ecuadorian Siona.

4.3 Plural marking

The second class of nominal morphology that is discussed in this chapter is plural marking. The split between animate and inanimate nouns is even more apparent in the domain of plural morphology. Animate and inanimate nouns carry distinct plural suffixes. There are two different animate plural suffixes: *-wa'i*[99] and *-dowɨ*. The use of the first animate plural marker is more generalized. It is used on nouns, numerals, quantifiers, demonstratives and nominalized verbs, as exemplified in (14-18):

(14)   huatiohua'i
        wahti-o-wa'i
        spirit-CLS:ANIM.F-PL
        'Spirits'

(15)   cayahua'i
        kaja-wa'i
        two-PL
        'Two (animate beings)'

(16)   si'ahua'i
        si'a-wa'i
        all-PL
        'Everyone'

(17)   ja̱ë̱hua'i
        hã-ɨ-wa'i
        DEM.DIST-CLS:ANIM.M-PL
        'They'

---

[99] This plural suffix is identical to the word *wa'i* 'meat, animal, fish.' It is likely that there is a relation to the two. The word *wa'i* is a mass noun and can therefore easily be used for a group of animals or other animate beings. Schwarz (2011) makes this same connection between the plural marker *-wa'i* and the word for meat *wa'i* in Ecuadorian Sekoya.

(18)   u̱cucua'i
       ũhku-ko-wa'i
       drink-CLS:ANIM.F-PL
       'The people who drink, the shamans'

The plural marker -wa'i mostly follows a gender class marker, as shown in example (14), (17) and (18). The gender class marker does not refer to the gender of all the members in the set. The words *wahtiowa'i* and *ũhkukʷa'i* do not refer to a set with only female members. It is possible that none of them is female as well. The same is true for the demonstrative *hã̵ĩwa'i* 'they.' This demonstrative can but need not refer to a group consisting of only female members. Not all words that refer to an animate plural set need a classifier. When the plural marker -wa'i occurs on a numeral or quantifier, speakers do not use a gender class before it, as illustrated in (15) and (16).

     The plural suffix -dow̵ has a much more restricted use than the plural suffix -wa'i. It is mostly used for the pluralization of nouns of the class of family members.[100] This is illustrated in the examples below:

(19)   cuë̱dohuë
       kʷ̵̃-dow̵
       uncle-PL
       'uncles, uncle and aunt'

(20)   huaredohuë
       ware-dow̵
       child-PL
       'children'

The plural marker -dow̵ can occur both with or without a gender class marker. In examples (19) and (20) above the suffix is used without adding a gender class marker. It is illustrated in example (21), that it is possible to either use or not use the gender class marker in combination with -dow̵, but that there is a difference in meaning:

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[100] This suffix is used only once in the corpus on the quantifier *si'a* 'all.' The word *si'adow̵re* (20110227salsu001.153) refers to two sisters that were both taken away.

(21)   a.   jọtadohuë
               hõhta-dowɨ
               nephew-PL
               'nieces and nephews'
       b.   jọtaëdohuë
               hõhta-ɨ-dowɨ
               nephew-CLS:ANIM:M-PL
               'nephews'

The difference between the two plural nouns in example (21) is that the noun in (21a) that does not contain a gender class marker refers to a set of people that belong together and that are either male or female. The noun in (21b) that contains the masculine gender marker *-ɨ* refers to a set with only male members.

A possible semantic analysis of the plural marker *-dowɨ* is that it is a associative plural marker, as described by Moravcsik (2003). An important cross-linguistic feature of associative plurals is that they mark "a spatially or conceptually coherent group" (Moravcsik, 2003, p. 471). This holds for the groups that are marked with Ecuadorian Siona plural marker *-dowɨ*. It needs to be explored in future research whether *-dowɨ* functions in all respects like associative plurals in other languages.

Some plural animate nouns do not contain a plural marker. Their plural quality is expressed by the collective animate class marker *-bɨ / -hɨ*.[101] The cases in which this collective marker occurs are provided in the examples below:

(22)   aibë
       ai-bɨ
       big-CLS:COL
       'the elders'

(23)   huasibë
       wahsi-bɨ
       worm-CLS:COL
       'worms'

---

[101] It is likely that there is a diachronic reason for the existence of the two allomorphs *-bɨ* / *-hɨ*. However, there do not seem to be any synchronic conditions under which one form or the other is used.

(24)   mamajë̈
       mama-hɨ
       child-CLS:COL
       'children'

The nouns in examples (22-24) can only be pluralized by means of the collective suffix *-bɨ / -hɨ* and they are not found with the plural markers *-wa'i* or *-dowɨ*.

Inanimate nouns have different plural markers. The nouns that never carry any noun class marking are pluralized by the suffix *-jã*:

(25)   mo'seña
       mo'se-jã
       day-PL
       'days'

(26)   cocaña
       kohka-jã
       word-PL
       'words'

(27)   joro-ña
       hodo-jã
       flower-PL
       'flowers'

The plural suffix *–jã* replaces the final vowel or syllable of the noun in some cases. The examples below illustrate this:

(28)   a.   ma'a   b.   ma'ña
             ma'a   ma'-jã
             path   path-PL
             'path'   'paths'

(29)   a.   huë'e   b.   huë'ña
             wɨ'e   wɨ'e-jã
             house   house-PL
             'house'   'houses'

(30) a. toto   b. toña
          tohto   toh-jã
          board   board-PL
          'board'   'boards'

(31) a. jëtë   b. jẽ̈ña
          hĩ̈htɨ   hĩ̈h-jã
          hand   hand-PL
          'hand'   'hands'

In examples (28b) and (29b), the final vowel is dropped due to the suffixation of the plural suffix -jã. In (30b) and (31b), the final syllable is dropped.

Inanimate nouns that belong to a specific noun class have a slightly different plural marker: -ã. These nouns need to bear their noun class marker in order for it to be pluralized,[102] as illustrated in the examples below:

(32) a. toa
          toa
          fire
          'fire'
      b. toaboa̱
          toa-bo-ã
          fire-CLS:ENCLOSED.AREA-PL
          'fires, fireplaces'

(33) a. noca
          nohka
          banana
          'banana'

---

[102] The plural marker –jã for inanimate nouns without a specific noun class marker is probably a cognate form of the plural marker –ã that is used for inanimate nouns that belong to a specific noun class. One possibility is that the *j* in the suffix –jã is a trace of the general classifier –je that was used on nouns that did not belong to a specific noun class. If this is correct than the nouns that belong to a specific class also needed to carry a noun class marker when it was pluralized. Although this analysis provides more unity in the system, it is just speculation at this point. More supportive evidence is necessary in order to make this claim.

b. nocamoa
    nohka-mo-ã
    banana-CLS:CYL.FLEX-PL
    'bananas'
c. nocahuë̠a
    nõhka-wɨ-ã
    banana-CLS:CONTAIN-PL
    'bunches of bananas'
d. nocañëa
    nohka-jɨ̃-ã
    banana-CLS:TREE-PL
    'banana trees'

(34) a. i̠'si
          ĩ'si
          pine.apple
          'pine apple'
      b. i̠'sibë̠a
          ĩ'si-bɨ-ã
          pine.apple-CLS:ROUND-PL
          'pine apples'
      c. i̠'siñëa
          ĩ'si-jɨ̃-ã
          pine.apple-CLS:TREE-PL
          'pine apple plants'

Examples (32-34) show that all plural inanimate nouns that belong to a specific noun class carry a noun class marker. It is ungrammatical to pluralize a noun without marking it for its noun class.[103] A noun needs to be individualized by the noun class marker before it can be pluralized.

The plural suffixes *-jã* and *-ã* can only be used on nouns. When demonstratives, numerals, classifiers or adjectives refer to inanimate plural entities, they carry the general classifier *-je*:

(35) iye
      i-je
      DEM.PRX-CLS:GEN
      'these'

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[103] A similar observation was made by Schwarz (2011) for Ecuadorian Sekoya: in this variety nouns need to carry a noun class marker as well before they can be pluralized.

(36) toaso̱ñe
      toasõ-jẽ
      three-CLS:GEN
      'three'

(37) si'aye
      si'a-je
      all-CLS:GEN
      'all things'

(38) neañe
      nea-je
      black-CLS:GEN
      'black things'

The inanimate plural suffixes *-jã* and *-ã* are not used on word classes such as demonstratives, numerals, classifiers and adjectives, as shown in (35-38). The general classifier *-je* is used to express agreement with plural inanimate nouns.

In summary, there is a clear split between animate and inanimate nouns in Ecuadorian Siona with respect to plural marking. The plural suffixes are distinct for these two types of nouns. The plural markers for animate nouns are the disyllabic suffixes *-wa'i* and *-dowɨ*. The animate plural marker *-wa'i* is found in any type of word class that is found in the noun phrase, whereas the use of the suffix *-dowɨ* is mostly restricted to nouns that refer to family members. The inanimate plural markers *-ã* and *-jã* are found, respectively, on nouns of a specific noun class and on nouns that do not belong to a specific noun class. The use of these suffixes is restricted to nouns. Other word classes are marked with the general class marker *-je* when they refer to an inanimate plural set. Individuation of nouns by means of a noun class marker is important for both a group of animate and inanimate nouns. Many nouns are first assigned to a noun class by means of a noun class marker and are then pluralized.

The animate plural morpheme *-wa'i* and the animate collective classifier are used in combination with verbs as well. The suffix *-wa'i* is only used with nominalized forms. The classifier *-bɨ / -hɨ* has been integrated into the verbal morphology to a higher degree. It now forms part of the subordinate verb morphology (see Chapter 5, section 5.3).

4.4 Case marking

The case markers are the third class of nominal domain suffixes that I discuss in this chapter. There is a set of suffixes that is used to mark grammatical relations in Ecuadorian Siona. This set consists of the following morphemes: *-bi*, *-de / -te*, *-ni*, *-na*, *-hã'ã* and *-hã'de*. The suffixes occur on most word classes within the nominal domain: they are attested on nouns, demonstratives, question words, pronouns, adjectives and nominalized verbs.

Although the case suffixes can be found on different word classes, they do not appear on every noun phrase. The use of these case markers seems to depend on pragmatic factors such as specificity and focus. For instance, in the story about a man who is not able to catch any animal, his wife asks him why he is not able to do so. Since she is asking about animals in general and not any specific animal, the object *wa'i* 'meat / animal' is not marked for case:

(39) me yo'quë më'ë hua'i neñe ba̱quë?
      me   jo'-kɨ   mɨ'ɨ   [wa'i]$_0$ ne-je
      how   do-S.M.PRS   2S   [meat]$_0$ make-INF
      bã-kɨ?
      NEC.COP-2/3S.M.PRS.N.ASS
      'Why don't you catch any animals?' (20100913slicr002.004).

Example (39) shows that not all noun phrases are marked for case. It depends on the syntactic function of the noun phrase in the sentence what factors are involved.

Another peculiarity of the system is that it is in not always the noun within the noun phrase that is marked. There are many examples in the corpus in which the demonstrative or the adjective is marked for case but the noun is not. This is illustrated in the examples below, in which the nouns *haida* 'lake' in (40) and *wãjũmi* in (41) are not marked but the other elements in the noun phrase are:

(40) iye mo'seña mai i̱o̱te jaira ñajë̱ ba'iyë.
      i-je   mo'se-jã   mai
      DEM.PRX-CLS:GEN   day-PL   1PL.INCL
      [ĩ-oh-te   hai-da]$_0$ jã-hɨ
      [DEM.PRX-CLS:ANIM.F-OBJ   lake-CLS:LAKE]$_0$ see-PL.PRS
      ba-'i-jɨ.
      live-IMPF-OTH.PRS.ASS
      'Nowadays we still live off this lake.' (20100630srocr001.79).

(41) yureta̠'a̠ ñareña i̠te jaiquëre wa̠ñumi aire
      jude-tã'ã   jã-de-jã   [ĩ-ɨh-te
      now-CNTEXP   see-OTH.PST.N.ASS   [DEM.PRX-CLS:ANIM.M-OBJ
      hai-kɨ-de   wãjũmi]₀   ai-i-de
      big-CLS:ANIM.M-OBJ   anaconda]₀   big-CLS:ANIM.M-OBJ
      'Now they saw this big anaconda, a huge one.'
      (20100907slicr002.024).

The demonstrative *ĩohte* 'this' in (40), the demonstrative *ĩhte* 'this', and the adjective *haikɨde* 'big' in (41) are all marked for case whereas the head nouns in the noun phrases are not. There is no pause between the two nouns and the other elements. Therefore, the demonstratives and the adjective do not seem to be appositions and it is more likely that the elements form a single noun phrase in which the noun is the head.

It is not always straightforward to categorize and label these suffixes. For instance, the case marker *-bi* is used to mark subjects, instruments and source locations. A complication for the object suffixes *-de* and *-ni* is that they have overlapping functions. The oblique markers *-na*, *-hã'ã* and *-hã'de* are more straightforward. In table 4.2, there is an overview of the case suffixes in Ecuadorian Siona and their functions.

Table 4.2: The case suffixes in Ecuadorian Siona their function and their use

Case marker	Grammatical relation	Use
-bi	subject	focus
	instrument	obligatory
	source location	
-de / -te	direct object	specific object
	indirect object	
	location	
-ni	direct object	focus
	indirect object	
-na	goal	specific goal
-hã'ã	path	obligatory
	limit	
-hã'de	comitative	obligatory

The case suffixes will be discussed in the following subsections. In 4.4.1 I describe the functions of the case marker *-bi*, in 4.4.2, I address the object markers *-de* and *-ni* and in 4.4.3 I discuss the oblique case

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markers *-na*, *-hã'ã* and *-hã'de*. I provide a short summary of the case marking system in 4.4.4.

4.4.1 The case suffix *-bi*

The case suffix *-bi* can mark subjects, instruments, and source locations in a sentence. An example in which the suffix is both used to mark a subject and an instrument is presented below:

(42)   i̯obi i̯te së'bobi tëtojoña i̯re.
         [ĩ-o-bi]ₛ   ĩ-ɨh-te   [sɨ'bo-bi]ᵢₙₛₜ
         DEM.PRX-CLS:ANIM.F-SBJ DEM.PRX-CLS:ANIM.M-OBJ axe-INST
         tɨhto-ho-o-jã   ĩ-ɨ-de.
         cut-kill-2/3S.F.PST.N.ASS-REP   DEM.PRX-CLS:ANIM.M-OBJ
         'She killed him with the axe.' (20101123slicr001.065)

In example (42), both the subject *ĩobi* 'she' and the instrument *sɨ'bobi* 'with the axe' are marked with the same case marker.

        I assume that the uses of this suffix to mark the subject, the instrumentative, and the source represent three functions of a single suffix, but I will gloss the suffix according to its function in the sentence: -SBJ for its occurrence on subjects, -INST for its occurrence on instruments and -SRC for its occurrence on source locations. Although I assume these three functions to synchronically belong to a single case suffix, the suffix *-bi* may have a different origin than the instrumentative and source marker *-bi*. One reason to believe this is that the first marker behaves different from the other two. This remains, however, for future study.

        The first function of *-bi* that I will discuss is its use as subject marker. This case marker is both used for agents, as shown in example (43), and for experiencer subjects, as shown in example (44):

(43)   yë'-a'yëmacare hua̯ñumibi a̯ja̍'i̯
         jɨ-a'jɨ-mahka-de   [wãjũmi-bi]ₛ
         1S-older.brother-DIM-OBJ   [anaconda-SBJ]ₛ
         ã-ha'i.
         eat-3S.M.PST.ASS
         'The anaconda ate my poor older brother.'
         (20100907slicr002.014).

(44)   ja̱ë̠rëbi ga̱'nehuesë̠ni…
       hã̱ĩ̠-dɨ-bi   gã̠'-ne-wehsɨ-ni…
       hammock-CLS:MAZE-SBJ   skin-make-be.forever-SS
       'The hammock became entangled…' (20100913slicr001.025).

The subject *wãjũmibi* 'the anaconda' in example (43) is an agentive subject of a transitive verb, whereas the subject *hã̃ĩ̃rɨbi* 'the hammock' in example (44) is an experiencer subject of an intransitive verb. These examples show that the suffix *-bi* can be used to mark the grammatical subject irrespective of its semantic role.

Noun phrases that function as subject are not necessarily marked with the suffix *-bi* in Ecuadorian Siona. There are also subjects that do not carry this suffix. An example of an unmarked subject is presented in (45):

(45)   a̱ina dëjo̱ quere a̱iquë'ne guachaoña.
       ã-i-ɨ-na   [dɨ̃hõ]$_S$ ke-de
       eat-IMPF-S.M.PRS-DS   [wife]$_S$ what-OBJ
       ãĩ-kɨ-'ne   gʷahcha-o-jã.
       eat-2/3S.M.PST.N.ASS-Q think-2/3S.F.PST.N.ASS-REP
       'While he was eating, the wife thought: "What is he eating?"'
       (20101123slicr001.015).

The subject *dɨ̃hõ* 'wife' in example (45) is not marked for case. Unmarked subjects are very common in the language and it seems that the use of the case suffix *-bi* is only used in specific cases.

The cognate of the suffix *-bi* in Koreguaje, *-pi / -ji* is used in similar way as in Ecuadorian Siona to mark subjects. According to Cook & Levinsohn (1985, pp. 92-100), the Koreguaje suffix is a focus marker that marks subjects. Focus sometimes seems to be a motivation in Ecuadorian Siona as well for the use of the suffix *-bi*. For instance, it is used in contrastive focus, as illustrated in example (46):

(46)   ba̱ni më'cato ba̱jë'ë̠ yë'bi i̱o̱re basi'i.
       bã-ni,   mɨ'-kato   bã-hɨ̃'ɨ̃   [jɨ'-bi]$_S$
       NEG.COP-SS   2S-FOC   NEG.COP-IMP   [1S-SBJ]$_S$
       ĩ-o-de   ba-si-'i.
       DEM.PRX-CLS:ANIM.F-OBJ have-FUT-OTH.ASS
       '"No, you won't, I'll have her."' (20101202slicr001.018).

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Example (46) is from a story in which two men fight for a woman. One of the two men says that he is going to have the woman and not the other man. The speaker contrasts himself with the other man. In this example it is clear that the subject 'I' is in focus. It is not always straightforward in Ecuadorian Siona, however, that the subject is focused when it is marked by *-bi*. An alternative analysis of the use of the suffix *-bi* to mark subjects is that it is used to disambiguate the function of the argument. Various languages in the wider area seem to have subject case markers that are only used when the grammatical function of the argument in the sentence is ambiguous. These markers are used to clarify the function of the argument. Languages with this type of optional subject case markers [104] are Eighteenth Century Cholón (Alexander-Bakkerus, 2005, pp. 146-148), Shiwilu (Valenzuela, 2011, pp. 104-107) and Ika (Frank, 1990, pp. 36-37).[105]

The second function of the case marker *-bi* is the instrumentative. This function is illustrated in the following examples:

(47)   sani uje gëjẹbë naso juteña jëohuëbi.
        sa-ni   uhe   gĩhebɨ   nahso   huh-te-jã
        go-SS   guan   curassow wooly.monkey shoot-OTH.PST.N.ASS-REP
        [hɨo-wɨ-bi]INST.
        [blow.gun-CLS:CONTAIN-INST]INST
        'They went and killed some guan, curassow[106] and brown wooly monkey with a blowgun.' (20100907slicr002.006).

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[104] With optional I do not mean that the meaning does not change when the subject marker is left out. I use the term optional to refer to the fact that subjects are not necessarily marked with the subject case marker. The presence of the case marker in many of the mentioned languages is dependent on discourse-pragmatic factors.

[105] These case markers in these languages do not have exactly the same function as in Ecuadorian Siona. The case markers *-tu-p* in Eighteenth Century Cholón (Alexander-Bakkerus, 2005, pp. 146-148), *=ler* in Shiwilu (Valenzuela, 2011, pp. 104-107) and *-seʔ* in Ika (Frank, 1990, pp. 36-37) seem to only mark the subject of a transitive sentence. The markers in Shiwilu and Ika are, therefore, analyzed as ergative case markers. There is no such restriction in Ecuadorian Siona: all grammatical subjects can be marked with the suffix *-bi.*

[106] The guan and the curassow are types of birds. In the case of the guan, the speaker was probably referring to the dusky-legged guan, sp. *Penelope obscura*.

(48) hua'tibi jëoyë.
      [wa'ti-bi]_{INST}   hɨo-jɨ.
      [machete-INST]_{INST}   clear-OTH.PRS.ASS
      'I am clearing (the field) with a machete.'
       (20120920elicr001.052).

The noun phrases *hɨowɨbi* 'with a blowgun' in (47) and *wa'tibi* 'with a machete' in (48) are both instruments in the examples. This use of the case suffix *-bi* is less problematic. That is, all instruments are marked with this suffix, and focus does not play a role in the use of the suffix in this function.

        The same holds for the third use of the case suffix *-bi*. When *-bi* is used to indicate a location, it expresses the source location of the event. The use of the suffix is obligatory in such source contexts, just as in instrumentative contexts. The examples below show the use of the suffix *-bi* to mark source location:

(49) më'ë jerobi daco'ne?
      mɨ'ɨ   [he-do-bi]_{SRC}   dah-ko-'ne?
      2S   [what-CLS:PLACE-SRC]_{SRC}   come-2/3S.F.PST.N.ASS-Q
      'Where did you come from?' (20101202slicr001.010).

(50) a̱ijë̈ tutujĕna yeo'cabi tsiayabi ño'cuedëchoëña ja̱o̱hua'i
      do̱mitsi̱re.
      ã-i-hɨ   tuhtu-hɨ-na   [jeo'ka-bi]_{SRC}
      eat-IMPF-PL.PRS sit.on.top.PL-PL.PRS-DS [below-SRC]_{SRC}
      [zia-ja-bi]_{SRC}   jõ'kʷe-dɨhcho-ɨ-jã
      [river-CLS:RIVER-SRC]_{SRC}   move-make.fall-2/3S.M.PST.N.ASS-REP
      hã-o-wa'i   dõmi-tsĩ-de.
      DEM.PRX-CLS:ANIM.F-PL   woman-children-OBJ
      'They were sitting up there eating and from the river below (something) moved and made the girls fall.' (20100913slicr003.009).

The question word *hedobi* 'from where' in (49) and the nouns *jeo'kabi* 'from below' and *ziajabi* 'from the river' refer to the source location of the action expressed in the sentence.

        In conclusion, the question remains what the relation is between these three functions of the suffix *-bi*. Wheeler (Wheeler, 1967) analyzed these three functions of the cognate suffix *-bi* in Colombian Siona as three uses of a single suffix that marks the source of the action as its

core function. Although this is an interesting approach, it does not explain the differences in behavior that *-bi* has in its distinct functions. The subject use of the suffix *-bi* is not always present, whereas the suffix is obligatorily used in instrumentative and source contexts. Another difference is that the verb agrees with the subjects marked with *-bi*, but that it does not do so with the two oblique arguments. Both diachronic and synchronic research may provide answers to the question of the exact relation between these three uses of *-bi*.

4.4.2 The object markers *-de* and *-ni*

Objects can be marked in three ways in Ecuadorian Siona. There are two object markers in Ecuadorian Siona: *-de* and *-ni*. Another possibility is that objects are unmarked as shown in the introduction of this section, in example (39). Unmarked objects are often non-specific or non-referential. A similar phenomenon occurs in Eastern Tukanoan languages as well (Stenzel, 2008b). The fact that Ecuadorian Siona has three ways to mark objects can be referred to as differential object marking.

The two case markers *-de* and *-ni* have similar functions: they are both found on direct and indirect objects. Examples (51) and (52) illustrate the use of *-de* and *-ni* with direct objects, and examples (53) and (54) with indirect objects:

Direct object marked by *-de*
(51)   go'ini hua'ire sajë̈'ë̈ më' bacoquë'ro
       go'i-ni   [wa'i-de]$_{DO}$ sa-hɨ̃́ɨ̃   mɨ'
       return-SS   [fish-OBJ]$_{DO}$ take-IMP   2S
       ba-ko-kɨ'-do.
       have-CLS:ANIM.F-POS-CLS:PLACE
       'When you go back, take the fish to your wife.' (20100913slicr002.021).

Direct object marked by *-ni*
(52)   yë' jọṭạọni quërëdasi'i cani daë'ë.
       jɨ'   [hõhtã-õ-ni]$_{DO}$ kɨrɨ-dah-si-'i
       1S   [niece-CLS:ANIM.F-OBJ]$_{DO}$ take-come-FUT-OTH.ASS
       ka-ni   da-ɨ'ɨ.
       say-SS   come-OTH.PST.ASS
       'I came to take away my niece.' (20110328slicr002.015).

Indirect object marked by *-de*
(53)   dani i̠hua'ire i̠siña bë'caquëre.
       da-ni   ĩ-wa'i-de   ĩsi-ɨ-jã
       come-SS   DEM.PROX-PL-OBJ   give-2/3S.M.PST.N.ASS-REP
       [bɨ'ka-kɨ-de]IO.
       [parent-CLS:ANIM.M-OBJ]IO
       'When he came he gave them back to the father.'
       (20100913slicr003.027).

Indirect object marked by *-ni*
(54)   tsoe yë' mamaquëni i̠sihuë.
       zoe   jɨ'   [mama-kɨ-ni]IO   ĩsi-wɨ.
       time   1S   [child- CLS:ANIM.M-OBJ]IO   give-OTH.PST.ASS
       'I already gave (her) to my son.' (20110228slicr002.016).

The examples (51-54) show that direct and indirect objects can be marked by both object markers, *-de* and *-ni*. However, although the case markers have overlapping functions, there are considerable differences as well, which will be discussed in the following subsections. I will describe the use of the suffix *-de* in 4.4.2.1 and the use of *-ni* in 4.4.2.2.

4.4.2.1 The specific object marker *-de*

The suffix *-de* has three types of uses. As shown previously, it can be used to mark a direct or indirect object. This indirect object marking by means of the suffix *-de* includes the marking of experience objects. Some impersonal verbs, such as the verbs *ɨaje* 'to want' and *uje* 'to be hot,' do have an overt subject and they take an experiencer object as their complement. This use of this case marker is illustrated in (55) and (56):

(55)   aireba a̠i̠ëaji yë're.
       ai-deba   ãĩ-ɨa-hi   [jɨ'-de]OBJ.
       big-INTENS   eat-want-3S.M.PRS.ASS   [1S-OBJ]OBJ
       'I am very hungry.' (20101123slicr001.048).

(56)   yë're uji.
       [jɨ'-de]OBJ   u-hi.
       [1S-OBJ]OBJ   be.hot-3S.M.PRS.ASS
       'I am hot.' (20110302elicr001.013).

In both examples (55) and (56) *jɨ'de* 'to me' is the experiencer object of the verb. The verbs *ãĩɨahi* in example (55) and *uhi* in example (56) display third person masculine subject agreement that is found on other impersonal verbs as well. This means that the experiencer in this type of contexts is the object and not the subject. Experiencer objects are generally marked with the object suffix *-de*.

The third type of use of the suffix *-de* is to mark locations where an event takes place. Two examples of this use are presented below:

(57) go'ini ñajɛ̈na yohuë hue'sere huahuaëña.
      go'i-ni   jã-hɨ-na   jo-wɨ
      return-SS   see-PL.PRS-DS   canoe-CLS:CONTAIN
      [we'se-de]ᴸᴼᶜ   wawa-ɨ-jã.
      [outside-OBJ]ᴸᴼᶜ   float-2/3S.M.PRS.N.ASS-REP
      'When they had gone back they saw that the canoe was floating outside (of the port).' (20100907slicr002.008).

(58) airo saisiquëbi go'iquëna a'ritsiayare i̯o bacoña te'e dǫmio.
      ai-do   sa-i-sih-kɨ-bi   go'i-kɨ-na
      big-CLS:PLACE   go-IMPF-CMPL-NOM.M-SBJ   return-S.M.PRS-DS
      [a'di-zia-ja-de]ᴸᴼᶜ   ĩ-o
      [small-river-CLS:PLACE-OBJ]ᴸᴼᶜ DEM.PRX-CLS:ANIM.F
      bah-ko-jã   te'e   dõmi-o.
      be-2/3S.F.PST.N.ASS-REP one   woman-CLS:ANIM.F
      'When the one who had gone to the forest returned, there was a woman sitting in the small creek.' (20101202slicr001.008).

The nouns *we'sede* 'outside' in (57) and *a'diziajade* 'in the small creek' in (58), marked with the case suffix *-de,* indicate the locations where the events described in the examples occurred. The three types of use of the marker *-de* are all typical non-subject functions. For the sake of simplicity, I gloss the suffix *-de* as object marker 'OBJ.'

However, as mentioned above, not all objects are marked with *-de* or the other object marker *-ni*. The absence of these markers is often an indication that the object is non-specific. The example below about the activities of the Siona people shows three unmarked objects that all refer to non-specific objects:

(59) jaje̱ yo'jë si'ahua'i ba̱i yure huë'ña ja'o huë'ña nejë̱ tina a̱o̱ sëojë
nejë̱ curiso'coromaca bayë ba̱i.

hã-hẽ	jo'-hɨ	si'a-wa'i	bãĩ	yude
DEM.DST-like	do-PL.PRS	all-PL	people	now

[wɨ'-jã	ha'o	wɨ'-jã]O	[ne-hɨ]V	ti-na
[house-PL	leaf	house-PL]O	[make-PL.PRS]V	ANPH-GOAL

[ãõ]O	[sɨo-hɨ]V	ne-hɨ
[cassava]O	[roast-PL.PRS]V	make-PL.PRS

[kudi-so'ko-do-mahka]O	[ba-jɨ]V
[money-coin-CLS:FLAT.ROUND-DIM]O	[have-OTH.PRS.ASS]V

bãĩ.
people

'They do like this, all the Siona people make houses, leaf houses now and there they make cassava bread and because of that the people have a little money.' (20100925slicr003.002).

The objects *wɨ'jã ha'o wɨ'jã* 'houses, leaf houses,' *ãõ* 'cassava bread' and *kudiso'kodomahka* 'a little money' in (59) all refer to non-specific objects. The speaker describes the general activities of the Siona in Puerto Bolívar. She is talking about the activities of leaf house making of cassava bread making and having money.

When speakers use the object marker *-de*, they mostly refer to a specific object. They either have a specific object in mind or have introduced it earlier in the discourse. The example below illustrates the latter option:

(60) ba'iquëbi hua'i moni hua'i daëna dëjo̱ ja'reni cua'cocona goa
quëojaida'ka cua'cumaca i̱ hua'ire mani sotore'huana ñoni...

ba'i-kɨ-bi	[wa'i]O	mo-ni	[wa'i]O
live-NOM.M-SBJ	[animal]O	fish-SS	[animal]O

da-ɨ-nã	dĩho	ha'de-ni	kʷa'ko-ko-na	goa
bring-S.M.PST-DS	wife	gut-SS	cook-S.F.PRS-DS	just

kɨo-hai-da'ka	kʷa'ku-mahka	ĩ-ɨ
warm-VBL-CLS:WATER	be.cooked-DIM	DEM.PRX-CLS:ANIM.M

[wa'i-de]O	ma-ni	sohto-de'wa-na	jõ-ni...
[animal-OBJ]O	take.out-SS	clay-CLS:PLATE-GOAL	put-SS

'The one who lived caught some fish, brought fish home, and his wife gutted and cooked (it), but when it was only half cooked, he took the fish out and put (it) on a plate...' (20101123slicr001.017).

In example (60), the speaker first introduces the object *wa'i* 'fish' as the object of *moni* 'he fished' and *daɨna* 'he brought.' The speaker does not use an object marker because it is not a specific fish that she is referring to. However, later on the speaker again refers to the fish that the man had fished and brought. In this instance, she uses the object marker *-de* with the object *wa'ide* 'the fish,' because she is referring to the specific fish that she introduced earlier.

      The object marker *-de* or its cognates in other Tukanoan languages have also been analyzed as specificity markers (Aikhenvald, 2002, pp. 101-102; Barnes, 1999, pp. 219-220; Cook & Levinsohn, 1985). This object marker exists in all of the Tukanoan languages, and in many of the languages it has a similar use as in Ecuadorian Siona. A correlation between specificity marking and case marking is typologically not uncommon. Blake (1994, pp. 120-121) mentions various examples of languages in which non-specific objects are unmarked. For instance, in Turkish non-specific direct objects do not receive accusative case marking.

      The specificity of the object also seems to play role in the use of the object marker *-de* in Ecuadorian Siona. However, some cases are not as straightforward as the example presented above, and more research is needed on this topic.

4.4.2.2 The animate object marker *-ni*

Although the object marker *-ni* can occur in similar contexts as the object marker *-de*, its use is more restricted. For instance, it does not represent a locative function in the corpus. Another restriction of the object marker *-ni* with regard to the object marker *-de* is that it is generally only used with animate objects.[107] For instance, the suffix *-de* is always used in 'what object questions' and the suffix *-ni* in 'who object questions':

(61)   quere a̱iquë'ne?
       ke-e-de   ã-i-kɨ-'ne?
       what-CLS:GEN-OBJ   eat-IMPF-2/3S.M.PRS.N.ASS-Q
       'What is he eating?' (20101123slicr001.015).

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[107] I found two examples in the corpus in which the object marker *–nĩ* is used with an inanimate object. In both examples, the objects did not consist of a noun. The inanimate objects that were marked by *–nĩ* were a demonstrative and a nominalized verb. The marking of inanimate nouns by this object marker was considered ungrammatical by the main consultant, as shown in this section.

(62) queini sëyoë'ne
      ke-ɨ-ni   sɨyo-ɨ-'ne
      what-CLS:ANIM:M-OBJ   roast-2/3S.M.PST.N.ASS-Q
      'Whom did he roast?'(20101123slicr001.041).

In example (61), the speaker is asking about an inanimate object. In this example, the question word *ke* 'what' is marked with the object marker -*de*. In example (62) from a story about a cannibal, the speaker has gone with her husband to the forest and has just found the skull of a person. Then she sees the remains of a fire and a traditional type of grill. At that moment the speaker understands that her husband roasted someone and ate him or her. So she asks herself whom he roasted. The question word refers in this example to an animate object and is therefore marked with the object marker -*ni*.

 Another indication that -*ni* marks only animate objects is that its use with inanimate objects is considered to be ungrammatical by Siona speakers:

(63) a.   ocore ñañë.
            ohko-de   jã-jɨ.
            water-OBJ   see-OTH.PRS.ASS
            'I see water.' (20120912slicr001.014).
      b.   *oconi ñañë.
            *ohko-ni   jã-jɨ.
            water-OBJ   see-OTH.PRS.ASS
            Intended: 'I see water.' (20120912slicr001.015).

(64) a.   nocare a̠ë̠'ë̠.
            nohka-de   ã-ɨ'ɨ.
            banana-OBJ   eat-OTH.PST.ASS
            'I ate the banana.' (20120912slicr001.036).
      b.   *nocani a̠ë̠'ë̠.
            *nohka-ni   ã-ɨ'ɨ.
            banana-OBJ   eat-OTH.PST.ASS
            Intended: 'I ate the banana.' (20120912slicr001.037).

When the inanimate objects *ohko* 'water' and *nohka* 'banana' are marked with the object marker -*de* in (63a) and (64a), the sentence is considered grammatical by the speakers. When the object marker -*de* is replaced by the object marker -*ni*, as shown in example (63b) and (64b) the sentences become ungrammatical.

The fact that the case suffix *-ni* is almost exclusively found with animate objects, and that it is considered ungrammatical to use the suffix with inanimate objects, suggests that this object marker is an animate object marker. However, the use of *-de* and *-ni* still overlaps despite of this specification of the use of the suffix *-ni*. Both case suffixes are used to mark animate objects. A similar observation has been made for the cognate case suffixes in Colombian Siona and in Koreguaje. According Wheeler (1967), the suffix *-de* is used in Colombian Siona when speakers add a 'normal focus' to the animate object and *-ni* is used when speakers add 'emphatic focus' to the animate object. Cook and Levinsohn (1985) have a similar analysis of the use of the case suffixes with animate objects. The only difference is that, according to the authors, Koreguaje speakers use *-de* for specific animate objects and *-ni* for focused animate objects.

It is possible that the use of the case suffix *-ni* in Ecuadorian Siona involves information structure as well. One indication for a similar difference in use between the suffixes *-de* and *-ni* is the switch between them. Speakers sometimes use *-ni* when they first refer to the object and then they switch to *-de* when they want to clarify who they are referring to. Two examples of this switch are presented below:

(65) yureta̱'a̱ ja̱maca i̱ sani hua'i moni a̱oma'ë goa i̱hua'ini mamajëmañare të'cajo'ani sëyoni i̱ a̱këña.

jude-tã'ã   hã-mahka   ĩ-ɨ   sa-ni
now-CNTEXP   DEM.DST-DIM   DEM.PRX-CLS:ANIM:M   go-SS

wa'i   mo-ni ãõ-ma'-ɨ   goa
animal fish-SS feed-NEG-S.M.PRS just

[ĩ-ɨ-wa'i-ni]$_0$ [mama-hɨ-mah-jã-de]$_0$
[DEM.PRX-CLS:ANIM:M-PL-OBJ]$_0$ [child-CLS:ANIM.COL-DIM-PL-OBJ]$_0$

tɨ'ka-ho'a-ni   sɨjo-ni   ĩ-ɨ
beat-split-SS   roast-SS   DEM.PRX-CLS:ANIM:M

ãh-kɨ-jã.
eat-2/3S.M.PST.N.ASS-REP

'Then he left, but instead of fishing fish and feeding (his children) he killed them, the poor children, roasted (them) and he ate (them). '(20101123slicr001.025).

(66)   a'riquëni tsi̱tu're hueoco...
        [a'di-kɨ-ni]$_O$ [zĩ-tu'-de]$_O$
        [small-CLS:ANIM.MSC-OBJ]$_O$ [children-CLS:BAG-OBJ]$_O$
        weo-ko...
        have.lying.in.hammock-S.F.PRS...
        'She had a little one, a baby, lying in the hammock.'
        (20110227salsu001.087).

The first objects in (65) and (66), *ĩwa'ini* 'them' and *a'dikɨni* 'a little one,' are marked with the object marker *–ni*; and the second ones, *mamahɨmahjãde* 'the poor children' and *zĩtu'de* 'a baby', are marked with *-de*. Example (65) is from a story about a cannibal who eats his children. In the example, the speaker emphasizes that the cannibal ate 'them' and then clarifies that 'them' refers to his children. The different marking of the two objects indicates that their function is slightly different. The object *ĩwa'ini* 'them' is in focus and the object *mamahɨmahjãde* is backgrounded clarifying information.

A similar analysis can be provided for the two objects in example (66). The speaker introduces the object *a'dikɨni* 'the little one' first and then clarifies it with the second object *zĩtu'de* 'a baby.' The first object seems to be focused and the second one represents background information. So there are some indications that there is a relation between the information structure of a sentence and the use of the object markers *-de* and *-ni*. However, the exact analysis of this relation must remain for further study.

4.4.3 The oblique markers
The use of the oblique case markers in Ecuadorian Siona is less complex. The oblique case suffixes *-na*, *-hã'ã*, and *-hã'de* are used to express specific grammatical relations. The first oblique case suffix discussed here, *-na*, expresses the spatial relation of goal. In the examples below the subject carries out an action in the direction of the object marked with *-na*:

(67)   b̯aquëbi ja̯ë̈rë huei ca̯i̯na ja̯ë̈rë së'aëña i̯ jetena.

        bã-kɨ-bi   hãɨ̃-dɨ

        NEG.COP-NOM.M-SBJ   hammock-CLS:MAZE

        we-i-ɨ   kã-i-ɨ-na

        lie.in.hammock-IMPF-S.M.PRS   sleep-IMPF-S.M.PRS-DS

        hãɨ̃-dɨ   sɨ'a-i-jã

        hammock-CLS:MAZE   stick-2/3S.M.PST.N.ASS-REP

        [ĩ-ɨ   hehte-na]GOAL.

        [DEM.PRX-CLS:ANIM:M   back-GOAL]GOAL

        'The one who did not (listen) was lying down and sleeping in
the hammock and the hammock stuck onto his back.'
(20100913slicr001.005).

(68)   yohuë ayamëni yequë ti'huina i̯ je̯ni ca̯që̈ña.

        jo-wɨ   aja-mɨ-ni   jehk-ɨ

        canoe-CLS:CONTAIN   fill-go.down-SS   other-CLS:ANIM:M

        [ti'wi-na]GOAL   ĩ-ɨ   hẽ-ni

        [other.side-GOAL]GOAL DEM.PRX-CLS:ANIM:M   cross-SS

        kãh-kɨ-jã.

        sleep-2/3S.M.PST.N.ASS-REP

        'He went down into the canoe, he crossed to the other side and
slept.' (20100913slicr001.028).

(69)   i̯ hua̯ñumi i̯o̯te hua'i yohuëna ayaëna quërëmeo a̯i̯o̯ bacoña.

        ĩ-ɨ   wãjŭmi   ĩ-oh-te   wa'i

        DEM.PRX-CLS:ANIM:M   anaconda DEM.PRX-CLS:ANIM:F-OBJ fish

        [jo-wɨ-na]GOAL   aja-i-na

        [canoe-CLS:CONTAIN-GOAL]GOAL fill-S.M.PST-DS

        kɨrɨ-me-o   ã-i-o   bah-ko-jã.

        take-go.down-S.F.PRS   eat-IMPF-S.F.PRS be-2/3S.F.PST.N.ASS-REP

        'The anaconda would put fish in the canoe and she would get it
and eat it.' (20100913slicr003.034).

In the examples (67-69) the case suffix *-na* is used to mark the goal of
the action.

      The 'goal' suffix *-na* is not used on every constituent that refers
to the goal of the action. Similarly to the object case marker *-de*, the
suffix *-na* seems to be mostly used to mark specific goals. When a non-
specific goal is presented in a sentence, the case marker *-na* is often not
used. This is illustrated in example (70):

(70)   airo sañu'u
       ai-do   sa-jũ'ũ
       big-CLS:PLACE   go-HORT
       'Let's go to the forest.' (20100913slicr002.004).

The goal *aido* 'forest' in (70) does not show any case marking. Most instances of this word that are used as a goal are not marked with the case marker. This word does not refer to one specific location. The Siona people are surrounded by forest, and therefore this term encompasses many different specific locations. Because of the absence of the case marker *-na* in (70), this construction can best be analyzed as the event of 'forest-going.'

Another oblique case found in Ecuadorian Siona is *-hã'ã*. This suffix marks objects that express either a path or a limit. I assume here that this is a single suffix with two different uses, but in order to show the different functions I will gloss the two uses differently: -PATH for path and -LIM for limit. An example of both uses is presented below:

Path
(71)   io ma'a yequë ma'aja'a go'ico nehuesëo.
       ĩ-o   ma'a   jehk-ɨ   ma'a-hã'ã
       DEM.PRX-CLS:ANIM:F   path   other-CLS:ANIM:M   path-PATH
       go'i-ko   ne-wehsɨ-o.
       return-S.F.PRS   make-do.forever-3S.F.PRS.ASS
       'She returned along a path, another path and she got lost.'
       (20100907slicr001.007).

Limit
(72)   nëcasi'cubërebaja'a yë're aiji.
       nɨhka-sĩ'ku-bɨ-deba-hã'ã   jɨ'-de   ã-i-hi.
       stand-joint-CLS:ROUND-INTENS-LIM   1S-OBJ   eat-IMPF-3S.M.PRS.ASS
       'He is eating me up to my knees.' (20100907slicr002.012).

In example (71), the suffix *-hã'ã* is used to mark the path along which the event takes place: *jehkɨ ma'ahã'ã* 'along the other path.' In example (72), the same suffix is used to mark the limit of the action: *nɨhkasĩ'kubɨdebahã'ã* 'up until the knees.' Both functions of the suffix *-hã'ã* are spatial relations that delimit the space in which the event takes place. In case of the 'path' function it is a specific route that the suffix delimits and in the case of the 'limit' it delimits the end location of the event. Because of these similarities between the functions of the

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suffix, it is not surprising that these two functions are expressed by one and the same suffix.[108]

The final oblique case marker discussed here is the comitative *-hã'de.* The use of this suffix is illustrated in the two examples below:

(73) caëna i̭o̭ sacoña ija̭'re ëjëja̭'re.
      ka-ɨ-na   ĩ-o   sah-ko-jã
      say-S.M.PST-DS   DEM.PRX-CLS:ANIM:F   go-2/3S.F.PST.N.ASS-REP
      ĩ-ɨ-hã'de   ĩhɨ-hã'de.
      DEM.PRX-CLS:ANIM:M-COM   husband-COM
      'After he had said (that), she went with him, with her husband.'
      (20101123slicr001.034).

(74) ja'o tëo̭huĕ Martinaja̭'re.
      ha'o   tĩõ-wɨ   Martina-hã'de.
      leaf   weave-OTH.PST.ASS   Martina-COM
      'We wove leaves with Martina.' (20100925slicr003.002).

Examples (73) and (74) show that the suffix *-hã'de* marks accompaniment. In example (73), the subject carries out the action of 'going' accompanied by her husband; and in (74) the subject carries out the action of weaving leaves in the company of the author. This is a typical comitative function, which is the only function that this case suffix portrays.

4.4.4 Case marking, a summary
Ecuadorian Siona marks case by means of a set of suffixes that are not always obligatory. Both specificity and information structure seem to play a role in the use of the case markers. The functions of the case markers include marking grammatical relations and spatial relations. An interesting peculiarity of the case marking system in the language is that the object marker *-ni* and the goal marker *-na* may have given rise to dependent verb morphology. The tentative reanalysis that led to this development will be described in chapter 7.

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[108] The three suffixes *–bi* 'source,' *–re* 'location,' *–nã* 'goal' and *–hã'ã* 'limit, path' form the case system that is used to express spatial relations in Ecuadorian Siona. More complex spatial relations are expressed by spatial nouns, such as *jeo'ka* 'under,' *ĩmɨhẽ'ẽ* 'above' and *hobo* 'the middle.'

Chapter 5: Subject agreement morphology and other verbal morphology

5.1 Introduction

Ecuadorian Siona is an agglutinative suffixing language with some fusion. Bound morphology plays a crucial role in the expression of grammatical categories in the language. Two of the grammatical categories that are expressed by bound morphology constitute the focus of this dissertation: clause typing and evidentiality. These two categories are conveyed by a set of verbal portmanteau suffixes that also carry subject agreement and tense values. In order to provide a thorough analysis of the use and semantics of evidentials and of the different clause types in Ecuadorian Siona in chapter 6, I will provide a description of the subject agreement system in this chapter, among other morphological aspects.

   Verbs and verbal morphology play an important role in Ecuadorian Siona. Sentences in the language generally contain a series of verbs with varying categories of attached morphemes that yield distinct verbal manifestations. These manifestations of verbs include main verbs, dependent verbs, nominalized verbs, and serialized verbs. These verb types are illustrated in the example below:

(1) më'ë bë̱i̱ñona yë'ë aiyodojaiyona yë're oicobi ico nego'yaona yë'ë
   ba'iyë.
   mɨ'ɨ [bɨ̃-i-o-na]_DV   jɨ'ɨ
   2S [be.mean-IMPF-S.F.PRS-DS]_DV 1S
   [aijo-doha-i-o-na]_DV   jɨ'-de [o-i-ko-bi]_NV
   [suffer-wander-IMPF-S.F.PRS-DS]_DV 1S-OBJ [cry-IMPF-NOM.F-SBJ]_NV
   ih-ko   [ne-go'ja-o-na]_DV jɨ'ɨ
   DEM.PRX-CLS:ANIM.F [do-cure-S.F.PRS-DS]_DV 1S
   [ba-'i-jɨ]_MV.
   [live-IMPF-OTH.PRS.ASS]_MV.
   'You were mean and I was suffering, the woman who took pity on me cured me and I am alive.' (20110328slicr002.017).

Example (1) shows four types of verbal uses in Ecuadorian Siona. The verbs *bɨ̃iona* 'you were mean,' *aijodojaiona* 'I was suffering' and *nego'jaona* 'she cured' are instances of dependent verbs, and the verb *oikobi* 'the one who took pity' is an instance of a nominalized verb. The third type of verb that is found in this example is the serialized verb. The

instances *aijodojaiona* 'I was suffering' and *nego'jaona* 'she cured' both consist of serialized verbs: the former contain *aijo* 'suffer' and *dojai* 'wander' and the latter of *ne* 'make' and *go'ja* 'cure.'[109] The final type of verbal use in example (1) is the main verb *ba'iji* 'I live.' Main verbs are crucial to our understanding of sentential force and evidentiality because these categories are marked on main verbs.

Three of these types show distinct subject agreement paradigms, namely, the nominalized verbs, the dependent verbs and the main verbs. These paradigms exhibit considerable overlapping morphology. For instance, all three paradigms comprise the suffixes *-ko*, *-ki* and *-je*. This overlap is not a historical coincidence since these suffixes seem to have a single origin, as I will show in chapter 8.

Synchronically, these suffixes must be analysed as members of different paradigms. The first argument for this paradigmatic analysis is that the organization of the paradigms is distinct for various contrastive verb uses. For instance, the organization of the person, number and gender categories is different in main verbs and in dependent verbs. In main clause verbs, the categories person, number and gender are represented, while in dependent verb morphology only number and gender are expressed. The second argument is that not all paradigms consist of exactly the same morphemes. For instance, plural subject agreement is distinctive in most of the paradigms.

Therefore, the subject agreement morphology and its organization will be described in the following sections for every verb type. Since subject agreement is fused with tense and is different for various verb classes, these categories will also be discussed in the sections below. I will describe the main clause verb morphology and its use in section 5.2, and the non-main clause verb morphology and its use in section 5.3. In section 5.4 I will discuss the possible semantic and prosodic motivation for the existence of distinct verb classes in Ecuadorian Siona. This section is highly important for the understanding of the use of different suffix forms in the different contexts. I will conclude this chapter in subsection 5.5 with an overview of the verb morphology discussed.

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[109] The verb *dojai* 'to wander' is only used in these serial verb constructions and often has a progressive interpretation. The verb *ne* 'to make' is often used as the first verb of a serial verb construction in order to emphasize the transitive or causative character of the action. The verb *go'ja* in the example above is a transitivized version of the verb *go'i* 'to return' and means literally 'to make return.' The use of the verb *ne* 'to make' emphasizes the transitivity of the verb *go'ja*.

5.2 Main verbs

As mentioned in the introduction to this chapter, Ecuadorian Siona morphology shows some fusion. This means that the language has portmanteau morphemes that encode more than one grammatical function. A clear example of this portmanteau morphology is the subject agreement morphology, which can express tense, sentential force and evidentiality. The main verb in example (2) expresses these three different categories:

(2)   caëna i̯o a̯'so dutajani a̯o guë'toni i̯o a̯o neoña.
        ka-ɨ-na   ĩ-o   ã'so
        say-S.M.PST-DS   DEM.PRX-CLS:ANIM.F   cassava
        duhta-hã-ni   ãõ   gɨ'to-ni   ĩ-o
        pull.out-go-SS   cassava   grate-SS   DEM.PRX-CLS:ANIM.F
        ãõ   [ne-o-jã]_MV.
        cassava   [make-2/3S.F.PST.N.ASS-REP]_MV
        'After he said (that) she went to pull out cassava, grated the cassava and she made cassava (bread), it is said.' [110] (20101123slicr001.022).

The morphology of the main verb *neojã* 'she made, it is said' expresses subject agreement, tense, and evidentiality. The subject agreement category that is displayed in this verb is second or third person singular feminine. The verb occurs in the past tense, its sentential force is non-assertive, and it is marked for reportative evidentiality.

        Main verbs represent only a small percentage of the verbs used in the corpus used for this study. As examples (1) and (2) above illustrate, there are other types of verbs as well. The main verb is generally the final verb in the sentence. The end of a sentence can be recognized by its sentence contour intonation. At the end of a sentence the pitch goes down and the speech becomes breathy. Ecuadorian Siona has a nominative-accusative case alignment. In terms of subject agreement, this means that the subjects of both intransitive and transitive verbs are cross-referenced on the verb. This is also illustrated by the examples in (1) and (2). The main verb in example (1) is the intransitive verb *ba'ijɨ* 'I live' and it agrees with the subject of the verb *jɨ'ɨ* 'I.' This is reflected in the 'other' subject agreement morphology on the verb. The main verb in (2) is the transitive verb *neojã* 'she made, it is

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[110] The Siona word *ã'so* refers to the cassava root and *ãõ* to the processed cassava.

said.' This verb also agrees with the subject of the verb: *ĩo* 'she,' which is reflected by the second or third person singular feminine subject agreement morphology on the verb.

The subject agreement system that occurs on main verbs will be explained in this section. Since subject agreement morphology differs for different clause types, tenses and verb classes, I discuss these categories here as well. I begin with a discussion of the subject agreement morphology and its organization within the different clause types in subsection 5.2.1. Then I will describe the subject agreement morphology for the different tenses in subsection 5.2.2. Following this, I will present the subject agreement morphology that is used in the different verb classes in subsection 5.2.3. Finally, I will present the imperative and hortative forms in subsection 5.2.4.

5.2.1 Clause types and organization

Ecuadorian Siona has various subject agreement paradigms in which the person, number and gender of the subject are expressed.[111] In many languages of the world, person and / or number distinctions are neutralized. For instance, second and third person plural are encoded by the same marker in the Algonquian language Chipewyan and in the Athapaskan language Slave (Dixon, 2010, p. 199). This neutralization within a subject agreement system is often referred to as homophony (Cysouw, 2003; Siewierska, 2004). Ecuadorian Siona shows considerable homophony in its subject agreement marking system. Every subject agreement paradigm consists of three suffixes. Two of the suffixes are highly specified for person, number and gender and one is not.

The subject agreement morphology is different for distinct clause types. There is a split between main verb subject agreement morphology in assertions and in non-assertions, such as questions, reportatives and conjectural utterances. These different clause types do not only display different suffixes to mark subject agreement, but they

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[111] The term agreement is used here in a broad sense, similarly as to Siewierska's (2004, p. 121) use of the term 'person agreement.' The subject agreement morpheme expresses the relation between the subject, which is the controller in this context, and the verb, which is the target. The subject does not need to be expressed in Ecuadorian Siona. Since there can be either an overt or a covert subject in the case of the Ecuadorian Siona subject agreement markers, the language shows ambiguous agreement marking in Siewierska's (2004, p. 126) terminology.

also divide the labor differently. First I will introduce the present tense subject agreement paradigm for assertions. I define the assertions in Ecuadorian Siona as the utterances in which the speaker asserts the truth value of a proposition. The division of labor in the assertive subject agreement morphology is illustrated in example (3):

(3)   a.   caco.
            ka-ko.
            say-3S.F.PRS.ASS
            'She says.'
      b.   caji.
            ka-hi.
            say-3S.M.PRS.ASS
            'He says.'
      c.   cayë.
            ka-jɨ.
            say-OTH.PRS.ASS
            'I / you (S) / we / you (PL) / they say.'

The suffixes *-ko* and *-hi* are specified for person, number and gender. Both forms are mark only one person, number and gender category. The former is marked on third person, singular, feminine subjects and the latter on third person, singular, masculine subjects. The suffix *-jɨ* 'Other' marks a rest category that is used when the subject is either a first person or second person singular or any plural person of any gender. The hearer can only determine the subject of the rest form by virtue of an overt subject or based on the context. This means that Ecuadorian Siona shows a typical third versus non-third person distinction in assertive clauses with singular subjects. Cysouw (2003, pp. 48-51) refers to this type of person marking homophony as the English type. In Siewierska's (2004, pp. 96-98) person agreement typology, the assertive subject agreement shows both singular and vertical homophony. Singular homophony refers to the homophony between the first and second person marking and vertical homophony refers to the collapse of all plural person markers. The assertive paradigm for the present is summarized in table 5.1:

Table 5.1: The present tense subject agreement suffixes in assertions

Person / number / gender	Suffixes
3S.F	-ko
3S.M	-hi
OTHER	-jɨ

The second type of subject agreement paradigms is found in questions, reports, and conjectures. This group of clause types forms a natural class in Ecuadorian Siona because of the non-assertive character of the clause types. For instance, questions are non-assertions, because the speaker questions a proposition instead of asserting it. Reports are non-assertions in the language because the speaker only presents a proposition that someone else informed him or her about. Conjectures are a special case, because they are a subset of questions in Ecuadorian Siona. Conjecture is a conventionalized interpretation of a specific set of negative questions (for an analysis of the conjectural constructions see chapter 6, subsection 6.2.3). Therefore, conjecturals also have non-assertive subject agreement morphology.

Main verbs in questions, reports and conjectures are easily distinguishable despite the almost identical shared non-assertive subject agreement morphology. One of the ways to differentiate clause types is through intonation. Questions and reports have a specific question intonation while conjectures have declarative intonation. The reportative can be recognized because it has an extra suffix *-jã* that is not present in questions.

Conjectural utterances can be distinguished through the auxiliary verb construction that in other contexts expresses negation. This negative auxiliary construction containing a verbal suffix *-a* glossed as negation and the auxiliary verb *ba'i* 'to be' is illustrated in the example below:

(4)   më'ë ja'co ba'ia ba'io.
        mɨ'ɨ   ha'-ko   ba-'i-a   ba-'i-o.
        2S   parent-CLS:ANIM.F   be-IMPF-NEG   be-IMPF-2/3S.F.PRS.N.ASS
        'Your mom must be (at home).' (I conjecture, because her boots are outside). (20110529elicr001.033).

The combination of the negative auxiliary construction *-a ba'i* and the non-assertive morphology marks these conjectural utterances. The auxiliary verb *ba'i* belongs to a different verb class from the one of

which the verb morphology is discussed in this section. Therefore, I will return to the conjectural questions in subsection 5.2.3 on verb classes.

The subject agreement paradigms for non-assertions are organized in much the same way as the assertion paradigm, except for the second person. As in the case of assertions, the non-assertion subject agreement system consists of three forms. The difference is that the second person singular masculine and feminine are combined with the third person singular masculine and feminine, instead of with the first person. This is illustrated in example (5):

(5)   a.   ñacoña.
            jã-ko-jã.
            see-2/3S.F.PRS.N.ASS-REP
            'You (S.F) / she see(s), it is said.'
    b.   ñaquëña.
            jã-kɨ-jã.
            see-3S.M.PRS.N.ASS-REP
            'You (S.M) / he see(s), it is said.'
    c.   ñañeña
            jã-je-jã.
            see-OTH.PRS.N.ASS-REP
            'I / we / you (PL) / they see, it is said.'

The suffix *-ko* in (5a) is used for both second person singular feminine and third person singular feminine. The suffix *-kɨ* in (5b) is used for second and third person singular masculine. The suffix *-je* in (5c) is used for the agreement of all other person, number and gender combinations. This means that Ecuadorian Siona shows homophony for second and third person singular in non-assertive clauses. Cysouw (2003, pp. 41-45) describes this singular homophony as the Dutch type of homophony. The non-assertive present tense subject agreement suffixes are provided in the table below:

Table 5.2: Subject agreement in present tense non-assertive utterances

Person / number / gender	Questions & Reportative
2/3S.F	-ko(-jã)
2/3S.M	-kɨ(-jã)
OTHER	-je(-jã)

An interesting peculiarity of the subject agreement suffixes in the non-assertive paradigm is that they are identical to the general

nominal classifiers in Ecuadorian Siona. The classifier *-ko* marks the feminine noun class and the classifier *-kɨ* marks the masculine class. The suffix *-je* is a general classifier that can be used to mark any type of noun class, however, it is most often found on words that refer to plural inanimate entities. Synchronically, it is difficult to analyze the non-assertive subject agreement morphemes as nominal classifiers because the agreement suffixes are used differently. For instance, the subject agreement morphemes are used to express person as well, which is completely unpredictable from the use of the classifiers. Another difference between the two types of markers is that the subject agreement markers express tense, whereas the classifiers do not. However, although these two types of uses of the suffixes *-ko*, *-kɨ* and *-je* cannot be analyzed as two uses of the classifiers from a synchronic perspective, these suffixes seem to have the same origin, as will be discussed in chapter 7.

5.2.2 Tense

Ecuadorian Siona has a typical grammatical tense system (cf. Comrie, 1985; Payne, 1997, pp. 233-238; Whaley, 1997, pp. 205-206): the past suffix anchors the described event before the moment of speech. Present suffixes refer to an event that is simultaneous with the moment of speech. As in the case of the present subject agreement morphology described above, there are different subject agreement paradigms for assertions and for non-assertions in the past tense. The organization of person, number, and gender agreement is the same in the past tense as in the present tense.

The different subject agreement markers for past tense assertions are illustrated in (6):

(6)   a.   cao.
                ka-o.
                say-3S.F.PST.ASS
                'She said.'
        b.   cabi.
                ka-bi.
                say-3S.M.PST.ASS
                'He said.'

c.   cahuë.
       ka-wɨ.
       say-OTH.PST.ASS
       'I / you (S) / we / you (PL) / they said.'

The subject agreement paradigms used in assertions in the present and past do not look completely irregular. As it happens, the vowels of the past and present are the same for the three agreement categories. The final vowel in the third person singular feminine is an *-o* in both the present and the past (present: *-ko* and past: *-o*). In the case of the third person singular masculine, the final vowel is *-i* (present: *-hi* and past: *-bi*) and in the case of the non-third person singular, *-ɨ* (present: *-jɨ* and past: *-wɨ*).

       If the vowels carry out the function of subject agreement, then the consonants are likely to function as tense markers, if one were to assume a rigorous structuralist approach. At least there should be regular correspondences between the consonants that are used in the present and past. Synchronically, it is difficult to find any regularity between the consonants in the present and past suffixes. The consonants found in assertive contexts in the present tense are [k, h, j] and the consonants in the past tense are [Ø, b, w]. An overview of the present and past tense suffixes of assertive subject agreement morphology is presented in the table below:

Table 5.3: Subject agreement suffixes in present and past assertions

Tense	Person / number / gender	Assertions
Present	3S.F	-hi
	3S.M	-ko
	OTHER	-jɨ
Past	3S.F	-bi
	3S.M	-o
	OTHER	-wɨ

In the non-assertive paradigms, there are similar correspondences between the vowels of the past and present subject agreement suffixes. Once again the vowels of the present and past suffixes are the same, as illustrated in example (7):

(7) a. caoña.
         ka-o-jã.
         say-2/3S.F.PST.N.ASS-REP
         'You (F) / she said, it is said.'
     b. caëña.
         ka-ɨ-jã.
         say-2/3S.M.PST.N.ASS-REP
         'You (M) / he said, it is said.'
     c. careña.
         ka-de-jã.
         say-OTH.PST.N.ASS-REP
         'I / we / you (PL) / they said, it is said.'

The past tense non-assertive suffixes have the same vowels as the present tense suffixes: *-o* for second and third person singular feminine (present: *-ko* and past: *-o*), *-ɨ* for second and third person singular masculine (present: *-kɨ* and past: *-ɨ*), and *-e* for non-second and third person singular (present: *-je* and past: *-de*).

In contrast to the consonants in the assertion paradigms, the consonants in non-assertive paradigms do show some regular correspondences that correlate with the tense distinctions. That is to say, both the second and third person singular feminine and masculine have a *-k* in the present and a *-Ø* in the past. This pattern does not extend to the non-second and third person singular forms, where distinct consonants are used: *-j* in the present and *-d* the past. Therefore, the consonant *-k* cannot be analyzed as a present marker, nor the *-Ø* as a past marker. Table 5.4 provides an overview of the subject agreement suffixes in questions and reportatives:

Table 5.4: Subject agreement in past & present questions and reportative utterances

Tense	Person / number / gender	non-assertive
Present	2/3S.F	-ko(-jã)
	2/3S.M	-kɨ(-jã)
	OTHER	-je(-jã)
Past	2/3S.F	-o(-jã)
	2/3S.M	-ɨ(-jã)
	OTHER	-de(-jã)

A comparison of the assertive and non-assertive paradigms, presented in table 3 and 4, respectively, reveals some commonalities. The forms of

the present and past feminine singular agreement suffixes are the same in assertions and non-assertions. The only difference between the assertive *-ko* and *-o* and the non-assertive *-ko* and *-o* lies in the persons that the forms encode. That is, the assertive suffixes only refer to third person singular feminine subjects, whereas the non-assertive suffixes also include second person singular feminine subjects. Because of the difference in organization of the paradigms and the differences between the masculine and 'other' suffixes, it is impossible to make any generalization for the assertive and non-assertive subject agreement paradigms with respect to subject agreement and tense marking. From a synchronic perspective, it is not feasible to identify a distinct tense morpheme in Ecuadorian Siona. Therefore, tense is analyzed here as one of the values that is marked by the portmanteau subject agreement morphemes in the language.[112]

5.2.3 Verb classes

In the previous subsections, I have described the subject agreement morphology for the largest set of verbs in Ecuadorian Siona. However, this does not cover the subject agreement patterns of all of the verbs in the language. There are classes of verbs with different sets of subject agreement suffixes. In one of these classes, the imperfective suffix *-i* or its allomorph *-'i* are found at the end of the stem in the present tense and in infinitival contexts. Because of the occurrence of the suffix *-i* on this verb class, I will refer to it as the *-i* verb class. I will refer to the verbs for which subject agreement suffixes were discussed in the

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[112] There is one type of tense marking in the closely related Western Tukanoan languages that can probably be generalized for assertions and non-assertions. This is the remote past marking, which is carried out by a combination of the nasalization of the final vowel of the verb stem and the insertion of a glottal stop between the stem and the subject agreement morphology, which is illustrated by an example from Colombian Siona:

(i)   gajė'ji. (Wheeler, 1987b, p. 155).
        gahe-~'-hi.
        descend-REM.PST-3SG.MSC.PRS
        'He descended (a long time ago).'

The remote past in Ecuadorian Siona is less productive than in Colombian Siona. In the recordings and in elicitation, this remote past could only be used with the verb *ba'i* 'to be.' Therefore, I will not further discuss this tense in this dissertation.

previous subsections as the non *-i* verbs from now on. I will discuss the subject agreement morphology of the *-i* verb class in subsection 5.2.3.1. There are a few verbs that have a different agreement pattern than the non *-i* verb class and the *-i* verb class. These verbs are bound verbs, including the existential copula *-a* and the future verb *-si*. I will address the subject agreement paradigms of this class in 5.2.3.2.

5.2.3.1 The *-i* verb class

The class of the *-i* verbs is a smaller verb class than the class of the non *-i* verbs, but it contains verbs such as *ba'ije* 'to live / to be,' *saije* 'to go' and *daije* 'to come,' which are frequently used. As mentioned above, this class is characterized by its distinctive subject agreement morphology and by the imperfective suffix *-i,* which forms part of the stem in the present tense paradigms and in infinitival contexts.[113] I will describe the different *-i* verb subject agreement paradigms for the present tense in subsection 5.2.3.1.1 and for the past tense in subsection 5.2.3.1.2. The subject agreement morphology used with the auxiliary verb construction that expresses conjecture is described in 5.2.3.1.3.

5.2.3.1.1 Present tense subject agreement morphology of *-i* verbs

The present subject agreement morphology of the *-i* verbs is the same for most main verbs as the present subject agreement morphology of the non *-i* verbs. This is illustrated in the examples below for both assertive and non-assertive verb forms.

Assertive
(8) a. saiji.
         sa-i-hi.
         go-IMPF-3S.M.PRS.ASS
         'He goes.'

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[113] The suffix *-i* is found in combination with most of the *-i* verbs, except for the verbs ending in the vowel *e*. In these verbs, such as the verb *hẽje* 'to cross,' *sẽje* 'to ask' and *weje* 'to lie down in a hammock,' the vowel *-i* does not appear at all in the surface structure. This is due to the assimilation of the *-i* to the preceding vowel *e*, as discussed in the phonology chapter (subsection 3.5.1). In all other respects, these verbs ending in *-e* behave as the other *-i* verbs.

      b.   saji.
              sa-a-hi.
              go-TRS-3S.M.PRS.ASS
              'He takes.'

Non-assertive
(9)   a.   saiquëña.
              sa-i-kɨ-jã.
              go-IMPF-2/3S.M.PRS.N.ASS-REP
              'You (M)/ he goes, it is said.'
    b.   saquëña.
              sa-a-kɨ-jã.
              go-TRS-2/3S.M.PRS.N.ASS.REP
              'You (M)/ he takes, it is said.'

One remark is in order about example (8) and (9) before discussing the present tense suffixes. Example (8b) and (9b) show that when the transitive stem *saa* 'to take' is derived from the root *sa* 'to go' with the valence changing suffix *-a,* the verb changes into a non *-i* verb. The reason why the underived verb stem *sai* 'to go' belongs to the *-i* verbs and the derived verb stem *saa* 'to take' does not is discussed in section 5.4.

      Examples (8) and (9) show that the present tense forms for *-i* verbs and non *-i* verbs are identical in both assertions and (most) non-assertions. In example (8), it is shown that the suffix *-hi* is used for third person singular masculine subjects in present assertive contexts for both *-i* verbs (8a) and non *-i* verbs (8b). The suffix *-kɨ* 'second or third person singular masculine present non-assertive' is also used for both *-i* verbs (9a) and non *-i* verbs (9b). The same suffixes are found throughout the assertive, question, and reportative paradigms. An overview of the assertive suffixes is presented in table 5.5 and of the question and reportative suffixes in table 5.6:

Table 5.5: Present subject agreement morphology in assertions

Person / number / gender	Non *-i verbs*	*-i verbs*
3S.F	(sa)-ko	(sa-i)-ko
3S.M	(sa)-hi	(sa-i)-hi
OTHER	(sa)-jɨ	(sa-i)-jɨ

Table 5.6: Present subject agreement in questions and reportative utterances

Person / number / gender	Non *-i verbs*	*-i verbs*
2/3s.F	(sa)-ko(-jã)	(sa-i)-ko(-jã)
2/3s.M	(sa)-kɨ (-jã)	(sa-i)-kɨ (-jã)
OTHER	(sa)-je(-jã)	(sa-i)-je(-jã)

The only difference between present tense forms of the two verb classes is the presence of the suffix *-i* or its allomorphic variant *-'i* for most main verb paradigms. [114] This vowel *-i* is also found with infinitives, nominalizations and serial verb constructions. The use of an *-i* verb in nominalizations and in serial verb constructions is illustrated in the examples below:

Nominalization
(10)   yure daisiquëni ñahuë̈.
        jude   da-i-sih-kɨ-ni   jã-wɨ.
        then   come-IMPF-CMPL-NLZ.M-OBJ   see-OTH.PST.ASS
        'Then I saw the one who had come.' (20120918elicr005.001).

Serial verb construction
(11)   tuiñaquëna…
        tu-i-jã-kɨ-na
        follow-IMPF-see-S.M.PRS-DS
        'He was following and watching (her)…'
         (20110807salsu001.022).

In example (10), the *-i* occurs as a nominalization and in example (11) the suffix *-i* is found attached to the first verb in a serial verb construction. These infinitival contexts and the present tense context are typical imperfective contexts and therefore, the suffix is analyzed here as an imperfective suffix.

5.2.3.1.2 Past tense subject agreement morphology of *-i* verbs

In the past tense, *-i* verb morphology differs more from non *-i* verb morphology than in the present tense. One difference is that the past tense assertive *-i* verb suffixes are more complex than the non *-i* verb

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[114] It is lexically determined which verbs contain the suffix *-i* or *-'i*. The presence or absence of the glottal stop does not influence the inflection of the verb.

suffixes. This is illustrated in (12) below, in which the (a) examples illustrate the *-i* verb morphology and the (b) examples the non *-i* verb morphology:

(12) a. saco'ë   b. sao
    sah-ko'ɨ   sa-a-o
    go-3S.F.PST.ASS   go-TRS-3S.F.PST.ASS
    'She went.'   'She took.'

(13) a. saja'i.   b. sabi.
    sa-ha'i.   sa-a-bi.
    go-3S.M.PST.ASS   go-TRS-3S.M.PST.ASS
    'He went.'   'He took.'

(14) a. saë'ë   b. sahuë
    sa-ɨ'ɨ   sa-a-wɨ
    go-OTH.PST.ASS   go-TRS-OTH.PST.ASS
    'I / you (S) / we /   'I / you (S) / we /
    you (PL) / they went.' you (PL) / they took.'

The past tense *-i* verb suffixes presented in examples (12a-14a) were likely morphologically complex in the past because they seem to consist of two parts. The first part is different for every person, number, and gender category: *-ko*, *-hV* and *-ɨ*. These parts are similar to the present tense suffixes *-ko*, *-hi* and *-jɨ*. This part of the suffixes probably formed the original subject agreement morpheme. The second part is more uniform for all categories of the paradigm. It consists of a glottal stop and a high vowel in all three suffixes: *-'ɨ* for both third person singular feminine and the 'other' category; and *-'i* for third person singular masculine. This part of the suffix was probably a past tense morpheme at an earlier stage of the language. The table below provides an overview of the past tense assertive non *-i* verb and *-i* verb subject agreement morphology:

Table 5.7: The past tense subject agreement in assertions.

Person / number / gender	Non *-i verbs*	*-i verbs*
3S.F	(sa)-o	(sah)-ko'ɨ
3S.M	(sa)-bi	(sa)-hV'i
OTHER	(sa)-wɨ	(sa)-ɨ'ɨ

The complexity of the past tense morphemes is not the only difference between the inflection systems of the *-i* verb and the non *-i* verb class. Another difference, as mentioned above, is that *-i* verbs have a different stem in the past tense and in the present tense. The stem in the past tense does not include the imperfective suffix *-i*. The third person singular feminine suffix displays another particularity. In past tense assertive contexts, a glottal fricative *h* surfaces in the coda position, as illustrated by the verb form *sahko'ɨ* 'she went' in (12a). The *h* in coda position is more commonly found within disyllabic root morphemes. In these environments, the consonant always appears before a voiceless onset consonant.

Another peculiarity that needs to be clarified is the assimilation process in the third person singular masculine suffix *-hV'i*. When this suffix is attached to the verb, the first vowel of the suffix assimilates to the vowel in the verb. This is illustrated in the examples below:

(15) a. huëiye
          wɨ-i-je
          fly-IMPF-INF
          'to fly'
      b. huëjë'i
          wɨ-hɨ'i
          fly-3S.M.PST.ASS
          'He flew.'

(16) a. se̱ñe
          sẽ-i-je
          ask-IMPF-INF
          'to ask'
      b. se̱je̱'i̱
          sẽ-hẽ'i
          ask-3S.M.PST.ASS
          'He asked.'

(17) a. tuiye
          tu-i-je
          sit.on-IMPF-INF
          'to sit on top of something.'
      b. tuhu'i
          tu-hu'i
          sit.on-3S.M.PST.ASS
          'He sat on top of something'

(18) a. choiye
          cho-i-je
          invite-IMPF-INF
          'to call / to invite'
      b. chojo'i
          cho-ho'i
          invite-3S.M.PST.ASS
          'He called / he invited.'

Examples (15-18) show that the first vowel of the third person singular masculine past tense assertive suffix differs in each of these cases. It is always a copy of the vowel in the verb root.

The past tense subject agreement morphology found among the non-assertive sentence types is less elaborate than the morphology found in assertive sentences. The verbal suffixes on non-assertives do not seem to have been morphologically complex. The past tense non-assertive subject agreement morphology is illustrated for *-i* verbs in the examples (19a-21a) and for the non –*i* verbs in the examples (19b-21b):

(19)   a.   sacoña.
               sah-ko-jã.
               go-2/3S.F.PST.N.ASS-REP
               'You (M)/ he goes, it is said.'
      b.   saoña.
               sa-a-o-jã.
               go-TRS-2/3S.F.PST.N.ASS-REP
               'You (M)/ he takes, it is said.'

(20)   a.   saquëña.
               sah-kɨ-jã.
               go-2/3S.M.PST.N.ASS-REP
               'You (M)/ he goes, it is said.'
      b.   saëña.
               sa-a-ɨ-jã.
               go-TRS-2/3S.M.PST.N.ASS-REP
               'You (M)/ he takes, it is said.'

(21)   a.   sateña.
               sah-te-jã.
               go-OTH.PRS.N.ASS-REP
               'You (M)/ he goes,
               it is said.'
      b.   sareña.
               sa-a-de-jã.
               go-TRS-OTH.PST.N.ASS-REP
               'You (M)/ he takes, it is said.'

There are many similarities between the *-i* verb and non *-i* verb subject agreement morphemes in the past tense. The subject agreement suffixes for past tense non-assertive *-i* verbs all contain the same vowel as their non *-i* verb counterparts. In the 'other' categories there are even more similarities, namely, the consonants *t* and *d* have the same place of articulation. The *-i* verb paradigm itself also seems to be very regular. All

the consonants are voiceless stops that cause the consonant *h* to appear in the coda position of the verb root. The table below presents an overview of all the non-assertive past tense subject agreement morphemes:

Table 5.8: The past tense subject agreement in questions & reports

Person/ number/ gender	Questions & Reports	
	Non *-i* verbs	*-i* verbs
2/3S.F	(sa)-o(-jã)	(sah)-ko(-jã)
2/3S.M	(sa)-ɨ(-jã)	(sah)-kɨ(-jã)
OTHER	(sa)-de(-jã)	(sah)-te(-jã)

5.2.3.1.3 Conjectural auxiliary verb constructions and *-i* verbs

There is one present tense main verb paradigm that differs from the others, namely, the conjectural non-assertive paradigm. The conjectural in Ecuadorian Siona is formed by an auxiliary verb construction consisting of the negation suffix *-a* and the auxiliary verb *ba'ije*, as discussed in subsection 5.2.1.[115] There is no distinction between the subject agreement morphology that is used with *-i* verbs and non *-i* verbs. The reason for this is that the auxiliary verb *ba'ije* and not the main verb always carries the subject agreement morphology. This is illustrated in the examples below:

-i verb
(22) ị ạiña ba'i.
      ĩ-ɨ   ã-i-a   ba-'i-ɨ.
      DEM.PRX-CLS:ANIM.M   eat-IMPF-NEG   be-IMPF-2/3S.M.PRS.N.ASS
      'He is eating, I conjecture.' (20110325elicr001.003).

non *-i* verb
(23) ị cuëa ba'i.
      ĩ-ɨ   kʷɨ-a   ba-'i-ɨ.
      DEM.PRX-CLS:ANIM.M   take.down-NEG   be-IMPF-2/3S.M.PRS.N.ASS
      'He is taking (it) down, I conjecture.' (20110325elicr001.007).

The examples in (22) and (23) show that the subject agreement suffixes are similar for *-i* verbs and non *-i* verbs in that the subject agreement

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[115] The semantics and pragmatics of the conjectural auxiliary verb construction are discussed in chapter 6, in subsection 6.2.3.

morpheme is applied to the auxiliary verb *ba'ije* 'to be' and not to the main verbs *ãije* 'to eat' and *kʷije* 'to take down.'

There are differences, however, between the present tense non-assertive subject agreement paradigm for conjectures and the one for questions and reports. In examples (22) and (23), it was shown that the second or third person singular masculine present tense suffix is *-ɨ* for conjectures.[116] This suffix does not apply to second or third person singular masculine present tense verbs inquestions and reports. In these, both *-i* verb and non *-i* verbs carry a *-kɨ* suffix.

In spite of this difference, there are phonological similarities among the suffixes found in conjectures and questions/ reports. Namely, the conjectural suffix *-ɨ* contains the same vowel as the suffix *-kɨ* that is found in questions and reports and it marks the same subject category, namely, second and third person singular masculine. There exists a similar regularity between the second or third person singular feminine suffixes for conjectures on the one hand, and questions and reports on the other:

Conjecture
(24) cua'coa ba'io
      kʷa'ko-a   ba-'i-o
      cook-NEG   be-IMPF-2/3S.F.PRS.N.ASS
      'She is cooking, I conjecture.'

Reportative
(25) cua'cocoña
      kʷa'ko-ko-jã
      cook-2/3S.F.PRS.N.ASS-REP
      'She is cooking, it is said.'

The second or third person singular feminine suffix for present tense is *-o* as shown in example (24), whereas its counterpart in questions and reportatives is *-ko* as illustrated in example (25).

The examples above show that there is a consistent difference between the second or third person singular subject agreement suffixes in conjectures and in questions and reports: the conjectural suffixes have an empty onset while the question and reportative suffixes have a *-k* onset. There is no difference between the non-second or third

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[116] This subject agreement suffix collides with the vowel [i] in the imperfective suffix *-i* as a consequence of a regular phonological process in the language, as described in chapter 3, subsection 3.5.1.

person singular subject agreement suffixes in conjectures and in questions and reports. The 'other' suffix is *-je* in both paradigms. An overview of all the present tense non-assertive suffixes for both *-i* verbs and non *-i* verbs is presented in the table below:

Table 5.9: Present subject agreement in non-assertive utterances for both *-i* verbs and non *-i* verbs

Person / number / gender	Questions and reports	Conjectures
2/3S.F	-ko	-o
2/3S.M	-kɨ	-ɨ
OTHER	-je	-je

Although there are some differences between the interrogative and reportative present tense paradigm and the conjectural paradigm as shown in table 5.9, I still refer to both paradigms as non-assertive. First of all, the organization of the interrogative and reportative paradigm is identical to the organization of the conjectural paradigm. Secondly, the discrepancies between the question and reportative paradigm and the conjectural paradigm are due to historical processes such as analogy and sound change.[117]

  The past tense *-i* verb morphology in non-assertive clauses is more homogeneous than the present tense morphology; the conjectural past tense morphology is identical to the past tense *-i* verb morphology in reports and questions. As in the case of the present tense, the past tense *-i* verb subject agreement paradigm can be extended to both *-i* verbs and non *-i* verbs.

Table 5.10: The past tense subject agreement in questions, reports and conjectures

Person/ number/ gender	Questions & Reports		Conjectures
	Non *-i* verbs	*-i* verbs	All verbs
2/3S.F	(sa)-o(-jã)	(sah)-ko(-jã)	(sa/sai)-a bah-ko
2/3S.M	(sa)-ɨ(-jã)	(sah)-kɨ(-jã)	(sa/sai)-a bah-kɨ
OTHER	(sa)-de(-jã)	(sah)-te(-jã)	(sa/sai)-a bah-te

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[117] These historical processes will be discussed in chapter 7.

5.2.3.2 Bound verbs

The final verb class that is discussed in this chapter consists of the bound copula -*a* and the bound future verb -*si*.[118] I will first discuss the copula and then the future verb. The copula -*a* is used in nominal predicates and is suffixed to the nominal part of the predicate, as illustrated below:

(26) b<u>ai</u> huë'ea'ë.
      bãĩ   wɨ'e-a-'ɨ.
      people house-COP-OTH.PRS.ASS
      'It's a people's house.' (20100701swicr001.020).

In example (26), the copula is used in combination with a simple nominal predicate consisting of the underived noun *wɨ'e* 'house'. This is not the most common use of the copula -*a*. It is used considerably more frequently in combination with nominalized verbs. These combinations are used to express habituality or ability, as in example (27) and (28):

(27) yë'ë t<u>o</u>noquëa'ë.
      jɨ'ɨ   tõno-kɨ-a-'ɨ
      1S   snore-NLZ.M-COP-OTH.PRS.ASS
      'I snore.' (Lit.: I am a snorer). (20110226elicr001.005).

(28) cuëquëabi.
      kʷɨ-kɨ-a-bi.
      swim-NLZ.M-COP-3S.M.PRS.ASS
      'He can swim.' (Lit.: He is a swimmer). (20110228elicr001.002).

The nominalized verbs *tõnokɨ* 'snorer' in example (27) and *kʷɨkɨ* 'swimmer' in example (28) refer to the agent of the action. These 'to be a V-er' contexts refer to the habits and abilities of the subject.
     There is a second frequent use of the copula -*a* in combination with the agentive nominalizer, where the nominalizer is preceded by the suffix -*hã'*. When combined with the copula, it is used to express a future event, as shown in example (29):

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[118] There are indications that the bound verb -*ma* 'negation' also belongs to the same verb class. However, I have not found instances of this bound verb in the environment of main verbs. Therefore it will not be discussed here.

(29)   yë'ë sani trabajaja̱'quëa'ë.
         jɨ'ɨ   sa-ni   trabaha-hã'-kɨ-a-'ɨ.
         1S   go-SS   work-PRP-NLZ.M-COP-OTH.PRS.ASS
         'I am going to go to work.' (20101119oispa001.147).

        There is a second frequent use of the copula *-a* in combination with the agentive nominalizer, where the nominalizer is preceded by the suffix *-hã'*. When combined with the copula, it is used to express a future event, as shown in example (29):

(29)   yë'ë sani trabajaja̱'quëa'ë.
         jɨ'ɨ   sa-ni   trabaha-hã'-kɨ-a-'ɨ.
         1S   go-SS   work-PRP-NLZ.M-COP-OTH.PRS.ASS
         'I am going to go to work.' (20101119oispa001.147).

As noted above, the most frequent use of the copula *-a* is in habitual and future assertions such as the ones in examples (27-29). The agreement morphology of this copula is slightly different from the agreement morphology of the other verb classes. In particular, it only has present tense morphology and it resembles past morphology in the non *-i* verb assertive paradigm; the present suffixes for third person singular feminine, *-o,* and for third person singular masculine, *-bi,* are the same as the past third person singular masculine and feminine suffixes found on non *-i* verbs. The present non-third person singular suffix *-'ɨ* is not found in the non *-i* verb past morphology, but it is reminiscent of the past tense of the *-i* verbs as the subject agreement segment of the suffix *-i'ɨ*. An overview of the present subject agreement suffixes is provided in table 5.10:

Table 5.10: Present agreement morphology for the copula in assertions

Person / number / gender	Suffixes
3S.F	-o
3S.M	-bi
OTHER	-'ɨ

Similarly to the other verb classes, the copula has a distinct subject agreement paradigm for questions. Example (30) below illustrates the use of the second or third person singular masculine suffix *–i* for this verb class.

(30) me yo'quë më'ë nëcaquëaë'ne?
      me   jo'-kɨ   mɨ'ɨ   nɨhka-kɨ-a-ɨ-'ne?
      how   do-S.M.PRS   2S   stand-NLZ.M-COP-2/3S.M.PRS.N.ASS-Q
      'Why are you standing (there)?' (20100913slicr002.012).

The complete non-assertive subject agreement paradigm for the bound verbs is presented in table 5.11:

Table 5.11: Present agreement morphology for the copula in questions

Person / number / gender	Suffixes
2/3S.F	-o
2/3S.M	-ɨ
OTHER	-je

Interestingly, this paradigm is identical to the present tense subject agreement paradigm for conjectural utterances.

In contrast to the other verb classes, the non-assertive paradigm presented above is not used for reportative and conjectural utterances. In the case of reportatives, the copula -*a* does not receive any subject agreement suffix; the reportative suffix -*jã* is directly attached to the copula. The nominalizer is the only reference to the subject in these contexts. This is illustrated in example (31):

(31) co'sime co'sijaico ba'icuaña.
      ko'si-me   ko'si-hai-ko   ba'i-ko-a-jã.
      shiny-CLS:FILIFORM shiny-VLZ-CLS:ANIM.F be-NLZ.F-COP-REP
      'It is very, very shiny, it is said.' (20100701swicr001.013).

The verb *ba'ikoajã* 'it is, it is said' in example (31) does not carry any subject agreement morphology. It can only be deduced from the singular feminine nominalizer that there is a singular subject. The singular feminine nominalizer can also be used for non-animate subjects such as in example (31).[119]

The non-assertive subject agreement morphology of bound verbs is not found in conjectural constructions either. The reason for this is a different one from that invoked for reportative constructions. In the case of conjecturals, it is due to the fact that they never occur with

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[119] Because the suffix -*ko* and its allomorphic variants are used throughout the language to refer to feminine entities, I analyze this nominalizer here as a feminine suffix as well. I do this despite the fact that it is used in this example to refer to an inanimate entity.

the copula *-a*. It is possible to form a habitual in combination with a conjectural construction, however, the copula *ba'i* 'to be' is used in these contexts, as shown in example (32):

(32)   më'ë cuëco ba'ia ba'io.
        mɨ'ɨ   kʷɨ-ko   ba-'i-a   ba-'i-o.
        2S   swim-NLZ.F be-IMPF-NEG be-IMPF-2/3S.F.PRS.N.ASS
        'You (F) can swim, I conjecture.' (20110325elicr001.019).

The subject agreement suffix *-o,* 'second or third person singular present tense non-assertive conjecture', is not an example of bound subject agreement morphology since it is not used with a bound verb. It is an instance of regular present tense conjectural morphology. The examples of habitual constructions in reportative and conjectural contexts illustrate that there is no non-assertive bound verb morphology for these contexts.

       The *-a* copula is only used in the present tense, as mentioned above. There is no past tense morphology for this verb class. If one wants to express a past, the verb *ba'i* 'to live, to be' is used just as in the case of the conjectural utterances. This past habitual construction is illustrated in example (33):

(33)   yë' ñicuë cuëquë baja'i.
        jɨ'   jĩhko-ɨ   kʷɨ-kɨ   ba-ha'i.
        1S   grandparent-CLS:ANIM.M swim-NLZ.M   be-3S.M.PST.ASS
        'My grandfather used to swim/ was able to swim.' (20110328elicr001.009).

The past habitual construction in example (33) contains the nominalized verb *kʷɨkɨ* 'swimmer.' Its more literal interpretation is 'my granddad was a swimmer.'

       The subject agreement morphology found on bound verbs is also attested with the bound future verb *-si*. This verb is mostly used in assertions with a first person subject and is more restricted in other contexts. The first person assertive use is illustrated in the example below:

(34)   yure ta̱si'i.
        jude   tãh-si-'i.
        now   sow-FUT-OTH.PRS.ASS
        'Now I am going to sow.' (20101119oispa001.083).

The subject agreement morpheme *-'ɨ* appears as *-'i* in combination with the verb *-si* as shown in example (34). This is due to progressive vowel assimilation. Under the influence of the stressed high front vowel, the vowel [ɨ] becomes a front vowel as well.[120] I have only found this future suffix *-si'i* for first person singular subjects.

Speakers usually prefer to use the purpose construction, which contains a nominalized verb and the copula *-a* to express future events for other persons. This was shown above in example (29). They only sporadically use the morphologically complex form *-sio* for third person singular feminine and the form *-sibi* for third person singular masculine to express future actions. This use is illustrated in examples (35) and (36):

(35) ñamina'a yë' mamaco cua'cosio.
      jãmina'a   jɨ'   mama-ko   kʷa'ko-si-o.
      tomorrow 1S   child-CLS:ANIM.F   cook-FUT-3S.F.PRS.ASS
      'Tomorrow my daughter will cook.' (20110226elicr001.036).

(36) ñaminata̠'a̠ sasibi reunión.
      jãmina-tã'ã̠   sah-si-bi   *reunion*.
      tomorrow-CNTEXP go-FUT-3S.M.PRS.N.ASS   meeting.
      'Tomorrow he   will/can   go   to   the   meeting.'
      (20100920elicr001.025).

The bound verb *-si* is also occasionally used in questions with second and third person singular subjects. The same non-assertive morphology is used as in questions with the copula *-a*. This use of subject agreement morphology is presented in examples (37) and (38):

(37) dutasio?
      duhta-si-o?
      take.out-FUT-2/3S.F.PRS.ASS
      'Are   you   (F)   /   is   she   going   to   take   (it)   out?'
      (20110328elicr001.038).

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[120] This assimilation process is described in more detail in chapter 3, subsection 3.5.2.

(38) dutasi?
      duhta-si-ɨ?
      take.out-FUT-2/3S.M.PRS.ASS
      'Are you (M) / is he going to take (it) out?'
      (20110328elicr001.039).

The subject agreement suffix that is found in second or third person singular feminine questions is *-o*, as illustrated in (37). The subject agreement suffix for second or third person masculine forms is *-ɨ*. However, this suffix is not overtly attested in the language due to the process of vowel coalescence.[121] The 'other' non-assertive subject morpheme *-je* is not attested for the future verb *–si* and speakers do not accept the form *-sije* as grammatical.

5.2.4 The imperative and the hortative

Ecuadorian Siona has another variety of main clause verb morphology, used for imperatives and hortatives. The imperative is represented by the suffix *-hɨ̃'ɨ̃* and the hortative by the suffix *-jũ'ũ*. These main verb suffixes mark yet another clause type in the language: commands. An example of the use of these suffixes is provided below:

(39) paëjë̈'ë̈!
      paɨ-hɨ̃'ɨ̃!
      scare.off-IMP
      'Scare (it) off!' (20110326elicr001.014).

(40) Ñamina'a ñañu'u!
      jãmina'a   jã-jũ'ũ!
      tomorrow   see-HORT
      'Let's see (each other) tomorrow!' (20110830elicr001.118).

In example (39) the speaker uses the imperative form *paɨhɨ̃'ɨ̃* to order the addressee to scare off something. The speaker takes the authority to give orders, that is, the speaker is the deontic authority in these contexts.

The same can be said for the hortative sentence in example (40). The speaker is the deontic authority in this sentence as well. The difference between the imperative and the hortative is that the speaker

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[121] These are regular phonological processes that are described in the phonological sketch of Ecuadorian Siona in chapter 3, in subsection 3.5.1.

does not include her/himself in the directed party in the case of the imperative and she / he does in the case of hortative.[122]

5.3 Non-main verbs

There are various types of non-main verbs in Ecuadorian Siona, as shown in the introduction of this chapter. The language contains dependent verbs, nominalizations and serial verb constructions. These types of non-main verbs display a distinct usage and the dependent verbs and nominalizations also show some differences in morphology. The serial verb constructions do not have specific morphological material. The use and morphology of the dependent verbs will be described in subsection 5.3.1 and of the nominalizations in 5.3.2. I will address the usage of serial verb constructions in subsection 5.3.3.

5.3.1 Dependent verbs

A very common non-main verb type in Ecuadorian Siona is the dependent verb. Dependent verbs mark switch-reference and are used for clause-chaining purposes. This is cross-linguistically not uncommon:

> Marking switch-reference is often associated with clause-chaining. In clause chains one clause can be considered 'main' in the sense that it bears all tense, aspect, and mood specifications. Other clauses are dependent: they can be marked for person of the subject and the tense relative to that of the main clause. (Aikhenvald, 2012, p. 339).

The Ecuadorian Siona dependent verbs function as described by Aikhenvald in the quotation above. This type of verb is very frequent in the language; most sentences contain at least one dependent verb.

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[122] Aikhenvald (2010, pp. 4-5) treats the second person imperative as the 'canonical' imperative and the first and third person imperatives as 'non-canonical.' She states (p. 4) that for some languages, such as the Tungusic language Evenki and the Papuan language Una, "treating imperative as one paradigm for all the persons is the most appropriate decision" (Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4)(Aikhenvald, 2010, p. 4). I believe a similar conclusion can be drawn for the Ecuadorian Siona imperative and hortative.

I refer to these verbs as dependent verbs because they are syntactically dependent on the main verb without being subordinate. In other words, these verbs depend on the main verb for their anchoring to speech time, but semantically they are not subordinate to main verbs. This is also not cross-linguistically uncommon for dependent verbs in clause chaining constructions (Aikhenvald, 2012, p. 339). The observation that the dependent verbs are not subordinate to the main verb is based on occurrences of dependent verbs such as the one in the example below:

(41) yë'ë ñacona saja'i.
      jɨ'ɨ   jã-ko-na   sa-ha'i.
      1S   see-S.F.PRS-DS   go-3S.M.PST.ASS
      'I saw that he left.' (Lit. I saw (him) and he left).
      (20110325elicr001.054).

The dependent verb *jãkona* '(I) saw' in (41) is syntactically dependent on the main verb *saha'i* '(he) left' because it cannot appear alone. The main verb anchors the two actions described in the example on the timeline before the moment of speech.

The two actions in example (41) are, however, two semantically independent actions as indicated by the literal interpretation. The example expresses the action of the speaker seeing a male person leave. In many other languages, the action of leaving would be presented as the complement of the action of seeing. In English, one would say, for instance, 'I saw that he left' or 'I saw him leave'. In the former case, the subordinate clause 'that he left' is the complement of the main clause 'I saw.' In Ecuadorian Siona, however, the action of leaving is not presented as the complement of the action of seeing as shown in example (41). Because the action of leaving is the final verb in the sentence, it is the main verb and the action of seeing is expressed by an independent verb. It is most clearly comparable to English 'He left, I saw'.

Dependent verbs in Ecuadorian Siona are used in order to express various actions. This is illustrated in the example below:

(42)   jaë bo̱së ñocua neni dani sereni cua'coni cuenani i̱ ñocua oyaquë ba̱'quëña.

hã-ɨ		bõsɨ	jõhkʷa	ne-ni
DEM.DST-CLS:ANIM.M		young.man	chambira	make-SS

da-ni	sede-ni	kʷa'ko-ni	kʷena-ni	ĩ-ɨ
bring-SS	peel-SS	cook-SS	dry-SS	DEM.PRX-CLS:ANIM.M

jõhkʷa	oja-kɨ	ba-~'-kɨ-jã.
chambira	roll-NLZ.M	be-REM.PST-2/3S.M.PRS.N.ASS-REP

'The young man made 'chambira,' he brought (it), stripped (it), cooked (it) and rolled the 'chambira.'' [123] (20100913slicr001.002).

The dependent verbs in example (42) describe a series of successive actions. The actions referred to maintain their semantic independence. The main verb phrase *ojakɨ bã'kɨjã* 'he was rolling' is not more important than the dependent verbs; it is just the last action in a series of actions. The series of dependent verbs is only syntactically dependent on the main verb *bã'kɨjã* 'he was,' which places the whole series of events in the remote past.

As mentioned above, dependent verbs are marked for switch-reference and most dependent verbs contain a portmanteau morpheme that marks subject agreement and tense, similarly to the subject agreement morphology on main verbs. Another similarity between the morphology of main and dependent verbs is that the verb classes have distinct subject agreement paradigms in both cases. In subsection 5.3.1.1, I will discuss the switch-reference marking. In subsection 5.3.1.2, I will explain the organization of the subject agreement paradigms. In subsection 5.3.1.3, I will describe the use of the different tense suffixes and show the differences between present tense and past tense morphology. Finally, I will discuss the differences between the subject agreement morphology in the distinct verb classes in subsection 5.3.1.4.

5.3.1.1 Switch-reference

The switch-reference system in Ecuadorian Siona is used for reference tracking. Hearers can determine the identity of the subject by means of this system. Every dependent verb is marked to indicate whether there

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[123] The Latin name for *chambira* is *Astrocaryum chambira*. It is a palm tree found in the Amazonian region that is used to make threads for knotting bags and hammocks.

is a switch in the subject ('different subject,' DS) or not ('same subject,' SS). This is illustrated in the example below:

(43)   go'ini ñajĕna yohuë hue'sere huahuaëña.
        go'i-ni   jã-hɨ-na   jo-wɨ   we'se-de.
        return-SS   see-PL.PRS-DS   canoe-CLS:CONTAIN   outside-OBJ
        wawa-ɨ-jã.
        float-2/3S.M.PST.N.ASS-REP
        'They came back and saw that the canoe was floating outside (the harbor).' (20100907slicr002.008).

Example (43) shows two dependent verbs: *go'ini* 'they came back' and *jãhɨna* 'they saw.' The first verb *go'ini* contains the SS suffix *-ni*. This indicates that the subject of this verb is the same as the subject of the next verb *jãhɨna*. This verb *jãhɨna* features the DS marker *-na*. This suffix indicates that the subject of this verb is different than the subject of the next verb, *wawaɨjã* 'it was floating' in this instance.

It is important to note that the reference point for the switch-reference marker is the verb that follows the switch-reference form, which is not necessarily the main verb in the sentence. Thus, in the case of SS marking, the subject of the verb is the same as the one of the next verb. This is illustrated in example (43). The dependent verb *go'ini* 'they came back' shows up with the same subject marker *-ni*, although its subject is different from the subject of the main verb *wawaɨjã* 'it was floating.' The SS marker *-ni* indicates the switch-reference relation between *go'ini* and the following verb *jãhɨna* 'they saw,' which have the same subject.

When a dependent verb employs DS marking it has a subject that is different from that of the next verb. This is illustrated in the first example of this chapter, repeated here as (44):

(44) më'ë bë̩ïñona yë'ë aiyodojaiyona yë're oicobi ico nego'yaona yë'ë
      ba'iyë.
      mɨ'ɨ   bĩ-i-o-na   jɨ'ɨ
      2S   be.mean-IMPF-S.F.PRS-DS   1S
      aijo-doha-i-o-na   jɨ'-de   o-i-ko-bi
      suffer-wander-IMPF-S.F.PRS-DS   1S-OBJ   cry-IMPF-NOM.F-SBJ
      ih-ko   ne-go'ja-o-na   jɨ'ɨ
      DEM.PRX-CLS:ANIM.F   do-cure-S.F.PRS-DS   1S
      ba-'i-jɨ.
      live-IMPF-OTH.PRS.ASS.
      'You were mean and I was suffering, but she took pity on me and
      she cured me and I am alive.' (20110328slicr002.017).

The dependent verb *aijodohaiona* 'I was suffering' in example (44)
contains the DS marker *-na*, although it has the same subject as the main
verb *ba'ijɨ* 'I am alive.' This is because the DS marker does not
necessarily show a switch-reference relation between the dependent
verb and the main verb. It shows a switch-reference relation between
the dependent verb and the following verb, which is *nego'jaonã* 'she
cured' in this case. This verb has a subject that is different from that of
the verb *aijodohaiona*. It means that both the SS and the DS marker take
the next verb as a reference point. If the verb that follows the dependent
verb has the same subject as the dependent verb, then an SS is used. If it
has a different subject, a DS marker is used.[124]

5.3.1.2 The organization of the subject agreement morphology

Most dependent verbs display subject agreement morphology just like
main verbs. The difference between main clause verb morphology and
dependent verb morphology is found in the organization of the
paradigm. Dependent verb subject agreement does not make any person
distinction, only gender and number are marked. Gender is only
differentiated for singular subjects: *-ko* for singular feminine subjects

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[124] This type of system in which the switch-reference marking depends on the
anticipated subject of next verb is not always considered to be the canonical
switch-reference. For instance, Aikhenvald (2012, p. 339) considers 'canonical
switch-reference' to be: "a category of the verb of the dependent clause
indicating whether the subject is the same as that of the main clause, or
whether it is different." However, it is typologically not uncommon (Haiman,
1983; Lynch, 1983).

and *-kɨ* for singular masculine subjects. The plural subject agreement suffix for dependent verbs is *-hɨ* regardless of the gender of the subject.

In contrast to main verb paradigms, first person singular subjects do not show the same agreement as plural subjects; they display singular subject agreement depending on the gender of the speaker. The examples below show that all dependent verbs with a singular masculine subject display subject agreement with the *-kɨ* suffix irrespective of its person:

First person
(45) yë'ë nequëna ñajë̈'ë̈.
 ̱   jɨ'ɨ   ne-kɨ-na   jã-hɨ̃'ɨ̃.
       1S   make-S.M.PRS-DS   see-IMP
       'See how I make (money).' (20101119oispa001.113).

Second person
(46) më'ë hua'i neñe ba̱quëna më' dë̈jo̱ bë̈i̱ñona më' yo'dojaiquë?
       mɨ'ɨ   wa'i   ne-je   bã-kɨ-na   mɨ'   dɨ̈hõ
       2S   meat   make-INF   NEG.COP-S.M.PRS-DS   2S   wife
       bɨ̃-i-o-na   mɨ'ɨ   jo'-doha-i-kɨ?
       be.angry-IMPF-S.F.PRS-DS   2S   do-wander-IMPF-2/3S.M.PRS.N.ASS
       'You are walking around here, because your wife got mad, because you don't hunt anything?' (20100913slicr002.018).

Third person
(47) i̱bi ja'ruquëna tsoe hue̱sico baquëña.
       ĩ-ɨ-bi   ha'ru-kɨ-na   zoe
       DEM.PRX-CLS:ANIM.M-SBJ   sit-S.M.PRS-DS time
       we-sih-ko   bah-kɨ-jã.
       be.tied.up-CMPL-NLZ.F   be-2/3S.M.PST.N.ASS-REP
       'He sat and it was already tied up.' (20100913slicr001.011).

The dependent verb *nekɨna* 'make' in example (45) has a first person subject, the dependent verb phrase *wa'i neje bãkɨna* 'do not hunt' in example (46) has a second person subject, and the dependent verb *ha'rukɨna* 'sit' in example (47) has a third person subject. Despite the differences in person, all the verbs are marked with the singular masculine agreement suffix *-kɨ*.

The subject agreement paradigm of dependent verbs is the same for SS and DS-marked verbs in the present tense. The only difference between SS and DS-marked verbs is that the clauses featuring different

subjects have the switch-reference marker *-na*. The SS-marked verbs do not have any additional morphology following the subject agreement suffix. The use of the same agreement suffixes for SS and DS clauses is illustrated below:

Same subject
(48)   caëna mamajëmaña siwajë a̱o̱ nea bia sareña.
        ka-ɨ-na   mama-hɨ-mah-jã   siwa-hɨ
        say-S.M.PST-DS   child-CLS:COL-DIM-PL   brighten.up-PL.PRS
        ãõ   nea   bia   sa-de-jã.
        cassava   black   pepper take-OTH.PST.N.ASS-REP
        'When he had said (that) the children brightened up and they took cassava and black pepper.' (20101123slicr001.024).

Different subjects
(49)   du̱ri neni o̱cuajëna gueëña.
        dũdi   ne-ni   õhkʷa-hɨ-na
        'dũri'   make-SS   give.to.drink-PL.PRS-DS
        gʷe-ɨ-jã.
        refuse-2/3S.M.PST.N.ASS-REP
        'They made 'dũri'[125] and they gave (it) to him to drink, but he refused.' (20101123slicr001.006).

In example (48), the plural subject marker *-hɨ* is used to mark the subject of a SS dependent verb and in example (49) the same marker is used in a DS construction. An overview of the dependent subject agreement morphology organized according to gender and number is presented in table 5.12:

Table 5.12: Subject agreement suffixes for present tense dependent verbs from the non *-i* verb class

Number / gender	Suffixes
S.F	-ko(-na)
S.M	-kɨ(-na)
PL	-hɨ(-na)

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[125] *Dũri* or *chonduri* is a plant that is used in a medicinal drink that helps against anemia. It is given to the parents of a newborn or to girls who have their first menstruation.

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5.3.1.3 Relative tense

There are distinct dependent subject agreement paradigms for the past and present tense, just as in the case of main clause verb morphology. In the previous subsection, I provided an overview of the present tense suffixes that are used both in SS as in DS contexts. In the past tense, the portmanteau subject agreement suffixes are only used in DS contexts. As in the present tense, the DS morphology in the past tense consists of a number and gender suffix and the DS suffix -na:

(50)   airo sañu'u̱ carena bë'caquë ñajë̱ daojë̱'ë̱ caëna…
        ai-do   sa-jũ'ũ   ka-de-na   bɨ'ka-kɨ
        big-CLS:PLACE   go-HORT   say-PL.PST-DS   parent-CLS:ANIM.M
        jã-hɨ   dao-hɨ̃'ɨ̃   ka-ɨ-na…
        see-PL.PRS   wander-IMP   say-S.M.PST-DS
        'After they said: "Let's go to the forest," their father said: "Watch out while you go!"…' (20100907slicr002.004).

The dependent verbs *kadena* 'they said' and *kaɨna* 'he said' in example (50) contain the portmanteau suffixes *-de* (plural) and *-ɨ* (singular masculine), which both also mark past tense, and the DS suffix *-na*.

    In past SS contexts, there is only one suffix, *-ni*, which is used for all number and gender categories. This is illustrated in the example below:

(51)   huani daëna i̱ dëjo̱ soeni te'teni cua'coni mamajë̱re ao̱ña.
        wa-ni   da-ɨ-na   ĩ-ɨ   dɨ̃hõ
        kill-SS   bring-S.M.PST-DS   DEM.PRX-CLS:ANIM.M   wife
        soe-ni   te'te-ni kʷa'ko-ni   mama-hɨ-de
        pluck-SS   cut-SS   cook-SS child-CLS:COL-OBJ
        ãõ-o-jã.
        feed-2/3S.F.PST.N.ASS-REP
        'When he had killed (the game), he brought (it home) and his wife plucked (it), cut (it) to pieces and cooked (it) and gave (it) to eat to the children.' (20100913slicr003.006).

The first dependent verb in example (51) *wani* 'killed' has a third person masculine subject. This can partially be deduced from the fact that the following subject, *daɨna* 'he brought' has a singular masculine suffix *-ɨ*. The other past SS verbs in example (51) *soenĩ* 'plucked,' *te'tenĩ* 'cut into pieces' and *kʷa'konĩ* 'cooked' all have the third person singular feminine

subject *ĩ dĩhõ*[126] 'his wife.' This is particularly indicated by the fact that these verbs have the same subject as the following verb, which is *ãõjã* 'she cooked, they say.' Third person singular masculine subjects and third person singular feminine subjects display different suffixes in all subject agreement paradigms. However, there is no difference in the marking of SS in past dependent verbs, as (51) shows. An overview of the SS and DS morphology in the present and past tense is presented in table 5.13:

Table 5.13: The subject agreement suffixes for dependent verbs of the non *-i* verb class

Aspect	Gender / number	SS	DS
Present	S.F	-ko	-ko-na
	S.M	-kɨ	-kɨ-na
	PL	-hɨ	-hɨ-na
Past	S.F	-ni	-o-na
	S.M		-ɨ-na
	PL		-de-na

The portmanteau suffixes in the dependent paradigms are almost identical to the suffixes in the non-assertive paradigms. The present paradigms contain the forms *-ko* and *-kɨ* in the case of both the dependent verbs and the non-assertive verbs. The only suffix that is absent in the non-assertive paradigm is the plural suffix *-hɨ*. The past tense paradigms of the DS dependent verbs and the non-assertive verbs are identical; both paradigms contain the suffixes *-o*, *-ɨ* and *-de*. These suffixes, however, are distributed differently over person, number and gender in the two paradigms.

Tense does not function in the same way with dependent verbs as with main verbs. In the case of the dependent verbs, tense is relative, while it is not in the case of main verbs. Main verbs are marked for past tense when the event took place before the moment of speech. That means that the reference point is the moment of speech. The selection of tense in dependent verbs does not depend on the moment of speech. Rather, dependent verbs take the time frame of the next verb as a reference point. When the event described by the dependent verb occurs before the event described by the following verb, the dependent

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[126] The NP *ĩ dĩhõ* is represented as *ĩ-ɨ dĩhõ* in example (51). The former representation illustrates the phonological form of the words and the latter the underlying morphological structure.

verb has past tense morphology. When the dependent verb event occurs simultaneous to the event described by the following verb, the dependent verb has present tense morphology. This is illustrated in the examples below:

Present tense
(52)   yë'ë ñacona saja'i.
        jɨ'ɨ   jã-ko-na   sa-ha'i.
        1S   see-S.F.PRS-DS   go-3S.M.PST.ASS
        'I saw that he left.' (Lit. I saw (him) and he left).
        (20110325elicr001.054).

Past tense
(53)   yë'ë ñaona saja'i.
        jɨ'ɨ   jã-o-na   sa-ha'i.
        1S   see-S.F.PST-DS   go-3S.M.PST.ASS
        'I saw (him) and then he left.' (Lit. First I saw (him) and then he left). (20110325elicr001.055).

The present tense dependent verb *jãkona* 'saw' in example (41), which is repeated here above in (52), takes place in the present with respect to the following verb *saha'i* 'he left;' the actions occur simultaneously. The past tense verb *jãona* 'saw' in example (53) occurs in the past with respect to the following verb *saha'i* 'he left;' the action of seeing occurs before the action of going. This type of tense system occurring with dependent verbs can be analyzed as a relative tense system (see Whaley, 1997, pp. 209-210).

5.3.1.4 Verb classes

As in main clause verb morphology, dependent verb morphology displays different suffixes for the different verb classes. The dependent subject agreement morphology presented in the previous subsections belongs to the non *-i* verbs. The *-i* verbs show different subject agreement suffixes that are similar to the subject agreement suffixes found in the non-assertive paradigms. The present tense suffixes are illustrated in the examples below:

(54)   a.   saiona…
              sa-i-o-na…
              go-IMPF-S.F.PRS-DS
              'I (F) / you (F) go / she goes…'

      b.   saina…
              sa-i-ɨ-na…
              go-IMPF-S.M.PRS-DS
              'I (M) / you (M) go / he goes…'

      c.   saijëna…
              sa-i-hɨ-na…
              go-IMPF-PL.PRS-DS
              'We / you (PL) / they go…'

The present tense feminine and masculine singular *-i* verb suffixes *-o* and *-ɨ*[127] in examples (54a-b) are identical to the past tense feminine and masculine singular non *-i* verb suffixes. A similar phenomenon occurs in the case of the non-assertive conjectural subject agreement morphology. The present tense paradigm for conjectural utterances shows *-i* verb morphology that is very similar to the past tense morphology for non *-i* verbs.

      The *-i* verb plural marker *-hɨ* is identical to the plural marker that is used with non *-i* verbs. However, there is dialectal variation with respect to plural marking on dependent *-i* verbs. Only in Puerto Bolívar Siona is the form *-hɨ* used to mark plural subjects. In the Siona spoken in Sototsiaya, the plural marker for plural *-i* verb in the present tense is *-bɨ*:

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[127] The suffix *-i* is mostly not overtly, because it fuses with the preceding vowel [i]. This regular phonological process of coalescence in Ecuadorian Siona is described in chapter 3, in subsection 3.5.1. There is a trace of the present tense dependent suffix *-i* when it is attached to an *-i* verb ending in the vowel [e]. This is illustrated in the example below:

(ii)   hueina…
        we-i-ɨ-na…
        lie.in.hammock-IMPF-S.M.PRS-DS
        'I (M) / you (M) / he is lying in a hammock…'

The imperfective suffix *-i* in example (ii) fuses with the vowel /e/ because of the regular process of coalescence in the language. Furthermore, the vowel /ɨ/ assimilates the vowel /e/ and becomes a front vowel [i]. Therefore, the vowel in /i/ in example (ii) is a trace of the singular masculine present tense suffix

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(55)   saibëna…
       sa-i-bɨ-na…
       go-IMPF-PL.PRS-DS
       'We / you (PL) / they go…'

It seems that the use of the form -hɨ with -i verbs in Puerto Bolívar Siona is an innovation in the language. Sototsiaya Siona is considered to be more conservative by the Siona people.

The past tense dependent subject agreement suffixes of the -i verbs are all identical to the past non-assertive suffixes of the -i verbs: -ko, -kɨ and -te. The dependent suffixes are preceded by the -i verb root that ends in a glottal fricative h, as in the case of the non-assertive past -i verbs. This is illustrated for the feminine form:

(56)   sacona…
       sah-ko-na…
       go-S.F.PST-DS
       'I (F) / you (F) go / she went…'

The dependent verb *sahkona* can be characterized by its verb root ending in *h* and the lack of the vowel *-i,* just as in all other past contexts. The past tense *-i* verb suffixes are only used when the subject is different from the subject of the following verb. As in the case of the non *-i* verbs, same subject past verbs are marked with the suffix *-ni*:

(57)   sani trabajajë̱'ë̱.
       sa-ni   trabaha-hɨ̃'ɨ̱.
       go-SS   work-IMP
       'Go and work!' (20101119oispa001.148).

When the suffix *-ni* is used with an *-i* verb, such as the verb *saije* 'to go' as shown in example (57), it is attached to the bare verb root. The imperative suffix *-i* is absent,[128] just as in other past tense contexts. The

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[128] The vowel of the verb root *sa* is lengthened ([sa:]) in order to satisfy the bimoraic stem constraint. See chapter 3, subsection 3.2.2 for more information on the bimoraic stem constraint and chapter 7, subsection 7.4.3.1 for more information on the influence of the bimoraic stem constraint in the *-i* verb morphology.

dependent paradigms discussed in this subsection are presented in table 5.14 below:[129]

Table 5.14: The subject agreement suffixes for dependent verbs

Tense	Num-ber / gender	SS		DS	
		Non -*i* verbs	-*i* verbs	Non -*i* verbs	-*i* verbs
PRS	S.F	-ko	-o	-ko-na	-o-na
	S.M	-kɨ	-ɨ	-kɨ-na	-ɨ-na
	PL	-hɨ	-hɨ /-bɨ	-hɨ-na	-hɨ /-bɨ-na
PST	S.F	-ni		-o-na	-ko-na
	S.M			-ɨ-na	-kɨ-na
	PL			-de-na	-te-na

5.3.2 Nominalizations

The second type of non-main verb that is frequently used in Ecuadorian Siona is the nominalized verb. In chapter 4, section 4.2, it was already shown that the nominal classifiers -*ko* for feminine and -*kɨ* for masculine can be used to nominalize verbs. In particular, these classifiers are used to form an agentive nominalization. This is illustrated in the example below:

(58)   ñu'iquëbi caëña…
        jũ-'i-kɨ-bi   ka-ɨ-jã…
        sit-IMPF-NLZ.M-SBJ   say-2/3S.M.PST.N.ASS-REP
        'The one who was sitting said…' (20101123slicr001.055).

The nominalized verb *jũ'ikɨbi* 'the one who was sitting' in example (58) refers to the agent of the verb: the male person who is sitting.

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[129] The bound verbs -*a* (copula) and -*si* (future verb) are not used in dependent verb constructions. Therefore, it seems that there is no separate subject agreement paradigm for dependent bound verbs. Nevertheless, the bound verb -*ma'* (negation) shows a different subject agreement pattern than the non -*i* verbs and -*i* verbs in dependent contexts. This bound verb displays present tense subject agreement suffixes for singular feminine and masculine subjects that are identical to -*i* verb present tense suffixes; they both have the suffixes -*o* and -*ɨ*. The difference between the -*i* verb forms and the bound verb forms is the presence of the vowel -*i*; the bound verbs do not contain a vowel -*i* in present tense. This can be observed in the examples: *sewoma'o* 'without answering' and *ko'ema'ɨ* 'without searching.'

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The nominal classifiers *-ko* 'feminine' and *-kɨ* 'masculine' that are used to nominalize verbs are identical in form to the feminine and masculine dependent suffixes. Nevertheless, it is possible to distinguish nominalizations from dependent verbs. One way to make this distinction is to pay attention to the case marking that is usually found on nominalizations and never on dependent verbs. The use of a case suffix on a nominalization is illustrated in example (58), where the nominalized verb *jũ'ikɨbi* contains the subject suffix *-bi*.

A second way to distinguish nominalizations from dependent verbs is through plural marking. Dependent verbs have a separate plural marker, *-hɨ* / *-bɨ*. In nominalizations, the nominal plural suffix *-wa'i* is added to the feminine classifier *-ko* in order to express that there is a plural agent. This distinction is illustrated in (59):

(59)   a.   u̠cujë…
               ũhku-hɨ…
               drink-PL.PRS
               'we / you (PL) / they are / were drinking…'
       b.   u̠cucua'i…
               ũhku-ko-wa'i…
               drink-CLS:ANIM.F-PL.ANIM
               'The ones that drink / the shamans'

Example (59) shows that plural subjects display different marking in dependent verbs and in nominalizations. The combination of the suffixes *-ko* and *-wa'i*, which is used for nominalizations with plural agents, is reduced to *-kʷa'i*.

A third way to distinguish nominalizations form dependent verbs is by means of the *-i* verb stem that is used. Nominalized *-i* verbs employ the infinitival stem that contains the imperfective suffix *-i*, as shown in example (58). The nominalized verb *jũ'ĩkɨbi* displays the *-i* stem *jũ'ĩ* in this example. Dependent *-i* verbs either have different morphology or they show a different stem. This distinction is illustrated in the examples below:

Nominalization
(60)   saiquë
        sa-i-kɨ
        go-IMPF-CLS:ANIM.M
        'The one who goes / went.'

Dependent verb

(61) a.   sai
              sa-i-ɨ
              go-IMPF-S.M.PRS
              'When I / you (S) go / he goes.'

      b.   saquë
              sah-kɨ
              go-S.M.PST
              'When I / you (S) / he went.'

The nominalization *saikɨ* 'the one who goes / went' in example (60) has a stem that contains the imperfective suffix *-i* and the classifier *-kɨ*. The dependent verb counterpart in present tense in example (61a) shows an *-i* stem as well, but it has a different subject agreement suffix *-ɨ*. The dependent verb counterpart in past tense in example (59b) shows the same agreement suffix *-kɨ*, but it has a different verb stem *sah*.

      An overview of the classifiers that function as agentive nominalizers is presented in the table below:

Table 5.15: The classifiers that function as agentive nominalizers

Person/Gender	Suffixes
S.F	-ko
S.M	-kɨ
PL	-kʷ a'i

The classifiers presented in table 5.15 are not necessarily attached to a verb stem. They often follow the modal or aspectual suffixes: *-hã'* 'purpose,' *-ma'* 'negation' and *-sih* 'completive.' The use of the modal suffix *-hã'* is illustrated in the example below:

(62)   ja͜ëhua'ija͜'re coͩni iͭño ëͭmëtoayohuë gajeja͜'core ma'a jëocaë'ë.
        hã-ɨ-wa'i-hã'de   kõ-ni ĩhjõ
        DEM.DST-CLS:ANIM.M-PL-COM   help-SS here
        ĩmɨ-toa-jo-wɨ   gahe-hã'-ko-de
        high-fire-canoe-CLS:CONTAIN   descend-PRP-CLS:ANIM.F-OBJ
        ma'a   hɨo-ka-ɨ'ɨ.
        path   clear-BEN-OTH.PST-ASS
        'We accompanied them here, we helped (them) to clear the path where the plane would land.' (20100630srocr001.004).

The nominalized verb *gahehã'kode* 'where (the plane) would land' refers to the purpose of the clearing: so that the plane would land there. The purpose suffix *-hã'* is always followed by a nominalizing classifier in Ecuadorian Siona. This construction in combination with the copula *-a*, as shown in subsection 5.2.3.2 in example (29), is the most common way to express a future action.

A second suffix that can precede the nominalizing classifiers is the suffixed negation verb *-ma'*. An example of this construction is presented in the example below:

(63)   cuëma'quë baja'i yë' ñicuë.
         kʷɨ-ma'-kɨ   ba-ha'i   jɨ'
         swim-NEG-CLS:ANIM.M be-3S.M.PST.N.ASS   1S
         jĩhkʷ-ɨ.
         grandparent-CLS:ANIM.M
         'My granddad couldn't swim.' (Lit. My granddad was a non-swimmer.' (20110328slicr001.010).

The nominalized verb *kʷɨma'kɨ* 'the one who does not swim' refers to the quality of not being a swimmer. The negation suffix *-ma'* is regularly employed with non-main verbs in Ecuadorian Siona.

The final suffix that often precedes the nominalizing classifiers is the completive suffix *-sih*. The main function of this suffix is providing aspectual modification to the verb. A secondary function of this suffix can be a shift from agentive nominalization to nominalization of another object. Examples of the use of the suffix *-sih* with and without this shift are presented below:

Agentive
(64)   saisicua'ibi yohuë ayamëni sateña.
         sa-i-sih-kʷa'i-bi   jo-wɨ   aja-mɨ-ni
         go-IMPF-CMPL-CLS:ANIM.PL-SBJ canoe-CLS:CONTAIN   fill-ascend-SS
         sah-te-jã.
         go-OTH.PST.N.ASS-REP
         'The ones who left got into the canoe and left.' (20100907slicr002.004).

Non-agentive
(65)   yë' waisicua'ire je̱a̱goaye ba̱jë'ë̱.
        ji̱'ɨ   wai-sih-kʷa'i-de   hẽã-goa-je   bã-hɨ̃ɨ̃̃.
        1S   kill-CMPL-CLS:ANIM.PL-OBJ throw.away-just-INF   NEG.COP-IMP
        'Don't just throw the ones (animals) that I have killed away.'
        (20100907slicr002.010).

The nominalized verbs *saisihkʷa'ibi* 'the ones that had left' in example
(64) and *waisihkʷa'ire* 'the ones that (I) have killed' in example (65)
both refer to completed actions. The difference between these
nominalizations lies in the reference to the argument in the nominalized
action. The nominalization *saisihkʷa'ibi* in example (64) refers to the
agent of the action, the people that left. In this case, the plural
classifier *-kʷa'i* functions as a regular agentive nominalizer. The
nominalization *waisihkʷa'ire* in example (65) refers to the patient of the
action, the animals that were killed. The function of the classifier *-kʷa'i*
in this example deviates from the regular agentive nominalization
function. The agent can be co-referenced with a pronoun or a noun, the
latter as shown in example (63). The variation in reference of the
general classifiers *-ko*, *-kɨ* and *-kʷa'i* is only found in constructions with
the completive suffix *-sih*.

There are also some nominalizing suffixes that do not perform
agentive nominalization: *-se'e* 'object,' *-je* 'non-completed action,' *-dɨ̃* 'a
long ago completed action' and *-to* 'circumstantial.' At least three of
these four nominalizing suffixes are nominal classifiers: *-je* is used as a
general classifier; *-d* is a classifier of time, and *-to* is a classifier of place.
The function of these classifiers as nominalizing suffixes is closely
related to their functions in other contexts.

The nominalizing suffix *-se'e* does not seem to have a currently
existing classifying counterpart in Ecuadorian Siona.[130] The suffix is used
to refer to the objects of completed actions. This is illustrated in the
example below:

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[130] The suffix *-se'e* is found as a nominal classifier in Ecuadorian Secoya
(Schwarz, 2011). However, the function of this classifier does not seem related
to the function of the nominalizer *-se'e*. The classifier is used to refer to objects
that are made to fix something (Schwarz, 2011, p. 4). Because of the difference
in function, I consider these suffixes to be homophones.

(66)   sai hua'i sëyose'e ĩ dëjo̠ quë'ro saëña.

        sa-i-ɨ   wa'i   sɨjo-se'e   ĩ-ɨ

        go-IMPF-S.M.PRS meat   smoke-NLZ.PST DEM.PRX-CLS:ANIM.M

        dɨ̃hõ-kɨ'-do   sa-ɨ-jã.

        wife-POSS-CLS:PLACE   take-2/3S.M.PST.N.ASS-REP

        'While he was going, he took the smoked fish to where his wife

        was.' (20100913slicr002.022).

The nominalized verb *sɨjose'e* 'the smoked thing' refers to the object of the action of smoking. Since the function and form of the suffix *-se'e* are very similar to the function and the form of the suffix *-sih*, it is possible that these two suffixes have the same origin.

    The second nominalizing suffix discussed here is the general classifier *-je*. Its function as a general classifier in non-verbal contexts includes the reference to any type of noun class, animate or inanimate. In a verbal context, this classifier has a general function as well. When the suffix is attached to a verb, the combination forms a deverbal noun that refers to an action in general. This action can be referred to as an argument in the sentence. This is a function that is portrayed by the infinitive in many languages including English, as the translation of example (67) shows:

(67)   de'oji ë̠në mëtoye.

        de'o-hi   ĩnɨ   mɨhto-je.

        be.good-3S.M.PRS.ASS   peach.palm   peel-CLS:GEN

        'It is nice to peel peach palm. (20110328elicr001.044).

In (67), the nominalized verb *mɨhtoje* 'to peel' functions as the subject of the main verb *de'ohi* 'it is good.' The use of this general classifier *-je* as marking the argument of a verb is not very common. The suffix *-je* is more commonly used in periphrastic constructions. Periphrastic constructions containing a nominalized verb ending in *-je* can express negation and deontic modality:

Negation

(68)   hue'eye ba̠jë'ë̠.

        we'e-je   bã-hɨ̃ɨ̃.

        carry-CLS:GEN   NEG.COP-IMP

        'Don't carry (it)!' (20100907slicr001.005).

Deontic modality

(69)   jaë̄bi tsoaye ba'iji.
       hã-ɨ-bi   zoa-je   ba-'i-hi.
       DEM.DST-CLS:ANIM.M-SBJ wash-CLS:GEN   be-IMPF-3S.M.PRS.ASS
       'He has to wash (something).' (Lit. There is (the obligation) that
       he washes) (20120912elicr007.020).

The nominalized verb *we'eje* 'to carry' in example (68) is used in a
periphrastic construction that expresses negation. The periphrastic
construction *zoaje ba'ihi* 'has to wash' in example (69) is a deontic
modal construction. Because of the general character of the suffix *-je*, the
subject of these nominalized verbs can be of any person, number or
gender.
       The nominalizing classifier *-dɨ̃* refers to time periods in non-
verbal contexts. Its use in verbal contexts has a very similar
interpretation. It refers to a period in the past in which an event took
place. This is illustrated in the example below:

(70)   ja'quëmaca i̠ ja̠ bo̠'së ba'idë̠ yëquë ba̠'huë'ë̠.
       ha'-kɨ-mahka   ĩ-ɨ   hã   bõ'sɨ
       parent-CLS:ANIM.M-DIM DEM.PRX-CLS:ANIM.M still   young
       ba-'i-dɨ̃   jɨhkɨ   ba-~'-wɨ'ɨ.
       be-IMPF-CLS:TIME   1PL.EXCL   be-REM.PST-OTH.PST.N.ASS
       'We   were   (there)   when   daddy   was   still   young.'
       (20100630slicr001.014).

The form *ba'idɨ̃* containing the suffix *-dɨ̃* in example (70) is used to refer
to a period in the past during which the father of the speaker was still
young. This function is very close to the function in non-verbal contexts.
       The nominalizing classifier *-to*, which refers to a location in non-
verbal contexts, also has a similar function in verbal contexts. In these
contexts, the suffix can be used to refer to a specific place or it can refer
to more general circumstances. This is illustrated in the examples below:

Place

(71) i̱o saima'tona etasicobi huë'e ti̱taco…
      ĩ-o   sa-i-ma'-to-na
      DEM.DST-CLS:ANIM.F   go-IMPF-NEG-CLS:PLACE-GOAL
      ehta-sih-ko-bi   wɨ'e   tĩhta-ko…
      come.out-CMPL-CLS:ANIM.F-SBJ   house   arrive-S.F.PRS
      'The one who came out arrived home to a place she had not gone
      to…' (20100907slicr001.011).

Circumstances

(72) de'oto trabajada'wë.
      de'o-to   trabaha-da'-wɨ.
      be.good-CLS:PLACE   work-CTF-OTH.PST.ASS
      'If they had been healthy, they would have worked.'
      (20101119oispa001.123).

In example (71), the nominalized verb *saima'tona* 'to the place where
(she) did not go' refers to a place. The nominalized verb *de'oto* 'if (they)
would have been healthy' refers to more general circumstances of being
healthy. Because of its more general function of referring to hypothetical
circumstances, the suffix *-to* is often used as the conditional marker in
conditional utterances such as the one in (72). This use derives from the
locative function of this suffix. An overview of the general classifiers
with their functions in verbal and non-verbal functions is provided in
table 5.16 below:

Table 5.16: General classifiers and their functions in functions in verbal
and non-verbal contexts

Suffix	Verbal contexts	Non-verbal contexts
-ko	(singular) feminine agentive	feminine animate
-kɨ	(singular) masculine agentive	masculine animate
-se'e	object of a completed action	–––
-je	infinitive	general
-dɨ̌	time period in the past	time period
-to	• place • circumstances	place

5.3.3 Serial verb constructions

The third category of non-main verbs that I discuss in Ecuadorian Siona are serialized verbs. Serial verb constructions in the language consist of two verbs that are compounded to form a single predicate.[131] These serialized verbs are understood as simultaneous actions:

(73)   ja̠ro jaicoreba ju'ata̠oco.
         hã-do,   hai-ko-deba
         DEM.DST-CLS:PLACE   big-CLS:ANIM.F-INTENS
         hu'a-tã-o-ko.
         push-fall-CAUS-3S.F.PRS.ASS
         'Watch out, the very huge (girl) will push (you) and make (you) fall.' (20110328slicr001.003).

The serial verb construction *hu'atãoko* in example (73) consists of two verbs *hu'aje* 'to push' and *tãoje* 'to make fall' that happen at the same time. These constructions are common in the language.

Serial verb constructions may also have been the source of some grammatical markers in the language. Some serial verb constructions no longer express two simultaneous actions. Rather, they contain a bound verbal root that has undergone grammaticalization. An example of such a bound root is presented below:

(74)   ñoja̠'a̠ tëcadojahuë.
         jõ-hã'ã   tɨhka-doha-wɨ.
         here-PATH   cut-PROG-OTH.PST.ASS.
         'They have been cutting (leaves) around here.'
         (20101123slicr001.037).

The construction *tɨhkadohawɨ* 'they have been cutting leaves' in example (74) consists of the verb *tɨhkaje* 'to cut' and *dohaje*[132] 'to wander around.' The latter verb has undergone semantic bleaching and is used here to mark the progressive aspect of the action. There is phonological support for the argument that the root *doha* has not acquired the status of a suffix. As discussed in chapter 3 subsection 3.4.1.2.1, the laryngealized

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[131] I use the Aikhenvald's (2006, p. 55) definition of serial verb constructions (SVC): "a grammatical technique whereby two or more verbs form one predicate."

[132] This verb itself is probably the result of a verb serialization as well. It consists of a verb stem *do* which is related to the verb stem *dao* 'to go around' and the verb root *ha* that has meanings related to 'go' in many contexts.

stop /t̪/, <d>, is realized as /t̪/ and as /ɾ/ in suffixes. The morpheme *doha* is realized as /t̪oha/ and therefore can be best analyzed as a bound root.

5.4 The semantics of the verb classes

The question remains as to why there are three verb classes that behave differently with respect to their subject agreement and tense marking in Ecuadorian Siona. The *-i* verb class has been attested throughout the Western branch of the Tukanoan language family, although this class has been analyzed in different ways. Some authors have analyzed the *-i* verbs as a set of irregular verbs. Cook and Criswell (1993, pp. 53-55) describe this verb class in Koreguaje as a set of verbs with a variable root that contains a vowel *-i* in some contexts but not in others. Velie (1975, pp. 25-26), Velie and Velie (1981, pp. 123-125), and Michael (2012a), in more recent analyses, describe Máíhɨ̀kì as a language that contains regular and irregular verbs. The *-i* verbs, or the *ni-class* in Michael's (2012a, pp. 2-3) analysis, are viewed as irregular verbs.

Other authors have analyzed the *-i* verbs as a semantically motivated distinct verb class. Some have analyzed the imperfective suffix *-i* in Western Tukanoan languages as a valency change marker. According to Wheeler (1987b, pp. 144-147) and Johnson and Levinsohn (1990, pp. 58-60), the suffix *-i* marks the middle voice in Colombian Siona and Ecuadorian Sekoya, respectively,. Farmer (2011), providing a careful analysis of the Máíhɨ̀kì verb morphology, observes that verbs from the *-i* class in the language often have a lower degree of transitivity than non *-i* verbs. It therefore seems possible that voice plays a role in the assignment of verb class in Ecuadorian Siona. I will discuss the middle voice analysis of the *-i* verbs in subsection 5.4.1. I will also provide an alternative analysis for the difference between *-i* verbs, non *-i* verbs and bound verbs that is partially based on prosodic properties of the verbs in subsection 5.4.2.

5.4.1 The *-i* as a middle voice marker?

There are various arguments supporting the analysis of the *-i* class verbs in the Western Tukanoan languages as middle verbs. The first argument is that many of the frequently occurring *-i* verbs are intransitive, including all of the ones mentioned above: *ba'ije* 'to live / to be', *saije* 'to go' and *daije* 'to come.' Other typical examples are *hũije* 'to die,' *mɨije* 'to ascend' and *wɨije* 'to fly.'

The second and more important argument is that many *-i* verbs have non *-i* verb counterparts that are transitive or causative. The transitive counterparts contain the derivational suffix *-a*, and the causative counterparts the derivational suffix *-o*. Some examples of *-i* verbs and their transitive and causative counterparts are presented below:

(75) a. a̱iñe
          ã-i-je
          eat-IMPF-INF
          'to eat'
      b. a̱o̱ñe
          ã-o-je
          eat-CAUS-INF
          'to feed'

(76) a. mëiñe
          mɨ-i-je
          ascend-IMPF-INF
          'to ascend'
      b. mëañe
          mɨ-a-je
          ascend-TRS-INF
          'to take up something'
      c. mëoñe
          mɨ-o-je
          ascend-CAUS-INF
          'to make someone ascend'

(77) a. saiye
          sa-i-je
          go-IMPF-INF
          'to go'
      b. saye
          sa-a-je
          go-TRS-INF
          'to take'
      c. saoye
          sa-o-je
          go-CAUS-INF
          'to let something / someone go, to send'

Examples (75-77) illustrate that the derivational suffixes *-a* and *-o* are used to increase the valency of the verbs. The suffix *-a* transforms an intransitive verb into a transitive verb, and the suffix *-o* transforms a verb into a causative verb. These derivational suffixes seem to replace the *-i* that occurs in the non-transitivized and non-causativized verbs presented in (75a-77a). Therefore, the marker *-i* seems to be a third derivational suffix that is used to mark the middle quality of the non-transitivized and non-causativized *-i* verbs.

However, there are counterarguments to the middle analysis of the *-i* verb class as well. The first counterargument is that not all verbs with a lower degree of transitivity are part of the *-i* verb class. Two examples of intransitive verbs and their transitive or causative counterparts are presented below:

(78)   a.   cuᶒeñe
                kʷẽne-je
                dry.oneself-INF
                'To dry oneself'
        b.   cuᶒeñae
                kʷẽn-a-je
                dry.oneself-TRS-INF
                'To dry something / someone'

(79)   a.   jëyëye
                hɨjɨ-je
                break-INF
                'to break (intransitive)'
        b.   jëyoye
                hɨj-o-je
                break-CAUS-INF
                'to break something'

The examples (78a-79a) show that the suffix *-i* is not necessarily used to mark the intransitivity of verbs. The transitivity of the verbs cannot be due to the presence or absence of *-i*. Even though *kʷẽneje* 'to dry oneself' and *hɨjɨje* 'to break' have a transitive and a causative counterpart, respectively, the verbs do not have any 'middle' marker in order to signal that the intransitive variants of the verb are used.

The second counterargument to the middle analysis is that not all *-i* verbs display a low degree of transitivity. The *-i* verb class includes transitive verbs as well, such as the verbs *ãije* 'to eat,' *huije* 'hit with an

arrow' and *waije* 'to kill.' All three verbs can have overt direct objects, as illustrated below for the verb *waije*:

(80)   Amo se'sere huaja'i.
          Amo   sẽ'se-de   wa-ha'i.
          Amo   wild.boar-OBJ   kill-3S.M.PST.ASS
          'Amo killed wild boar.' (20110830elicr001.062).

The verb *waha'i* 'he killed' in example (80) does not differ in behavior from non -*i* class transitive verbs, apart from its -*i* verb morphology. The verb can appear, just as any other transitive verb, in combination with a fully marked direct object, *sẽ'sede* 'wild boar' in (80).

    The third counterargument is that various -*i* verbs do not have a transitive or a causative counterpart. If the vowel -*i* were to be analyzed as a middle voice marker, one would expect that the suffix -*i* derives middle stems from unmarked verb roots. Yet, various -*i* verbs do not have any type of counterpart, be it unmarked, transitive or causative. Examples of such verbs without counterparts are *hẽje* 'to cross,' *hũije* 'to die,' *kɨ̃'ije* 'to dig,' *kũ'ije* 'to bite,' *sẽje* 'to ask' and *waije* 'to kill.'

    An even stronger argument can be formulated with respect to the lack of counterparts for the -*i* verbs. The -*i* verbs seem to represent the underived forms of a specific set of verbs, because not one of them has an unmarked counterpart without the -*i* marker. For instance, the verbs *miije* 'to ascend,' *miaje* 'to take up' and *mioje* 'to make someone ascend' lack an unmarked counterpart that does not contain one of the markers -*i*, -*a* or -*o*. It seems that the transitive and causative counterparts of the -*i* verb class are derived versions of these -*i* verbs, since these verbs contain the transitive suffix -*a* or causative suffix -*o*. The -*i* does therefore not seem to be a middle voice derivational suffix.

    Further evidence for the underived status of -*i* verbs is that unmarked verbs do not have a counterpart marked with the vowel -*i*. By the term 'unmarked verbs,' I refer to those verbs that do not contain the markers -*i*, -*a* or -*o* in their stems. Examples of such unmarked verbs are *hɨjije* 'to break,' *je'jeje* 'to learn' and *ũhkuje* 'to drink.' These verbs do not have an -*i* verb counterpart. This suggests that the marker -*i* does not have a derivational function at this stage in the language. Table 5.17[133]

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[133] This table was inspired by the voice tables in which Wheeler (1987b, pp. 144-147) and Johnson and Levinsohn (1990, pp. 58-60) present the middle voice, the active voice, and the causative voice in Colombian Siona and Ecuadorian Secoya, respectively. Just like these authors, I analyze the verbs *baje* 'to have', *daje* 'to bring' and *saje* 'to take' as a combination of the unmarked

provides an overview of various *-i* verbs and their transitive and causative counterparts, if they have any. It also shows that unmarked verbs can have a causative or transitive derivation but lack an *-i* verb counterpart.

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verbs ending in the vowel /a/ and the transitive suffix *-a*. One indication that this is the best analysis is that the verbs all contain the long vowel [a:]. A second indication is that the transitive suffix *-a* overtly appears on stems that do not end in the vowel *a*, as the verb *mɨaje* 'to take something up' shows.

Table 5.17: A non-exhaustive overview of verbs and their 'valency changing' morphology.

-i	-Ø	-a	-o
daije 'to come'		daje 'to bring'	daoje[134] 'to wander around'
mɨije 'to ascend'		mɨaje 'to take something up'	mɨoje 'to make someone ascend'
saije 'to go'		saje 'to take'	saoje 'to let go / to send'
ba'ije 'to be / to live'		baje 'to have'	
ãije 'to eat'			ãoje 'to feed'
tuije 'to sit on top of something'			tɨoje 'to put something on top of something'
weje 'to lie down in a hammock'			weoje 'to lay someone down in a hammock'
wɨije 'to get up / to fly'			wɨoje 'to wake up / to start'
hũije 'to die'			
kũ'ije 'to bite'			
waije 'to kill'			
	kʷẽneje 'to dry'	kʷẽnaje 'to dry something'	
	ũhkuje 'to drink'	õhkʷaje 'to give someone something to drink'	
	je'jeje 'to learn'	je'jaje 'to teach'	
	hɨjɨije 'to break'		hɨjoje 'to break something'

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[134] The verb *daoje* 'to wander around' has shifted in meaning. It does not have a causative meaning anymore.

Table 5.17 shows that *-i* verbs do not have an unmarked counterpart and that unmarked verbs do not have an *-i* verb counterpart. This suggests that the *-i* verbs are the underived verb forms of this set of verbs and that the vowel *-i* is not a valency changing derivational suffix.

A final counterargument for the middle voice analysis of the suffix *-i* is that the vowel *-i* is absent from another category of derived verb stems, a category which does not involve valency change. This concerns a non-productive reduplication process in Ecuadorian Siona that derives repetitive actions from *-i* verbs. These actions can either be carried out by one person repeatedly or by various people simultaneously. In the examples below, the *-i* verbs are presented with their attested reduplicated forms:

(81) a. du'iye
          du-'i-je
          sink-IMPF-INF
          'to sink'

      b. dutuye
          duh~tu-je
          sink~REPET-INF
          'to sink (PL), to sink repeatedly'

(82) a. ju̱'i̱ñe
          hũ-'i-je
          die-IMPF-INF
          'to die'

      b. ju̱ju̱ñe
          hũ~hũ-je
          die~REPET-INF
          'to die (PL)'

(83) a. tuiye
          tu-i-je
          be.on.top-IMPF-INF
          'to be on top of something'

      b. tutuye
          tuh~tu-je
          be.on.top~REPET-INF
          'to be on top of something (PL)'

(84) a. ta̱i̱ñe
          tã-i-je
          fall-IMPF-INF
          'to fall'

      c. ta̱taye
          tãh~ta-je
          fall~REPET-INF
          'to fall various times, to fall (PL)'

Examples (81b-84b) illustrate the reduplicated forms of the *-i* verbs presented in (81a-84a). The root of the *-i* verb is reduplicated in this derivational process. It undergoes minor phonological changes in some instances. For instance, the laryngealized consonant /t̪/, <d> in the verb root *du* 'to sink' loses its laryngealization in the reduplicated form *duhtu*

'to sink (PL), to sink repeatedly', and the vowel /ã/ in the root *tã* 'to fall' loses its nasal quality in the reduplicated form *tãhta* 'to fall various times, to fall (PL).' Another peculiarity is that the underlying glottal fricative /h/ surfaces in the coda of the root of these reduplicated forms. This process of preaspiration occurs in many past tense forms of *-i* verbs, as shown in subsections 5.2.3.1.2 and 5.3.1.4.

Despite these minor phonological changes, the reduplicated verb stems are easily recognizable derivations of the *-i* verb roots presented above. Crucially, during the derivation process, the valency of these verbs does not change. The reduplicated verbs cannot control more arguments than the underived *-i* verbs. Only the lexical aspect of reduplicated verbs changes: the reduplicated verbs represent repetitive or plural actions. Because the underived *-i* stems do not exhibit a lower degree of valency than their reduplicated counterparts that do not contain the marker *-i*, this marker does not seem to be a valency changing suffix, suggesting that it should not be analyzed as a middle voice marker.

In the previous paragraphs, I have provided various counterarguments to the middle voice analysis of the *-i* verbs. Although these counterarguments do not completely rule out a middle voice analysis, they do show that the marker *-i* is not needed for the lowering of the degree of transitivity of a verb. Therefore, I do not analyze the suffix *-i* as a middle voice marking suffix. In my analysis, it is an imperfective suffix that only occurs with the *-i* verb class, as discussed in 5.2.3.1.1. In the following subsection, I argue that prosody is the main motivation for the existence of a separate class of *-i* verbs. In this analysis, the lower degree of transitivity that is often found with *-i* verbs is a mere side effect of a prosodic phenomenon in Ecuadorian Siona.

5.4.2 The *-i* verbs as underived monomoraic verb roots

In the previous subsection, I have shown that a semantically motivated analysis for the use of the marker *-i* on the basis of valency change is weak for Ecuadorian Siona. Rather, the prosodic structure of the language seems to provide a motivation for some of the differences in behavior between verbs of the *-i* class and non *-i* class verbs. The first indication that the motivation for the existence of different verb classes is prosodic is that all *-i* verb stems have either a CVV or a CV'V structure. The final vowel in these stems is always an /i/, except for the cases in which it fuses with the previous vowel. Non *-i* verbs, on the other hand, can have various structures: CVV, CV'V, CVhCV, CV'CV and CVCV. Farmer

(2011, p. 4) makes a similar observation for *-i* verbs in Máíhɨ̀kì. According to this author, the *-i* verbs have an exclusive CVV shape in the language. Non *-i* verbs do not have this restriction with respect to their shape, they occur as CVV or as CVCV.

      The second indication that the behavior of *-i* verbs can be explained on the basis of prosodic properties is that *-i* verbs do not always show a bimoraic stem. In the present tense and in infinitival contexts, the vowel *-i* fills the second mora of the *-i* verb stems. This is shown in the example below:

(85)   a.

σ   σ   σ

μ   μ   μ

b a ʔ i h i

ba-'i-hi
be-IMPF-3S.M.PRS.ASS
'He is.'

b.

σ   σ

μ μ   μ

s a i h i

sa-i-hi
go-IMPF-3S.M.PRS.ASS
'He goes.'
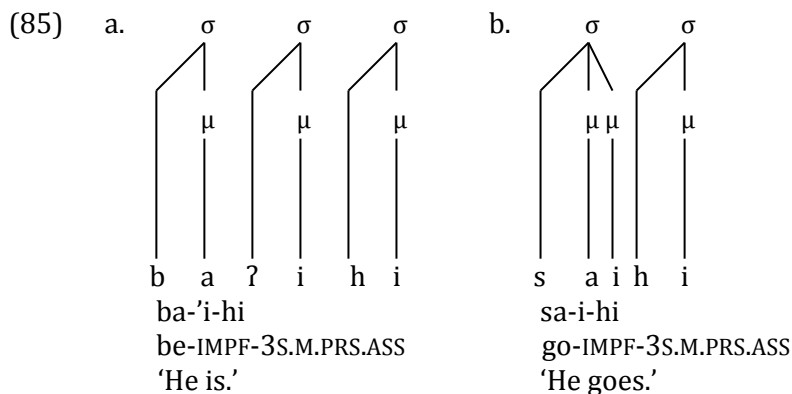
The depiction in (85a) illustrates that the monomoraic verbal root *ba* 'to be' forms a bimoraic stem in combination with the imperfective suffix *-'i*. The same holds for the combination of the verb root *sa* 'to go' with the imperfective allomorph *-i* in (85b). Example (85) shows that the bimoraic stem constraint is satisfied for *-i* verbs in present tense thanks to the imperfective suffix. The phonological constraint of Ecuadorian Siona entails that all stems need to be bimoraic, as discussed in the phonological sketch in chapter 3, subsection 3.2.2.

      In the past tense, the *-i* verb roots do not satisfy the bimoraic stem constraint by themselves. The monomoraic roots of the *-i* verbs, such as *ba* 'to be' and *sa* 'to go,' are used in past tense contexts without the imperfective suffix *-i*. The vowels in these verb roots are not lengthened in order to obtain a bimoraic structure, unlike the long vowels that are found in non *-i* verbs such as [kaa] 'to say' and [jãã] 'to see.' Therefore, *-i* verbs seem to violate the bimoraic stem constraint in the past tense. Interestingly, the subject agreement morphology is used to complete the bimoraic structure of the stem in the past tense. This is illustrated in the example below:

(86) a.
```
        σ           σ
       /|          /|
      / μ         / μ
     /  |        /  |
    b  a h      k   o
```
bah-ko
be-3S.F.PST.N.ASS
'Is she?'

b.
```
        σ           σ
       /|          /|
      / μ         / μ
     /  |        /  |
    s  a h      k   o
```
sah-ko
go-3S.F.PRS.N.ASS
'Does she go?'
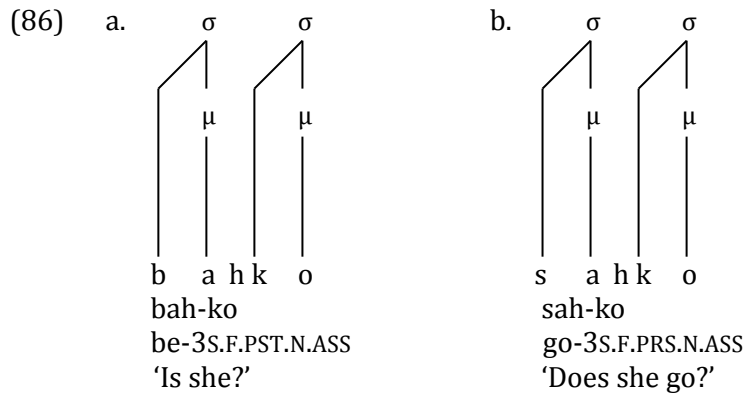
The vowel of the inflectional suffix *-ko* fills the second mora of the mandatory bimoraic structure in examples (86a-b).

The incorporation of subject agreement morphology may seem unexpected, because this type of morphology is not incorporated into the stem in any other context in Ecuadorian Siona. Nevertheless, there is evidence for this incorporation from the phonological shape of the inflected *-i* verbs in the past tense. In this context, a glottal fricative [h] emerges in coda position of the root before voiceless stops such as */k/* or /t/. This phonological process is found, for instance, in the past tense forms *sahko'ɨ* 'she went,' *sahkijã* 'he went, it is said' and *sahtejã* 'I / we / you (PL) / they went, it is said.' The use of a coda [h] before voiceless consonants is much more common in roots and stems in Ecuadorian Siona than in inflectional morphology. Roots that show this phenomenon are, for instance, *bahku* 'pomfret fish sp.,' *ohko* 'water, to rain' and *wahti* 'bad spirit.' Examples of stems that illustrate this phenomenon are the reduplicated stems *duh~tu* 'to sink (PL), to sink repeatedly,' *tuh~tu* 'to be on top of something (PL)' and *tãh~ta* 'to fall various times, to fall (PL).'

Evidence for the fact that the use of a glottal fricative in coda position is a root/ stem phenomenon is even stronger in Eastern Tukanoan languages. As Stenzel (2007, pp. 355-356) shows, in the Eastern Tukanoan languages that have preaspiration, for example Tukano, Desano, and Wanano, the glottal fricative is restricted to the internal consonant in the root. In these languages, preaspiration does not occur with inflectional morphology. This could suggest that preaspiration is a root/ stem phenomenon throughout the language family. The fact that this stem property occurs in past tense *-i* verb

forms suggests that the past subject agreement suffixes are phonologically incorporated onto the verb stem, which satisfies the bimoraic stem constraint in the language.

The incorporation of subject agreement morphology onto the stem of the *-i* verbs is one process in Ecuadorian Siona that shows that *-i* verbs have underived monomoraic verb roots that need further morphology in order to complete the mandatory bimoraic stem structure. The use of the imperfective suffix *-i* in present and infinitival contexts is another phenomenon that strongly supports this analysis of *-i* verbs. There is additional evidence for the analysis from a third phenomenon in the language, namely, the insertion of an epenthetic syllable *-ti*. This insertion occurs before the counterfactual suffix *–da'*, which is used when an event could have happened, but did not. This function is illustrated in the example below:

(87)   më'ni huani a̱nita̱'a̱ ju̱iñe ba̱da'huë.
       mɨ'-ni wa-ni ã-ni-tã'ã   hũ-i-je   bã-da'-wɨ.
       2S-OBJ kill-SS eat-SS-CNTEXP die-IMPF-INF NEG.COP-CTF-OTH.PST.ASS
       'I would have killed and eaten you and I would not be dying myself.' (20101123slicr001.064).

The sentence in example (87) is an utterance from a traditional story in which a cannibal complains to his wife that he is dying because of her. If she had shown up earlier he could have eaten her and he would not have died by eating parts of himself. The speaker uses a counterfactual in combination with the action of not dying, because his not dying was possible but it did not happen.

When non *-i* verbs are combined with the counterfactual suffix *-da'*, they do not show any stem changes. The negative copula *bãje* in example (87), for instance, displays its regular invariable stem *bã* [p̪ã:] in combination with the counterfactual suffix. The *-i* verb class shows a different behavior in combination with the suffix *-da'*. The epenthetic syllable *-ti* is inserted before this suffix when it is combined with an *-i* verb:

(88)   a.   a̱tida'huë.
              ãh-ti-da'-wɨ.
              eat-EP-CFT-OTH.PST.ASS
              'I / you (S)/ we / you (PL) / they would have eaten.'

b.   batida'huë.
       bah-ti-da'-wɨ.
       be-EP-CFT-OTH.PST.ASS
       'I / you (S)/ we / you (PL) / they would have lived/been.'

c.   satida'huë.
       sah-ti-da'-wɨ.
       go-EP-CFT-OTH.PST.ASS
       'I / you (S)/ we / you (PL) / they would have gone.'

All verb stems that precede the suffix *-da'* in example (88) contain the epenthetic suffix *-ti*. This suffix is inserted in order to satisfy the bimoraic stem constraint. The suffix *-da'* itself seems unable to carry out this prosodic function. It cannot be incorporated in the verb stem in the same way as subject agreement morphology can be incorporated in the verb stem in the past tense.

An explanation for this might be found in the origin of the counterfactual morpheme. In section 5.3.3, it was already suggested that some suffixes have origins in serial verb constructions. The counterfactual construction appears to have this origin as well; it is a bound root that has undergone semantic bleaching. An indication that *-da'* is a root morpheme is the pronunciation of the initial consonant. The initial consonant in the suffix *-da'* is mostly pronounced as a laryngealized stop [t̪], although it occurs in an intervocalic position. The phoneme /t̪/ is only pronounced as a laryngealized stop [t̪] in intervocalic position when it occurs in bound root morphemes. In other intervocalic positions, such as in root internal position or in the onset of a regular suffix, the consonant /t̪/ is realized as a flap [ɾ]. The phoneme is, therefore, not subject to the regular phonological processes accompanying suffixation.

Because of its bound root status, the counterfactual morpheme *-da'* cannot be integrated onto the verb stem. This is why the monomoraic *-i* verbs do not satisfy the bimoraic stem constraint when followed by the morpheme *-da'*. Therefore, the epenthetic suffix *-ti* needs to be inserted between the monomoraic root and the morpheme *-da'*.

The insertion of the epenthetic suffix *-ti* probably used to be more widespread than it is now in Ecuadorian Siona. Evidence for this claim can be found in two lexicalized serial verb constructions that are still used today. Both constructions involve the verb *bɨ̃ije* 'to be angry.' One of these constructions is presented in the example below:

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(89)   ñajujani dëjo̧ yureta̱'a̱ bëtihuëoña.
        jã-huha-ni   dɨ̃hõ   jude-tã'ã
        see-IN.VAIN-SS wife   now-CNTEXP
        bɨ̃h-ti-wɨo-o-jã.
        be.angry-EP-begin-2/3S.F.PST.N.ASS-REP
        'After watching (him) in vain, (his) wife became angry, it is said.'
        (20100913slicr002.003).

The serial verb construction *bɨ̃htiwɨojã* 'she became angry, it is said' in example (89) consists of the verb *bɨ̃ije* 'to be angry,' appearing in the *-ti* stem form, and the verb *wɨoje* 'to begin.' The other lexicalized serial verb construction that contains the *-ti* stem *bɨ̃hti* is *bɨ̃htijije* 'to become angry,' in which the verb *jije* 'to want' provides an inchoative interpretation. The use of the *-ti* stem is currently not grammatical outside of contexts with the counterfactual morpheme *-da'* and in these two lexicalized constructions.

        The fact that *–i* verbs are indeed found (although infrequently) with *-ti* stems in other contexts than the ones with the morpheme *-da'* suggests that the use of this stem may have been more common in the past. Further evidence for this claim is found in other Tukanoan languages. Various languages throughout the language family display verbs with variable verb stems. One is a monosyllabic form and another is a disyllabic form that has a suffix *-ti* or a cognate form as its second syllable. Examples of variable morphemes are presented below for the Eastern Tukanoan language Tatuyo (Gomez-Imbert, 2004, p. 60, the translation is mine):

(90)   a.   a-hú-pó.
                come-INFR-3F
                'She came, I infer.'
        b.   atí-~ké-hu-po.
                come-NEG-INFR-3F
                'She did not come, I infer.'
        c.   atí-~kéti-~koá-jú-pó.
                come-NEG-EMPH-INFR-3F
                'She *did not* come, I infer.'

In example (90), it is shown that both the verb *a/ atí* 'to come' and the negation *-ké/ -kéti* have variable stems in Tatuyo. The *-ti* stem seems to be more widespread in Tatuyo than in Ecuadorian Siona, because the Tatuyo *-ti* stem is used before various morphemes. The choice of the

stem form depends on the type of morphology that follows the stem. One similarity between the use of the syllable *-ti* in Tatuyo and Ecuadorian Siona is that it lacks a grammatical function in both languages. Cognates of this epenthetic syllable *-ti* are also found in Barasana (Gomez-Imbert, 2004, pp. 59-60), Desano[135] (Miller, 1999, p. 114), and Retuarã (Strom, 1992, pp. 15-19). The widespread occurrence of the epenthetic verbal suffix *-ti* in Eastern Tukanoan languages suggests that *-ti* may have been present in Proto-Tukanoan and in an older stage of Ecuadorian Siona as well. It also supports the idea that the *-ti* stem used to have a more extensive use in the language.

To summarize this subsection, the deviant behavior of the *-i* verbs can be explained on the basis of their monomoraic structure. These verbs need additional morphology in order to satisfy the bimoraic stem constraint. This additional morphology includes the imperfective suffix *-i* in present tense and infinitival contexts, the subject agreement morphology in past tense contexts and the suffix *-ti* before the bound counterfactual verb root *-da'*. It is possible that the epenthetic syllable *-ti* had a grammatical function at some stage, but there is no good synchronic evidence for this claim. Further research into the other Tukanoan languages will potentially provide new insights concerning the origin of the epenthetic syllable *-ti* and its historical semantics.

5.5 An overview of the Ecuadorian Siona main clause verb morphology

In the previous subsections, I have discussed the similarities and differences among main and dependent verb subject agreement paradigms. I have shown that there are semantic and prosodic motivations for the selection of a specific paradigm. The semantic motivations include the clause type (assertive, non-assertive or dependent) and the tense (present or past) of the expressed event. The prosodic factor that is important in the selection of subject agreement morphology is the monomoraic or bimoraic character of the verb. Additionally, historical changes seem to have obscured some of the semantic patterns that may have been present in earlier stages of the language.

Another important observation made in the previous subsections is that there is much regularity in the portmanteau suffixes that express subject agreement, tense and sentential force. For instance, the vowel *-o* is part of all suffixes that refer to feminine entities and the

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[135] The syllable *-ti* is described as part of the verb root, which does not seem to be variable in Desano (Miller, 1999, p. 114).

consonant *-k* is often found in the present tense. In this chapter, I have argued that although the regularity is not a coincidence, it is not possible to split the portmanteau suffixes into smaller suffixes that independently express subject agreement, tense, and sentential force. I explicitly do not analyze the vowel *-o* as a separate feminine marker or *-k* as a present tense marker. The main reason for this is that such analyses cannot be generalized to all uses of the vowel *-o* and the consonant *-k*. The vowel *-o* often shows a more specific use. For instance, in the assertive paradigms, it is found in third person singular contexts and it is not found in all feminine contexts or in non-assertive paradigms for second or third person singular. The consonant *-k* is not found in all present tense contexts; it is not found in the non-masculine and non-feminine forms.

Despite the fact that the regularities in the portmanteau suffixes cannot be used for splitting these suffixes into smaller morphemes, these regularities are highly important for the proper understanding of the development of the Ecuadorian Siona verbal system. This historical development is presented in chapter 7. An overview of the portmanteau suffixes that mostly express some type of subject agreement morphology is presented in the tables below:

Table 5.18: Subject agreement morphology in assertions

Tense	Person/ Gender/ Number	Assertions		
		Non *-i* verbs	*-i* verbs	bound verbs *-a* and *-si*
PRESENT	3S.F	-ko	-ko	-o
	3S.M	-hi	-hi	-bi
	OTHER	-jɨ	-jɨ	-'ɨ
PAST	3S.F	-o	-ko'ɨ	
	3S.M	-bi	-hV'i	
	OTHER	-wɨ	-ɨ'ɨ	

Table 5.19: Subject agreement morphology in non-assertions

Tense	Person/ Gender/ Number	Questions & Reports			Conjectures
		Non -*i* verbs	-*i* verbs	Bound verbs -*a* and -*si*[136]	All verbs
PRS	2/3S.F	-ko	-ko	-o	-a ba'i-o
	2/3S.M	-kɨ	-kɨ	-ɨ	-a ba'i-ɨ
	OTHER	-je	-je	-je	-a ba'i-je
PST	2/3S.F	-o	-ko		-a bah-ko
	2/3S.M	-ɨ	-kɨ		-a bah-kɨ
	OTHER	-de	-te		-a bah-te

Table 5.20: Subject agreement morphology in dependent verbs

Tense	Number/ gender	SS		DS	
		Non -*i* verbs	-*i* verbs	Non -*i* verbs	-*i* verbs
PRS	S.F	-ko	-o	-ko-na	-o-na
	S.M	-kɨ	-ɨ	-kɨ-na	-ɨ-na
	PL	-hɨ	-hɨ /-bɨ	-hɨ-na	-hɨ /-bɨ-na
PST	S.F	-ni		-o-na	-ko-na
	S.M			-ɨ-na	-kɨ-na
	PL			-de-na	-te-na

Table 5.21: Nominalizing morphology

Function	Suffix
singular feminine agentive	-ko
singular masculine agentive	-kɨ
plural agentive	-kʷa'i (-ko + -wa'i (PL))
object of a completed action	-se'e
infinitive	-je
time period in the past	-dɨ̃
place circumstances	-to

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[136] This morphology is only found for questions and not for reports.

Chapter 6: Evidentiality and clause types in Ecuadorian Siona

At first sight, the verb morphology system of Ecuadorian Siona, as presented in the examples below, may look like a simplified version of the Eastern Tukanoan evidentiality systems. Many languages of that branch of the family have four or five evidential markers: four in Desano (Miller, 1999, pp. 64-68), four in Tukano (Ramirez, 1997, pp. 119-143), five in Tuyuka (Barnes, 1984), five in Yurutí (Kinch & Kinch, 2000, p. 479). Instead, Ecuadorian Siona seems to have only three: assertive (1a), reportative (1b), and conjectural (1c).

(1) a. Yë' ja'quëbi cueje'i so̱quëñë.   (Assertive).
    Jɨ' ha'-kɨ-bi   kʷẽ-hẽ'i
    1S parent-CLS:M-SBJ take.down-3S.M.PST.ASS
    sõkɨ-jɨ̌.
    tree-CLS:ROOTS
    'My dad took down the tree.' (I vouch for it). (20110710eevpi1001.007).

  b.   Yë' ja'quëbi cue̠quëña so̱quëñë. (Reportative).
    Jɨ' ha'-kɨ-bi
    1S parent-CLS:M-SBJ
    kʷẽh-kɨ-jã   sõkɨ-jɨ̌.
    take.down-2/3S.M.PST.N.ASS-REP tree-CLS:ROOTS
    'My dad took down the tree.' (Someone told me). (20110710eevpi001.008).

  c. Yë' ja'quëbi cue̠a̠ baquë so̱quëñë. (Conjectural).
    Jɨ' ha'-kɨ-bi   kʷẽ-a
    1S parent-CLS:M-SBJ take.down-NEG
    bah-kɨ   sõkɨ-jɨ̌
    be-2/3S.M.PST.N.ASS tree-CLS:ROOTS
    'My dad took down the tree.' (I conjecture, because I see the tree stump). (20110710eevpi001.009).

Although Ecuadorian Siona does not express as many evidential options as some other Tukanoan languages, there are some remarkable similarities. For instance, Ecuadorian Siona expresses some types of evidentiality (reportativity and conjecture) by means of subject agreement morphology in combination with additional morphology. This fusion between subject agreement and evidentiality is very common in Eastern Tukanoan languages. Another similarity between

Ecuadorian Siona and Eastern Tukanoan subject agreement morphology is that it is not only fused with evidentiality, but also with tense.

Nevertheless, there are also some major differences: a) Ecuadorian Siona does not express direct evidentiality, b) the reportative and the conjectural construction share their subject agreement system with the interrogative, and c) conjecture is expressed by means of a negative polar question. These peculiarities of the Ecuadorian Siona system will be discussed in this chapter. First I will describe the semantics and pragmatics of the two main verb subject agreement systems, the assertive system, and the non-assertive system that were presented in the previous chapter. In section 6.1, I will address the semantics and the pragmatics of the assertive subject agreement paradigm; and in section 6.2, the semantics and the pragmatics of the non-assertive paradigms. Finally, in section 6.3, I will address the question whether the Ecuadorian Siona system can be analyzed as an evidential system, as similar systems have been in Eastern Tukanoan languages, or whether an alternative analysis for the Ecuadorian Siona system is more appropriate.

6.1 Assertive subject agreement morphology

The first subject agreement category in Ecuadorian Siona that I will discuss in this chapter is the assertive category. This category is the closest thing the language has to a direct evidential. It is often used when a speaker has either visual or other sensory evidence for the event.

However, I do not analyze this verb form as a direct evidential. As discussed in chapter 2, subsection 2.2.1, a direct evidential, in my analysis, is a form that is used if and only if the speaker has direct access to the information conveyed by the utterance. This direct access includes the observation of an event or the participation in it. When a morpheme or construction can be used when a speaker does not have direct access, I do not consider it to be a direct evidential form.[137] The assertive verb form in Ecuadorian Siona can be used when a speaker

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[137] I am aware that various linguists do not adapt such a strict definition of direct evidentiality. They analyze the use of direct or visual evidentials in contexts where the speaker is certain about her / his claim but does not have direct access to the information as an epistemic extension of the visual or direct evidential interpretation (See for instance Aikhenvald, 2004; Floyd, 1999; Valenzuela, 2003). However, since the visual or direct evidential interpretation is cancelable, I consider this interpretation to be an implicature of these forms (see below).

lacks direct access as I will show in this section. Therefore, I do not consider the assertive to be a direct evidential; I analyze this form as an assertive clause type that is used when the speaker asserts the information conveyed by the proposition, as discussed in chapter 2 in subsection 2.2.4. I will first discuss the connection between the Ecuadorian Siona assertive and direct evidentiality in subsection 6.1.1. However, I will argue in subsection 6.1.2 that the direct evidential interpretation of the assertive is only an implicature that can be cancelled.

6.1.1 The assertive and direct access

Many Tukanoan languages are described as having one or two direct evidentials. For instance, Kubeo has a general direct evidential (Morse & Maxwell, 1999). Makuna (Smothermon et al., 1995) and Tuyuka (Barnes, 1984) have two direct evidentials: a visual and non-visual evidential. So it would not be surprising if Ecuadorian Siona had a direct evidential as well. To some extent, the assertive category does seem to behave this way. This subject agreement paradigm is mostly used when the speaker has direct access to the information. For instance, it is used in this way in all the recordings of personal stories throughout the recording, as illustrated in example (2):

(2)   ñaëna yë'ëjẹ ịte ñahuẹ̈.
        jã-ɨ-na   jɨ'ɨ-hẽ   ĩ-ɨh-te
        see-S.M.PST-DS   1S-too   DEM.PRX-CLS:ANIM.M-OBJ
        jã-wɨ.
        see-OTH.PST.ASS
        'He saw me and then I saw him too.'   (20100925slicr001.011).

In example (2), the speaker uses an assertive form *jãwɨ* 'I saw' in this story about how she met her husband. The entire story is told using the assertive subject agreement paradigms.

        In traditional stories, however, the speakers predominantly use the reportative, which is typologically common (Aikhenvald, 2004, pp. 310-315). They only switch to an assertive form when they want to provide some background information that they know from personal experience, or when they give a direct speech report. Both of these switches are shown in the fragment of a traditional story below. The sentence examples form a continuous story. In (3a) the speaker uses a

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reportative form, switching to the assertive in (3b), and back to the reportative in (3c) and (3d):

(3)   a.   Huejani ba'iquëbi baëña mamaquëre.

Wẽha-ni   ba-'i-kɨ-bi   ba-ɨ-jã
marry-SS   be-IMPF-NLZ.M-SBJ   have-2/3S.M.PST.N.ASS-REP
mama-kɨ-de.
child-CLS:ANIM.M-OBJ
'After he got married, he lived and he had a son.'
(20101123slicr001.004).

b.   Baëna ba̠i i̠hua'i u̠cuye bayë ja du̠ri.

Ba-ɨ-na   bãĩ   ĩ-wa'i   õhku-je
have-S.M-DS   people DEM.PRX-PL   drink-INF
ba-jɨ   ha   dũri.
have-OTH.PRS.ASS   DEM.DST   'dũri'[138]
'After having it, the people, they have 'du̠ri' to drink.'
(20101123slicr001.005).

c.   Du̠ri neni o̠qüajëna goeëña.

Dũdi   ne-ni   õhku-a-hi-na
'dũri'   make-SS   drink-TRS-PL.PRS-DS
goe-ɨ-jã.
refuse-2/3S.M.PST.N.ASS-REP
They made 'dũri' and they gave it to him to drink, but he refused it. (20101123slicr001.006).

d.   Yë'ë cato u̠cuye ba̠ñë je yë' mamaquëni caëña.

Jɨ'ɨ   ka-to   õhku-je
1S   say-CLS:PLACE drink-INF
bã-jɨ   he   jɨ'
NEG.COP-OTH.PRS.ASS   DEM.DST   1S
mama-kɨ-ni   ka-ɨ-jã.
child-CLS:ANIM.M-OBJ say-2/3S.M.PST.N.ASS-REP
'"I am not going to drink because of my son," he said.'
(20101123slicr001.007).

Three of the five main verbs in example (3) above are reportative forms carrying the reportative suffix *-jã*: *baɨjã* 'he had' in (3a), *goeɨjã* 'he refused' in (3c), and *kaɨjã* 'he said' in (3d). The speaker uses an assertive form in two cases. In example (3b), the speaker uses the assertive form:

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[138] *Dũri* or *chonduri* is a traditional plant that is used in a medicinal drink that helps against anemia. It is given to the parents of a newborn or to a girl who has her first menstruation.

baji 'they have', implying that she has personal experience with this medicine 'dũri' that the Siona people have. These types of switches between assertive and reportative forms are not very common in traditional stories, but they are in conversations.

In example (3d), another assertive form is used: *ũhkuje bãji* 'I am not drinking'. This time the speaker switches to an assertive form because of the speech report. When speakers introduce a speech or thought report, they switch to the perspective of the reported speaker. The speaker reports that the reported speaker in (3d) is asserting that he is not drinking, and therefore, the speaker uses an assertive verb form. This is a result of the use of a direct speech report.

The assertive is the form that speakers will typically use, whenever they have direct evidence for a claim. Other verb forms are not felicitous, as is shown in the examples below:

(4)   Context: I see that it is raining out of the window

     a.   Ocoji.   (Assertive).
                 Ohko-hi.
                 rain-3S.M.PRS.ASS
                 'It is raining.' (I vouch for it). (20110402elicr001.003).

     b.   #Ocoquëña.   (Reportative).
                 #Ohko-kɨ-jã.
                 rain-2/3S.M.PRS.N.ASS-REP
                 'It is raining.' (Someone told me).
                 (20010402elicr001.001).

     c.   #Ocoa ba'i   (Conjectural).
                 #Ohko-a   ba-'i-ɨ.
                 rain-NEG   be-IMPF-2/3S.M.PRS.N.ASS
                 'It is raining.' (I conjecture, because I hear wind and thunder). (20110402elicr001.002).

When speakers have direct access to an event, they have to use an assertive form, as in example (4a). Both the reportative form in (4b) and the conjectural construction in (4c) are not felicitous in this context.

6.1.2 Direct access as a cancellable implicature

The examples in the section above show that there is a connection between direct access and the assertive form. However, the question, remains as to whether 'direct access' is part of the semantics of this verb form or whether it is just an implicature of the assertive nature of this

form. This implicature is based on the fact that when someone has direct access to an event, it is part of that person's knowledge. Therefore, she/he can easily claim epistemic authority over the information and vouch for its truth. In the case of the Ecuadorian Siona assertive, I am going to argue that this is the case, and that the direct evidential interpretation of the assertive is an implicature of its assertive semantics.

A first indication that the direct evidential interpretation of the assertive is an implicature of the assertive is that speakers do not always have direct evidence for the information in the sentence when they use an assertive verb form. For instance, in order to express generally known facts, speakers often use assertive verb morphology, as shown in example (5) below that emerged during elicitation.

(5)   Presidente Quitore ba'iji.
        Presidente   Quito-de   ba-'i-hi.
        President   Quito-OBJ   live-IMPF-3S.M.PRS.ASS
        'The president lives in Quito.' (20110328elicr001.021).

The speaker had never even seen the president's house in Quito on television, let alone in real life. However, because the place of residence of the president is a well-known fact and it is part of the speaker's knowledge, she uses an assertive form: she asserts that the president lives in Quito because she knows he does.

The assertive form can also be used in contexts where the speaker has not observed the event itself, but only its results.[139] The example below is from a traditional story about a woman who is lured to the forest by her husband under false pretences. He has told her that their children got lost in the forest when they were going to get her, while in fact he has eaten them and is planning to eat her as well. When they arrive at the forest, she finds the place where the children had been playing before he killed them and she says:

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[139] In languages with inferential evidentials, such contexts would require the use of this type of evidential.

(6)   (…) ja'o sehua ja'o tëtose'e ba'ina ñoja̠'a̠ tëcadojahuë cani (…)
        Ha'o   sewa   ha'o   tɨhto-se'e   ba-'i-ɨ-na
        leaf   palm   leaf   cut-NLZ.PST   be-IMPF-S.M.PRS-DS
        jõ-hã'ã   tɨhka-doha-wɨ   ka-ni (…)
        DEM.PRX-around   cut-go.around-OTH.PST.ASS   say-SS
        '(…) "There is cutting of leaves, of palm leaves, they have been
        going   around   cutting   leaves,"   she   said   (…).'
        (20101123slicr001.037).

In the example above, the speaker uses the assertive form *tɨhkadohawɨ*
'have been going around cutting' despite the fact that she did not
witness the cutting. She only sees the result of the cutting: the cut up
palm leafs. However, because of seeing the result, which does not leave
any doubt, she asserts that someone has been cutting palm leafs.
        A third example in which speakers use assertive morphology
without having direct evidence of an event is whenever it is used in
combination with the deontic modal construction: *-je* 'infinitive' + *ba'ihi*
'it is', like in example (7):

(7)   ja̠re ñamina'a coca caye ba'iji.
        hã-de   jãmina'a kohka ka-je   ba-'i-hi.
        DEM.DST-OBJ tomorrow word   speak-INF be-IMPF-3S.M.PRS.ASS
        'We have to talk about that tomorrow.'
        (conversation).

Whenever a speaker uses a deontic modal construction, as in example
(7), there is no concrete event to which the speaker can have direct
access. The example above is an utterance from a conversation in which
the participants talk about the village meeting the next day. The speaker
introduced some topics before this utterance, and then utters example
(7): 'we have to talk about that tomorrow.' There is, however, no
concrete direct evidence for the utterance that they should talk about
those topics. In this case the speaker is just asserting her opinion about
the topics for the next day.
        A final example in which assertive subject agreement suffixes
can be used when speakers do not have direct access to the information
expressed in the sentence is its use in future statements. The example
below is from a traditional story in which a man punishes his wife by
turning her into a frog, because she betrayed him. Right before the
punishment the wife asks him what she will eat. Example (8) is a direct
speech report of what he answers her.

(8)   mi'a macue më'ë a̲i̲ja̲'cua'ë.
        Mi'a   mahkʷe   mɨ'ɨ   ã-i-hã'-ko-a-'ɨ.
        type.of.fly   type.of.fly   2S   eat-IMPF-PRP-NOM.S.F-COP-OTH.ASS
        'You are going to eat different types of flies.'
        (20110807salsu001.090).

In the example above, the speaker does not have direct evidence that his wife will eat flies, since the event has not yet taken place. However, because he will turn his wife into a frog and he knows that frogs eat flies, he can assert that she will do so as well.[140]

A second indication that the direct evidence interpretation of the assertive form is only an implicature is that that interpretation can be cancelled. Although assertive morphology is mostly used in contexts where speakers have direct access, they can also explicitly deny having direct access when they use this type of verb morphology, as shown in the example below:

(9)   Yë'ë beocona Jairo toto nejëyobi.
        Jɨ'ɨ   beo-ko-na,   Jairo tohto   ne-hɨjo-bi.
        1S   NEG.EXIS-S.F.PRS-DS   Jairo board   do-break-3S.M.PST.ASS
        'While I wasn't there, Jairo broke the board.'
        (201108elicr001.057).

Example (9) is felicitous because the direct evidential interpretation of the assertive paradigm is only an implicature. Although the speaker was not present when Jairo broke the board, she can still use assertive verb morphology. The function of this verb morphology is to assert a proposition: the speaker vouches for what she is saying.

The interpretation that the speaker is vouching for her utterance is not cancellable. It is infelicitous to assert a proposition and to deny believing it at the same time, as illustrated in example (10):

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[140] Authors have observed similar uses of direct evidentials in other languages (Floyd, 1999; Valenzuela, 2003). Floyd (1999, pp. 61-85) proposes for the Wanka Quechua evidential clitic *-mi*, that the direct evidential meaning represents the prototypical meaning of the clitic, although it is not always present. Valenzuela (2003, pp. 35-37) argues that the direct evidential clitic *-ra* in Shipibo-Konibo has an extended meaning: whenever it is used in a future context, the speaker is quite certain that something will happen.

(10)   # Yë' ja'kë-bi cu̠e̠je̠'i̠ so̠këñë, sehuoye ba̠ñë.
         # Jɨ'   ha'-kɨ-bi   kʷẽ-hẽ'ĩ   sõkɨ-jĩ̆,
         1S   parent-NCL:M-SBJ fell-3S.M.PST.ASS   tree-CLS:ROOTS
         sewo-je   bã-jɨ.
         accept-INF   NEG.COP-OTH.PRS.ASS
         Intended: 'My father cut down the tree, but I don't believe it.'
         (20110710eevpi001.010).

According to the consultant, example (10) is not just infelicitous; it is, in fact, a contradiction. The only way in which she could interpret example (10) is when the speaker knows that her / his father has cut down the tree, but she / he cannot believe it. So in that case *sewoje bãjɨ* 'I don't believe it' does not deny that the tree was taken down; it only states the difficulty for the speaker to believe that it really happened. This shows that the speaker cannot deny vouching for the proposition when she / he uses assertive verb morphology. It is an argument in favor of the proposal that the assertive meaning is a core meaning of this verb morphology, while its direct evidence interpretation is just an implicature.

6.2 Non-assertive subject agreement morphology

The subject agreement morphology that I will discuss in this section is the non-assertive type. This subject agreement morphology is used in questions, in reports, and in conjectures. Both the use and semantics of these subcategories will be discussed in this section: the interrogative in 6.2.1, the reportative in 6.2.2 and the conjectural construction in 6.2.3.

6.2.1 Interrogatives

Subject agreement morphology in questions is different from that of assertions in Ecuadorian Siona. Whenever non-assertive subject agreement morphology is used instead of assertive subject agreement morphology in combination with a question intonation, the utterance is interpreted as a question:

(11)   a.   Aibi nëcaji.
                 Ai-ɨ-bi   nɨhka-hi.
                 big-CLS:ANIM.M-SBJ   stand-3S.M.PRS.ASS
                 'The old man is standing.' (20110301elicr001.012).

> b.　Aibi nëcaquë?
> Ai-ɨ-bi　　　　　　nɨhka-kɨ?
> big-CLS:ANIM.M-SBJ　　stand-2/3S.M.PRS.N.ASS
> 'Is the old man standing?' (20110301elicr001.014).

When non-assertive subject morphology is used without other morphology such as the reportative suffix -jã or the negation construction -a ba'i, as in example (11b), consultants interpret these utterances as questions.[141] Speakers are not asserting the proposition in these utterances, but they are asking a polar question.

　　　The same subject agreement morphology is used in content questions, as shown in example (12):

(12)　Queini sa̱i̱quë?
　　　Ke-ɨ-ni　　　　　　sãĩ-kɨ?
　　　who-CLS:ANIM.M-OBJ　pay-2/3S.M.PRS.N.ASS
　　　'Whom did you pay?' (20101119oispa001.051).

The use of non-assertive subject agreement morphology is not the only way to mark questions. The verb suffix -'ne is often used in content questions:

(13)　Mësaru me date'ne?
　　　Mɨhsaru　me　dah-te-'ne?
　　　2PL　　　how　come-OTH.PST.N.ASS-Q
　　　'How did you come here?' (20110913slicr003.021).

The use of the suffix -'ne is optional; not all verbs in content question take this suffix, as shown in example (13). It does also not appear in polar questions.[142]

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[141] Because of overlapping subject agreement morphology, third person singular feminine assertions cannot be distinguished from their polar interrogative counterpart. In these cases, the context and the intonation pattern can help to disambiguate the two interpretations.

[142] The exact semantic contribution of the suffix -'ne to content questions is unclear. Consultants suggest that the speaker is more uncertain about the possible answer. Wheeler (1987b, p. 161) analyzes the cognate suffix in Colombian Siona as a 'doubt' marker. Schwarz (2012), in contrast, analyzes the cognate suffix -'ni in Ecuadorian Sekoya as a probability marker. The addition of the suffix results in an interpretation in which "the probability of the proposition is desideratively enhanced: the speaker does not empirically support her still limited confidence by evidence of any sort but asserts her wish

The split between assertions and questions is quite clear in Ecuadorian Siona. Not only do sentences with a non-assertive subject agreement suffix obtain a question intonation, but an assertive subject agreement suffix is not grammatical in regular questions. When an assertive verb form is used in a polar question, it receives an assertive interpretation instead of an interrogative one. The use of assertive morphology in regular content questions is ungrammatical for my consultants, as illustrated in (14a):

(14)   a.   *Queibi daiji?
               *Ke-ɨ-bi   da-i-hi?
               who-CLS:ANIM.M-SBJ   come-IMPF-3S.M.PRS.ASS
               (20110402elicr001.007).
    b.   Queibi daiquë?
               Ke-ɨ-bi   da-i-kɨ?
               who-CLS:ANIM.M-SBJ   come-IMPF-2/3S.M.PRS.N.ASS
               'Who is coming?' (20110402elicr001.007).

The consultant corrected the assertive verb form in the ungrammatical sentence in (14a) to a non-assertive verb form, as illustrated in (14b).

It is however not the case that the use of assertive morphology is ungrammatical in all utterances with question morphology. In conjectural questions, the use of assertive is required for a sentence to be grammatical. Speakers use a conjectural question when they do not know the answer, but also do not expect an answer from the addressee (Littell, Matthewson, & Peterson, 2010; Peterson, 2010). Some languages, such as Cuzco Quechua (Faller, 2002, pp. 238-239), St'áť'imcets (Littell et al., 2010), and Gitksan (Peterson, 2010), express conjectural questions, by adding an evidential to a question, as illustrated in the Cuzco Quechua example below:

(15)   Pi-ta-chá   Inés-qa   watuku-rqa-n?
        Who-ACC-CNJ   Inés-TOP   visit-PST-3
        'Who could Inés have visited?' (Faller, 2002, p. 238 example (201)).

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or belief in the potential truth of the proposition" (Schwarz, 2012, p. 52). It seems that the 'doubt' analysis by Wheeler (1987b, p. 161) is more in line with the facts of Ecuadorian Siona -'ne than the 'probability' analysis by Schwarz (2012). However, the precise semantic value of the suffix will remain for future research.

In example (15), the Cuzco Quechua conjectural evidential *clitic -chá* is attached to the question word *pita*, which results in a conjectural question interpretation. The speaker in example (15) is just wondering who Inés visited and is not expecting an answer to this question.

Ecuadorian Siona has a different strategy for expressing conjectural questions. Conjectural questions can be formulated only on the basis of a content question.[143] Conjectural questions in Siona are formed by adding a conjecture suffix *-sa'* to the question word and the use of an assertive verb form. The conjectural question is illustrated in the example below:

(16)   Context: The speaker is thinking about her son who is far away from her and she doesn't know what her son is doing.

Quesa're yo'ji.
Ke-sa'-de   jo'-hi.
What-CNJ-OBJ   do-3S.M.PRS.ASS
'I wonder what he is doing.' (20110913elicr001.015).

In example (16), the speaker asks what her son is doing without expecting an answer from the addressee. Although this sentence resembles a question because of the use of a question word, assertive subject agreement morphology is used. This is possibly due to the fact that conjectural questions are not proper questions on every level.

Littell et al. (2010) analyze conjectural questions in the languages they studied as syntactic and semantic questions. Syntactically, these utterances are questions because they have a question structure. Semantically, they are questions because they denote a set of propositions. Pragmatically, however, these authors do not consider conjectural questions to be questions because the speaker does not request any information from the addressee. A similar analysis is possible for the conjectural questions in Ecuadorian Siona. Because these questions are not questions, from a pragmatic point of view, the use of assertive subject agreement morphology is required. This accounts for the hybrid nature of Ecuadorian Siona conjectural questions when it comes to their morphosyntax: they contain a question word as well as assertive subject agreement morphology. Therefore, the use of assertive verb forms in conjectural questions is not a

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[143] Only content questions can be used in this conjectural sense. It is not clear whether this restriction is just a structural restriction, because the suffix *-sa'* needs to be attached to a question word, or if it has a semantic reason as well.

counterexample to the ungrammaticality of assertive morphology in questions in general.

In summary, interrogatives require non-assertive subject agreement morphology. Assertive morphology is ungrammatical in bona fide information questions, thus excluding conjectural questions. However, from a pragmatic perspective, conjectural questions are not questions. So since in many cases subject agreement morphology is the clearest difference between assertions and questions, this subject agreement morphology can serve to demarcate these two different clause types.

6.2.2 Reportative

The second context in which non-assertive subject agreement morphology is used in Ecuadorian Siona is the reportative. This subcategory frequently occurs in the corpus. Especially traditional stories are full of reportative forms. Except for the main verbs in direct speech or thought reports and in the perspective changes that were shown in the section 6.1 about the use of the assertive, almost all main verbs in this type of recordings are reportative verb forms. An example of a reportative used in a traditional story is presented below:

(17) a. Kuëasi'i aibë so̱cora yo'jë ba'ise'e.
         Kɨa-si-'ɨ   ai-bɨ   sõhko-da
         tell-FUT-OTH.ASS big-CLS:COL   Zancudo-CLS:LAKE
         jo'-hɨ   ba-'i-se'e.
         make-PL   be-IMPF-NLZ.PST
         'I am going to tell the story of what the ancestors did at 'Zancudo Cocha.'[144] (I assert). (20111202slicr001.001).
     b. Bateña aibë so̱cora cacore.
         Bah-te-jã   ai-bɨ   sõhko-da
         be-OTH.PST.N.ASS-REP big-CLS:COL   Zancudo-CLS:LAKE
         ka-ko-de.
         say-NLZ.F-OBJ
         'The ancestors lived in a place called 'Zancudo Cocha'.' (I am told). (20111202slicr001.002).

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[144] Zancudo Cocha is a lake in the province of Sucumbios, Ecuador. It is close to the Cuyabeno river towards the mouth of the Cuyabeno where it flows into the Aguarico river.

Both sentences in example (17) form the beginning of a traditional story about a lake close to the speaker's town. In sentence (17a), she introduces the topic of the story and in sentence (17b) she starts the story itself, introducing the main characters: the ancestors. In this sentence, she starts using a reportative verb form consisting of a non-assertive subject agreement suffix and the reportative suffix *-jã*. She uses those until the end of the story.

These traditional stories, as the one from example (17), typically only contain reportative verb as main verbs, with the exceptions mentioned above. These stories are passed on from generation to generation, so they are typical reported contexts. The use and the semantics of the reportative verb morphology are the topics in this subsection. First, I will describe the use of the reportative in 6.2.2.1, then I will discuss the meaning of this verb form in 6.2.2.2, and finally, I will summarize this subsection in 6.2.2.3.

6.2.2.1 The use of the reportative

The reportative in Ecuadorian Siona, as the label suggests, is used when speakers only have reported access to the uttered information. This reported access type can be of different kinds. For instance, following Willet (1988, p. 57), reported evidence can be subdivided in three report types: secondhand information, thirdhand information and folklore Secondhand information is reported evidence that is given to the speaker by a person who observed the event himself. Thirdhand information is reported evidence that has been provided to the speaker by a person who has not observed the event her/himself. Folklore consists of oral literature as evidence type. The reportative in Ecuadorian Siona can be used in all these cases.

The first type of reported evidence, secondhand information, is not very common in the recordings. However, there are some examples of secondhand information and the below presented example (18) is one of them. It is from a story about the niece of the speaker, who disappeared for a few days. Before disappearing, she behaved very strangely. According to the speaker, her niece was taken by a forest spirit and was sent back to the Siona village thanks to the intervention of a shaman. Some parts of the story were witnessed by the speaker herself, and she uses an assertive verb form in those cases. Other parts she has heard from the mother of the girl or other people involved in the story. It is in these parts that the speaker uses reportative verb forms.

The speaker utters example (18) at the beginning of the story. It is about the strange behavior of the niece just before her disappearance. She suddenly became very weak and was not able to carry her basket anymore. Her mother observed this and she told the speaker about it.

(18)   i̯o nëcaco ñacona yequëbi dani hue'ecaquëña i̯o do'rohuë.
   ĩ-o   nɨhka-ko   jã-ko-na
   DEM.PRX-CLS:ANIM.F stand-S.F.PRS see-S.F.PRS-DS
   yehk-ɨ-bi   da-ni   we'e-kah-kɨ-jã
   other-CLS:ANIM.M-SBJ come-SS carry-BEN-2/3S.M.PST-REP
   ĩ-o   do'do-wɨ.
   DEM.PRX-CLS:ANIM.F basket-CLS:CONTAIN
   'She was standing and watching and the other one carried her basket for her.' (I am told). (20100907slicr001.006).

Because the speaker did not witness the event described in example (18) herself but was told by her sister in law, she uses a reportative form: *we'ekahkɨjã*. Since the sister in law observed the event, it is secondhand information for the speaker.

   This use of the reportative in cases where the speaker has secondhand information should not be confused with the use of quotatives. A quotative is an evidential that is used when a speaker wants to quote a specific person (Aikhenvald, 2004, pp. 177-178). However, when speakers use a reportative in Ecuadorian Siona, it is not their goal to quote the person who informed them. Even when it is possible to retrieve the specific source of the reported evidence, speakers use the reportative only to show that they have reported access to information expressed in their utterance. In example (18) above, the speaker is not quoting her sister in law, she is merely telling a story which she had reported evidence for. Whenever Siona speakers want to quote someone, they will use a direct speech report.

   The reportative is also used for thirdhand information, as illustrated by the following example:

(19)   Ja̯o ti co'meco beocoña.
   Hã-o   ti ko'mo-ko beo-ko-jã.
   DEM.DST-CLS:ANIM.F AN row-NLZ.F NEG.EXIS-2/3S.F.PRS.N.ASS-REP
   'She doesn't have gas.' (I am told). (conversation).

In example (19), the speaker is giving the reason why it was not possible for *hãõ* 'she' to come to the Siona village: she did not have any fuel for

her boat. A relative of the speaker heard this from the woman herself and the relative reported it to the speaker. Therefore, the relative who reported that there was no fuel did not witness this himself: it was secondhand information for him. Consequently, it is thirdhand information for the speaker.

The most common use of the reportative in the corpus is its use in folklore, as mentioned above. The following example is the beginning of another traditional story:

(20)   baquëña te'e b<u>a</u>i dëj<u>o</u>re baëña.
Bah-kɨ-jã   te'e   bãĩ-ɨ,
be-2/3S.M.PST.N.ASS-REP one   people-CLS:ANIM.M
dĩhõ-de   ba-ɨ-jã.
wife-OBJ   have-2/3S.M.PST.N.ASS-REP
'There   was   a   man   and   he   had   a   wife.'   (I   am   told).
(20100913slicr002.002).

In the utterance presented in example (20), the speaker introduces some of the main characters of the story and she uses reportatives from the beginning in this story. The speaker obtained this information through the oral history that her parents taught her. As I mentioned above, speakers generally use a reportative form in traditional stories, whenever they use a main verb that is not part of a direct speech report or a personal comment on the story. Examples (18-20) above show that the use the reportative is not restricted to a single reported evidence type. This verb form can be used in any utterance for which the speaker has reported evidence.

Speakers may have different reasons for using a reportative verb form. One reason, described by various authors for reportatives in other languages (Aikhenvald, 2004, pp. 135-137; Clift, 2006; B. A. Fox, 2001; Michael, 2008 among others), is the mitigation of responsibility for the utterance. The speaker in those cases is avoiding being held responsible for the truth of his utterance. This is illustrated by the following example:

(21)   j<u>a</u>ëbi ti nej<u>a</u>'quë c<u>o</u>ni daiquëña.
Hã-ɨ-bi   ti   ne-hã'-kɨ
DEM.DST-CLS:ANIM.M-SBJ ANA   make-PRS-NLZ.M
kõ-ni   da-i-kɨ-jã.
accompany-SS come-IMPF-2/3S.M.PRS.N.ASS-REP
'He is going to come together with the builder.' (I am told).
(conversation).

The speaker uses the reportative form *daikɨjã* in (21) in order to mitigate her responsibility for the information. Because of her function in the Siona village, the people may hold her responsible if the builder does not show up the next day. The speaker does not make any (false) promises; she just reports what someone else has said. This way she cannot be held responsible for possibly unreliable information if the builder does not come the next day.

The fact that speakers can use the reportative in order to mitigate their responsibility for the utterance, as shown in example (21), does not mean that they never believe the proposition to be true or that they are always representing unreliable information when they use a reportative. In some cases speakers use a reportative because they do not have the epistemic authority with respect to the information they are presenting. For instance, whenever speakers talk about the time of the ancestors, they use reportative verb forms. They do not do so because they do not believe what they say, but because they did not live in the time of the ancestors and cannot claim epistemic authority in these type of contexts. An example of this use of the reportative is presented in (22):

(22) a. güi̠'ne aibë tsoehue̠'ña ja̠ë̈hua'i maija'quëre sehuosicua'i maija'quëre sejëna de'ojaicuaña.
güi̠'ne   ai-bɨ   zoe-wẽ'jã,
So   old-CLS:COL   time-CLS:PLACE
hã-ɨ-wa'i   mai-ha'-kɨ-de
DEM.DST-CLS:ANIM.M-PL   1PL.INCL-parent-CLS:ANIM.M-OBJ
sewo-sih-ko-wa'i,   mai-ha'-kɨ-de
accept-PRF-NLZ.F-PL   1PL.INCL-parent-CLS:ANIM.M-OBJ
sẽ-hɨ-na   de'o-ha-i-ko-a-jã.
ask-PL.PRS-DS   be.good-go-IMPF-NLZ.F-COP-REP
'So the ancestors in the old day, they used to believe in God, they would pray and (the cocoa pods) used to heal.' (20101119oispa001.032).

b. cacua'i yure maija'quëni goachajë podaye ba'iji cahuë yë'ë.

Ka-ko-wa'i	jude	mai-ha'-kɨ-ni
say-NOM.S.F-PL	now	1PL.INCL-parent-CLS:ANIM.M-OBJ

gʷahcha-hɨ	poda-je	ba-'i-hi
think-PL.PRS	trim-INF	be-IMPF-3S.M.PRS.ASS

ka-wɨ	jɨ'ɨ.
say-OTH.PST.ASS	1S

'Because they say this, I think we should trim (the cocoa trees) thinking about God.' (20101119oispa001.032).

In example (22a), the speaker uses the reportative form *de'ohaikoajã* 'used to heal, they say' in order to represent information from past times: the ancestors used to pray and God would heal their crops. She does not believe this information to be unreliable, in fact, she believes that they should do the same as in the old days, illustrated by what she says in (22b). The speaker uses a reportative in this case, because she does not have the epistemic authority with respect to the information. She does not use it because she does not believe that people used to live this way.

Therefore, the reportative does not entail that the speaker believes that the proposition is false or that the source of information is unreliable. A context can provide information about whether the speaker believes the source to be trustworthy or not. The reportative itself seems to be neutral toward reliability of the source, and a reportative can both be used when a speaker believes the proposition to be true, but cannot vouch for it, and when a speaker believes that the information is not very reliable.

Another interesting occurrence of the reportative is its use in reported requests or orders. Speakers can use a second person future form in combination with a reportative in order to give an order on behalf of someone else, as illustrated in example (23):

(23) Më'ë tsoaja̱'coaña.

Mɨ'ɨ	zoa-hã'-ko-a-jã.
2S	wash-PRP-NLZ.F-COP-REP

'You will / have to wash.' (I am told). (20110328elicr001.085).

This use of the reportative is quite similar to use of the secondhand imperatives in Tukanoan languages and Tariana (Aikhenvald, 2004, p. 250) and Shipibo-Konibo (Valenzuela, 2003, p. 42). By contrast, the

Ecuadorian Siona reported order is not an imperative form; it is a regular second person future form that is used to express an order on behalf of someone else.

Similarly, the present tense can also be used to repeat some else's order or request. An example of this use of the present reportative is shown below. This example came up while I was singing with some monolingual Siona children in Sototsiaya. I asked one of the girls to sing and because she did not start to sing, her aunt repeated my request:

(24)   MB: Cantajë̱'ë̱!
               Kanta-hɨ'ɨ!
               sing-IMP
               'Sing!'
        EP: Cantacoña.
               Kanta-ko-jã
               sing-2/3S.F.PRS.N.ASS-REP
               'You (should) sing.' (It is said). (20110809oevpi001.001).

The difference between the use of the future construction in example (23) and the present tense in example (24) is the urgency of the order or request. When a future construction is used the request can be carried out later, but when a non-past form is used, it is a request to carry out the action right away.

Whenever speakers use one of these strategies to report a request or an order, they are not claiming authority over the request / order. The speaker is passing on this order or request on behalf of some else. This use of the reportative is similar to its use in other contexts. In other contexts the reportative is used to give information that was provided to the speaker by another person. In the case of the reported requests or orders, the speaker also introduces information that was first uttered by another person. The fact that the speaker only reports what someone else said and does not claim authority over the information, is what ties these different types of uses together.

6.2.2.2 The semantics of the reportative

The different uses of the reportative suggest that the Ecuadorian Siona reportative has two central features: 1. the speaker has reported access to the uttered information and 2. the speaker does not claim authority over the information. This hypothesis was confirmed by various tests during elicitation. First of all, there are various diagnostics that confirm

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the observation that the reportative can only be used when the speaker has reported access. The main diagnostics is that the use of the reportative is infelicitous when the speaker does not have reported evidence. As was already mentioned above in (4), when a speaker has direct evidence it is infelicitous to use a reportative, as illustrated in the example below, repeated from (4) above:

(25)   Context: I see that it is raining out of the window

    a.   Ocoji.   (Assertive).
       Ohko-hi.
       rain-3S.M.PRS.ASS
       'It is raining.' (I vouch for it). (20110402elicr001.003).
    b.   #Ocoquëña.   (Reportative).
       #Ohko-kɨ-jã.
       rain-2/3S.M.PRS.N.ASS-REP
       'It is raining.' (I am told). (20110402elicr001.001).

It is only possible to use the assertive form when the speaker sees that it is raining, as shown in (25a).Because the speaker observes the event, she is certain that it is happening and can therefore vouch for the information. It is not felicitous to use a reportative verb form, as in (25b), in this context.

The reportative can also not be used when the speaker only deduces that a certain event has taken place or is taking place, as illustrated in the example below:

(26)   Context: A child comes up from the river and he looks very pale and scared.

    a.   Tsi̱wa'ë hua̱ñumi ña baquë.
       Zĩwa'ɨ wãjũmi-de   jã-a   bah-kɨ.
       boy   anaconda-OBJ see-NEG be-2/3S.M.PST.N.ASS
       'The child saw the anaconda.' (I conjecture). (20101124elicr001.003).
    b.   #Tsi̱wa'ë hua̱ñumi ñaëña.
       #Zĩwa'ɨ   wãjũmi-de   jã-ɨ-jã.
       boy   anaconda-OBJ see-2/3S.M.PST-REP
       'The child saw the anaconda.' (I was told). (20101124elicr001.002).

Example (26b) shows that the use of a reportative in a deductive context is not felicitous. By contrast, the use of a conjectural construction, as in (26a), is felicitous in this context.

The two examples above show that the reportative marks information that the speaker has acquired via a report from someone else in Ecuadorian Siona. As was shown in subsection 6.2.2.1 above, the reportative has a broad use when it comes to reported evidence in Ecuadorian Siona: secondhand information, thirdhand information, and folklore can all trigger the use of an reportative verb form in the language. Other types of evidence are however not accepted. That is why its use is infelicitous in context where the speaker has direct or deductive evidence for her / his utterance. The Ecuadorian Siona reportative is best understood as a general reportative.

Secondly, there is a semantic test that provides insight into the idea that speakers do not claim authority over the information when they use a reportative. This semantic test was dubbed 'the known falsity test' by Waldie et al. (2009). This test checks test whether an evidential can be used when the speaker knows that the information is false. Faller (2002) shows that the reportative in Cuzco Quechua *-shi* passes this test:[145]

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[145] There are reportatives that do not pass this test. For instance, the reportative particle *ku7* in St'át'imcets (Matthewson et al., 2007, p. 214) and the reportative clitic *=kat* in Gitksan (Peterson, 2010, p. 130) cannot be used when the speaker knows that the proposition is false. The authors analyze these evidentials differently, than the Cuzco Quechua reportative *-shi*. According to them, this type of reportative is an epistemic modal. When a speaker uses this type of reportative, she/ he claims that the proposition is possibly or necessarily true on the basis of reported evidence. In formal semantics this 'known falsity test' is one of the tests that helps to distinguish epistemic modal evidentials, as the St'át'imcets evidentials and two of the Gitksan evidentials, from non-modal evidentials, as the Cuzco Quechua reportative (Faller, 2002; Matthewson et al., 2007; McCready & Ogata, 2007; Murray, 2010; Peterson, 2010; Waldie et al., 2009).

(27) Pay-kuna-s ñoqa-man-qa qulqi-ta muntu-ntin-pi
(s)he-PL-REP 1s-AL-TOP money-ACC lot-INCL-LOC
saqiy-wa-n, mana-má riki riku-sqa-yki ni
leave-1O-3 NEG-SURP right see-PP-2 NEG
un sol-ta centavo-ta-pis saqi-sha-wa-n-chu.
one Sol-ACC cent-ACC-ADD leave-PRG-1O-3-NEG
'They left me a lot of money, but, as you have seen, they didn't leave me one *sol*, not one cent.'
EV: It is said/They said that they left me a lot of money. (Faller, 2002, p. 191 example (152))

According to Faller (2002), it is possible to use the Cuzco Quechua reportative when the speaker knows that the information is false, because the reportative is not an assertion of the information, it is "a *presentation* of another speaker's assertion" (Faller, 2002, p. 199).

The same holds for the Ecuadorian Siona reportative. It can be used when the speaker knows that the information she/ he is introducing is false. In examples (28) and (29) below, the speaker can explicitly deny the truthfulness of what people are saying, just like in the case of the Cuzco Quechua reportative:

(28) Yë' gü̈dohuë yë're curi so'coro i̱sireña, yë're ja̱re i̱tsiye ba̱huë̱.
Jɨ' gʷɨ-dowɨ jɨ'-de kudi so'ko-do
1S uncle-PL 1S-OBJ money coin-CLS:FLAT.ROUND
ĩsi-de-jã. jɨ'-de hã-de ĩsi-je
give-OTH.PST.N.ASS-REP. 1S-OBJ DEM.DST-OBJ give-INF
bã-wɨ.
NEG.COP-OTH.PST.ASS
'My uncle and aunt, supposedly, gave me money, but they didn't give me anything.' (20110614elicr001.007 modeled after Faller's example).

(29) Jairo toto nejëyoëña. Caëna toto jëyëma'co baja'i.
Jairo tohto ne-hɨjo-ɨ-jã. ka-ɨ-na
Jairo board do-break-2/3S.M.PST.N.ASS-REP say-S.M.PST-DS
tohto hɨjɨ-ma'-ko ba-ha'i.
board be.broken-NEG-NLZ.F be-3S.M.PST.ASS
'Jairo, supposedly, broke the board, (but although) someone said that, the board was not broken.' (20110830elicr001.061).

Example (28) and (29) show that speakers can use a reportative in Ecuadorian Siona when they know that the information is false. As in

Cuzco Quechua, when speakers use a reportative, they just present the information without taking any authority over it or making any claim about the veracity of the information.

In this sense, the reportative is distinct from the assertive. Both verb forms are used in declarative contexts in which the speaker provides information without asking for it. The two categories differ, however, with respect to the speaker's claim about the truth of the information. The assertive can only be used when the speaker vouches for its truth, as shown in section 6.1. When speakers use a reportative, they do not do so. As a result, the reportative turns out to be of a non-assertive nature in Ecuadorian Siona. Because of this property, the reportative is in semantic opposition with the assertive.

The reportative shares its non-assertive nature with the interrogative. When speakers use an interrogative form they also do not vouch for the truth of the information, they inquire about it. The fact that these two categories share this non-assertive character is the reason that their shared subject agreement morphology is labeled non-assertive subject agreement morphology.

However, although interrogatives and reportatives share non-assertive subject agreement morphology and are both non-assertive categories, the forms are in semantic opposition. The interrogative and reportative interpretations never co-occur and are in complementary distribution. Whenever a reportative suffix *-jã* is added to an interrogative form, as in example (30b), it automatically loses its interrogative value and it becomes a reportative utterance:

(30) a.   De'o ñataë?   (Interrogative).
           De'o   jãhta-ɨ?
           be.good   become.morning-2/3S.M.PST.N.ASS
           'Did you (M)/ he wake up well?' (I am asking).
           (20110710eevpi001.002).
      b.   De'o ñataëña.   (Reportative).
           De'o   jãhta-ɨ-jã.
           be.good   become.morning-2/3S.M.PST.N.ASS-REP
           'You (M)/he woke up well.' (Someone told me).
           (20110710eevpi001.003).

In example (30b), the interrogative value has disappeared and the sentence can be interpreted as a plain reportative. It is not a reported question, such as '"Did you / he wake up well?" it is said/asked'.

By contrast, the reportative in Cuzco Quechua can mark a reported question. An example of this use of the reportative is provided below:

(31)   Imayna-ta-s   ka-sha-nki?
       how-ACC-REP   be-PRG-2
       'How are you?' (It is asked). (Faller, 2002, p. 233 example (194)).

Faller (2002, p. 233) reports how she obtained the above example in a natural conversation. She asked the mother of her consultant how she was. Because she did not answer, the consultant repeats the question, but then with the reportative clitic -*s(i)*, illustrated in example (31).

In Cuzco Quechua the evidential clitics can only be used in content questions and not in polar questions. In Ecuadorian Siona, as shown above in example (30b), it is not possible to use the reportative in polar questions, as in Cuzco Quechua. However, it is also not possible to form reported questions on the basis of content questions. In this type of questions the use of reportative is ungrammatical:

(32)   *Queibi daiquëña?
       *Ke-ɨ-bi   da-i-kɨ-jã?
       what-CLS:M-SBJ   come-IMPF-2/3S.M.PRS.N.ASS-REP
       Intended: 'Who is reportedly coming? / Someone asked who is coming.' (20110202elicr001.015).

As example (30b) and (32) show, it is not possible to create any type of reported question using reportative morphology in Ecuadorian Siona. The interrogative and reportative values exclude each other in the language. As is the case for the assertive and the reportative, the interrogative and the reportative seem to be in semantic opposition.

The reportative is not only mutually exclusive with the assertive and the interrogative, these three values also behave similarly as grammatical categories in Ecuadorian Siona. None of these three values can interact with propositional operators such as tense, modality, and negation. This means that the reportative, the assertive and the interrogative cannot take scope under negation. So when a negation and a reportative are used in the same clause, the sentence cannot mean something like: 'It is not said that *p*'. This is illustrated in the examples below, for the assertive (33), the interrogative (34), and the reportative (35), respectively:

(33)   daiye b̤aco.
       da-i-je   bã-ko.
       come-IMPF-INF NEG.COP-3S.F.PRS.ASS
       'She isn't coming.' (I vouch for it).
       ≠ 'I am not vouching that she is coming.'
       (20100920elicr001.001).

(34)   T̤ë̤o̤ñe b̤ako?
       tĩõ-je   bã-ko?
       weave-INF   NEG.COP-3S.F.PRS.INT
       'Isn't she weaving?' (I am asking).
       ≠ 'I am not asking if she is weaving.' (20110529elicr001.010).

(35)   A̤iñe b̤acoña.
       ã-i-je   bã-ko-jã.
       eat-IMPF-INF   NEG.COP-3S.F.PRS.REP
       'She isn't eating.' (I am told).
       ≠ 'I was not told that she is eating.' (20110830elicr001.038).

The fact that the reportative, as the assertive and the interrogative, does not interact with any propositional operators may suggest that the reportative is extra-propositional: its meaning is not interpreted as a propositional meaning.

      Another property that is also shared by the reportative, assertive, and interrogative is that all three categories are main verb categories. The three categories cannot be embedded in a subordinate clause. For instance, the categories cannot be embedded under the antecedent of conditionals, because the antecedent is always expressed using a dependent verb form. It is possible to use the three categories in the consequent of conditionals, [146] as illustrated in (36) and (37):

(36)   Ocoye b̤aquëna saija̤'quëabi ja'quë.
       Ohko-je   bã-kɨ-na   sa-i-hã'-kɨ-a-bi
       rain-INF   NEG.COP-S.M.PRS-DS go-IMPF-PRP-NLZ.M-COP-3S.M.PRS.ASS
       ha'-kɨ.
       parent-CLS:ANIM.M
       'If it is not raining, dad will go.' (I vouch for it).
       (20110830elicr001.105).

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[146] Similar restrictions are also described for the use of evidentials in Cheyenne by Murray (2010, pp. 66-67).

(37) Ocoye ba̱quëna saija̱'quëaña ja'quë.
      Ohko-je   bã-kɨ-na   sa-i-hã'-kɨ-a-jã
      rain-INF   NEG.COP-S.M.PRS-DS   go-IMPF-PRP-NLZ.M-COP-REP
      ha'-kɨ.
      parent-CLS:ANIM.M
      'If it is not raining, dad will go.' (I am told).
      (20110830elicr001.106).

However, when an assertive, as in example (36), and a reportative, as in
example (37), are used in the consequent of a conditional, these values
are not embedded. When used in the consequent, they take scope over
the whole conditional. So example (36) means: 'I assert that if it does
not rain, my father will go,' and example (37) means 'I am told that if it
does not rain, my father will go.'

It is also not possible in Ecuadorian Siona to syntactically embed
assertive, interrogative, or reportative sentences under speech and
thought verbs. Crosslinguistically, it is only possible to embed a clause
syntactically under speech or thought verbs in indirect reports. In
indirect reports the reported information is provided by a subordinated
clause, as in the English sentence: 'He said that she would come.' 'That
she would come' in this case is a subordinate clause. Ecuadorian Siona
does not have this type of indirect reports, it only has direct speech and
thought reports, which are illustrated in (38) and (39):

(38) Chotena daë'ë caoña.
      Choh-te-na   da-ɨ'ɨ   ka-o-jã
      call-PL.PST-DS   come-OTH.PST.ASS   say-2/3S.F.PST.N.ASS-REP
      '"They called me and I came," she said.' (It is said).
      (20101202slicr001.012).

(39) A̱ina dëjo̱ quere a̱iquë'ne guachaoña.
      Ã-i-ɨ-na   dɨ̃hõ   ke-de   ã-i-kɨ-'ne
      eat-IMPF-S.M.PRS-DS   wife   what-OBJ eat-IMPF-2/3S.M.N.ASS-Q
      guahcha-o-jã.
      think-2/3S.F.PST.N.ASS-REP
      'While he was eating, the wife thought: "What is he eating?"'
      (20101123slicr001.015).

Because it is not possible to embed the reportative, it is clear that the
reportative category, like the assertive and interrogative one, is a main
clause category. The behavior of these three categories is very similar,
and the values of these categories are mutually exclusive in the language.

Therefore it is very likely that the reportative in Ecuadorian Siona forms part of a semantic system together with the assertive and the interrogative categories.

6.2.2.3 The semantics and use of the reportative, a summary

The reportative in Ecuadorian Siona expresses general reportative evidentiality. It can be used with any type of reportative access including secondhand, thirdhand, and folklore. An important part of the semantics of the reportative is that it is non-assertive. That is, the speaker does not vouch for the information expressed by the utterance and does, therefore not claim epistemic authority for it.

This semantics can have various usage effects. The reportative can, for instance, be used to mitigate the responsibility for the information expressed. However, this does not mean that the speaker is necessarily uncertain about the information when she/ he uses a reportative form. It is possible that the speaker is highly certain, but she/he simply is unable to claim epistemic authority for the information, for instance because the described events happened before the speaker was born. Another use of the reportative is that it can express a reported order or request. I analyze this use as a pragmatic extension of the regular reportative use.

The reportative being of non-assertive nature constitutes a semantic system together with the assertive and the interrogative in Ecuadorian Siona. Indications for this claim are the fact that they are mutually exclusive and the fact that the three types of verbal morphology display a very similar behavior. A further indication that the assertive, interrogative and reportative form a semantic system is that the semantics of all categories relates to the assignment of the epistemic authority. This will be further discussed in section 6.3.

6.2.3 Negative interrogatives as conjecture

The non-assertive subject agreement paradigm is also used with a second type of evidential-like meaning that can be expressed in Ecuadorian Siona, namely, conjecture. However, this meaning is not expressed by a specific conjectural morpheme. Rather, negative polar questions are used in order to convey a conjecture. An example of such a negative polar question is presented below:

(40) Tëia baquë.
      Tɨ-i-a   bah-kɨ.
      break.off-IMPF-NEG   be-2/3S.M.PST.N.ASS
      1. 'Didn't it break off?'
      2. 'It broke off.' (I conjecture). (20110531elicr001.031).

Example (40) is ambiguous between a negative polar question and a conjectural statement. The construction has the shape of a negative polar interrogative, consisting of a negation construction -*a ba'i* and non-assertive subject agreement morphology, -*kɨ* in example (40). However, this construction is often interpreted as a positive statement that is based on some type of conjecture of the speaker.

This subsection is dedicated to explaining the properties of this conjectural construction and the relation between conjecture and negative polar questions in the language. I will describe the evidential function of this conjectural construction, taking into account the type of evidence that this construction requires in 6.2.3.1. Interestingly, there is some dialectal variation between Puerto Bolívar Siona and Sototsiaya, which will be addressed in this subsection as well. In 6.2.3.2, I will show that cross-linguistically, there is a relation between conjecture and negative polar questions. In 6.2.3.3 I will summarize this subsection.

6.2.3.1 The conjectural function of negative polar questions in Ecuadorian Siona

During elicitation, the main consultant for this study from Puerto Bolívar tends to use negative polar questions in different types of conjectural contexts. For instance, in the example below, the speaker deduces that her husband is coming on the basis of auditive information. In this context, she uses the conjectural construction:

(41) Context: I hear a motorized canoe coming towards the village.

      Yë' bakë daia ba'i.
      Jɨ'   ba-kɨ   da-i-a   ba-'i-ɨ.
      1S   spouse-CLS:ANIM.M come-IMPF-NEG   be-IMPF-2/3S.M.PRS.N.ASS
      'My husband is coming.' (I conjecture). (20100930 elicr002.015).

In example (41), the conjecture is based on auditive information. The conjectural construction can also be used when the inference is based on reasoning, as in the example below:

(42)   Context: My sister Neli always cooks at midday and it is midday now.

Neli cua'coa ba'io.
Neli   kʷa'ko-a   ba-'i-o.
Neli   cook-NEG   be-IMPF-2/3S.F.PRS.N.ASS
'Neli is cooking.' (I conjecture). (20110402elicr001.034).

Example (42) is used in a context where the speaker does not have any tangible evidence for her sister cooking. She just imagines that her sister is cooking because she always does around that time. According to the Puerto Bolívar consultant, the conjectural construction can be used to express an conjecture on the basis of any type of information: results, reasoning, and also hearsay.

       There are some differences between the Puerto Bolívar variety and the Sototsiaya variety with respect to this conjectural construction. The Sototsiaya speakers use the construction more often in the recordings than the Puerto Bolívar speakers. Additionally, Sototsiaya speakers also use negative polar questions in a different way: they also use these structures in traditional stories instead of a reportative, which Puerto Bolívar speakers did not do. An example of a reportative use of a negative polar interrogative is presented below:

(43)   jaoni si'a jubë banë cuni tëa baquë.
       Hã-o-ni   si'a   jubɨ   bãnɨ   kũ-ni
       DEM.DST-CLS:ANIM.F-OBJ all   bunch   hanging   bite-SS
       tɨa-a   bah-kɨ.
       cut-NEG   be-2/3S.M.PST.N.ASS
       'He bit off the bunch while he was hanging.' (They say). (20110807salsu001.057).

It is not unheard of that a conjectural is used as a reportative: Murray (2010, p. 23) reports that the Cheyenne conjectural also is used when a speaker has thirdhand reportative evidence. However, according to the Sototsiaya consultants, negative polar interrogatives and reportatives can be used interchangeably and there is no clearly delineated use of the conjectural in their Siona variety. Both the reportative and the conjectural construction are used in the Sototsiaya variety in traditional stories in order to express that the speaker has reported access to the information. This suggests that polar negative questions can be used as a broad indirect evidential in the Sototsiaya variety. It seems to be used with any type of indirect evidence type.

The conjectural construction is not used to replace the reportative in Puerto Bolívar Siona. The construction is only used to express that the speaker conjectures that the information is true. The use of the conjectural construction is one aspect in which the two Siona varieties differ.

What the two varieties do have in common is that the conjectural construction cannot be used when the speaker has direct evidence and is highly certain of her/ his case. In those cases, a speaker would use an assertive verb form, and a conjectural construction is infelicitous. This was shown in example (4), which is repeated below:

(44)   Context: I see that it is raining out of the window

      a.   Ocoji.   (Assertive).
              Ohko-hi.
              rain-3S.M.PRS.ASS
              'It is raining.' (I vouch for it). (20110402elicr001.003).
      b.   #Ocoa ba'i   (Conjectural).
              #Ohko-a   ba-'i-ɨ.
              rain-NEG   be-IMPF-2/3S.M.PRS.N.ASS
              'It is raining.' (I conjecture). (20110402elicr001.002).
              'Consultant's comment: you can say this when you hear the wind and the thunder.'

According to the consultants, this conjectural construction can only be used when they do not have direct evidence and when they are not fully committed to the truth of the proposition. So the varieties have one element in common in this regard: speakers from both varieties use negative polar questions in order to express a positive statement based on some type of indirect evidence with some uncertainty on behalf of the speaker.

The fact that the speaker is generally uncertain about the information suggests that the conjectural constructions may have an epistemic modal function as well. If an epistemic modal is defined as an element that lowers the speaker's commitment to the truth of the information, the conjectural construction seems to carry out this function. The construction cannot be used when a speaker knows that the proposition is true, as shown in the previous example. So the construction certainly implies a lower degree of commitment to the truth of the information.

The earlier introduced 'known falsity' test[147] can also be used in order to obtain more insight into the function of this conjectural construction. When speakers use an epistemic modal, they claim that the proposition is either necessarily or possibly true. That is to say if a speaker knows that the information is false, she/ he cannot claim that it is possibly true.[148] In Ecuadorian Siona it is not possible to use a conjectural construction when the speaker knows that the information is false:

(45)   #Yë'ë i̲sia bate, yë'ë i̲siye b̲ahuë̲.
      #Jɨ'ɨ   ĩsi-a   bah-te,   jɨ'ɨ   ĩsi-je
      1S   give-NEG   be-OTH.PST.N.ASS 1S   give-INF
      bã-wɨ.
      NEG.COP-OTH.PST.ASS
      #'I must have given it, but I did not give it.'
      Speaker's comment: This can only be used with a little break in between the two sentences. Then it's like the speaker is first asking and then answering her / himself.
      (20110328elicr001.159).

Example (45) shows that it is not possible to explicitly deny the truth of the information given in the conjectural construction. Therefore speakers need to at least believe that the information is possibly true when they use a conjectural construction. Since speakers seem to be committed to the information being possibly true when they use a conjectural construction, these constructions seem to have both a conjectural and an epistemic modal function.[149]

6.2.3.3 The relation between negative questions and conjecture

It is not a coincidence that this construction is ambiguous between a negative interrogative and a conjectural interpretation. At first sight, these two interpretations may seem to be each other's opposites. One interpretation consists of a negative question, while the other one represents a positive statement. Despite the apparently opposite nature

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[147] As it was coined by Waldie et al. (2009).

[148] See for a more detailed explanation of the relation between the known truth or falsity of the proposition and epistemic modality, for instance Faller (2002), Matthewson et al. (2007), Peterson (2010) and Waldie et al. (2009).

[149] Faller (2002, 2007) also analyzes the conjectural evidential clitic *-chá* in Cuzco Quechua as both evidential and epistemic modal.

of the two interpretations, they are related. In other languages as well, speakers use negative polar questions in order to make a positive statement. For instance, various authors (Bolinger, 1957; Heritage, 2002; Koshik, 2002; Ladd, 1981; Quirk, Greenbaum, Leech, & Svartvik, 1985) have shown how negative polar questions in English discourse are used to make positive assertions. These questions are not used as a request for information, but they are employed in order to express the epistemic stance of the speaker (Koshik, 2002, p. 1855). Heritage (2002) argues that both the speaker and the addressee interpret these negative polar questions as positive assertions. The author shows how speakers use negative interrogatives as assertions discussing the example below. It is an extract from the examination of the Prosecutor's Panel during the Senate Judiciary Committee Hearings that preceded the impeachment of President Clinton. In the example, Heritage (2002) shows that the speaker, Senator Howard Cobel (abbreviated as *Sen* in the example), interprets his own negative question as an assertion:

(46)   [Senate Judiciary Committee Hearings 8 December, 1998] (Discussed in Heritage, 2002, p. 1431 example (3)).

1	Sen:	Now lemme ask you this Mister Davis,
2		(1.5)
3	Sen: ->	Would you:, (0.8) I started to say wouldn't you,
4	->	but then I'd be speaking for you.
5		Would you acknowledge (0.5) that this committee's
6		consideration of whether grand jury perjury and several
7		deposition perjury and potential witness tampering (0.3)
8		by the president_<I'm not saying it happened but assuming
9		that it did, (0.8) that it merits (0.5) impeachment
10		(.) is- is a legitimate exerci:se for this committee.
11		Would you acknowledge that?

In example (46), the speaker was going to ask a negative polar question along the lines of: 'Wouldn't you acknowledge that etc.?' However, according to the speaker in line 4, he would be speaking for the addressee. It seems that the speaker reformulates his question, because he does not want to put words in the mouth of his addressee by imposing his epistemic stance (Heritage, 2002, p. 1431).

Heritage (2002) also shows how the addressees often take negative questions as positive assertions in the example below from a press conference with President Clinton:

(47)   [Presidential Press Conference: 7 March 1997] (Discussed in
         Heritage, 2002, p. 1432 example (5))

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1     IR:      W'l Mister President in your zea:l (.) for funds during
2          -> the last campaign .hh didn't you put the Vice President (.)
3             an' Maggie and all the others in your (0.4) administration
4             top side .hh in a very vulnerable position, hh
5             (0.5)
6     IE:  -> I disagree with that.hh u- How are we vulnerable
              because...
```

In the example above the addressee, President Clinton (IE), reacts to the implied opinion of the interviewer (IR): he disagrees with it. In this case, he treats the negative question as a positive assertion of the interviewer's opinion. The examples above indicate that negative polar questions in English presuppose that the speaker takes the opposite epistemic stance. The speaker takes a positive attitude towards the proposition and that she / he believes the proposition is true.

In the formal semantic literature, this ambiguity of negative polar questions has also been observed (Büring & Gunlogson, 2000; Ladd, 1981; Reese, 2006; Romero & Han, 2004; Van Rooy & Šafářová, 2003 among others). For instance, the following example has two readings:

(48)   Isn't there a vegetarian restaurant around here? (Ladd, 1981, p. 164)

One interpretation of this type of questions is that the speaker has just inferred that ~p and is asking for confirmation. This is illustrated in the example below:

(49)   (Situation: Bob is visiting Kathleen and Jeff in Chicago while attending CIS.)

         Bob: I'd like to take you guys out to dinner while I'm here —we'd have time to go somewhere around here before the evening session tonight, don't you think?
         Kathleen: I guess, but there's not really any place to go in Hyde Park.
         Bob: Oh, really, isn't there a vegetarian restaurant around here?

Kathleen: No, about all we can get is hamburgers and souvlaki. (Ladd, 1981, p. 164).

This is what Ladd (1981) calls 'inside NEG', because the negation falls within the scope of the proposition.

The other interpretation is that the speaker believes that *p* and is asking for confirmation. Ladd (1981) calls this reading 'outside NEG', because the scope of the negation falls outside of the scope of the proposition. This type of use of the negative question is illustrated in example (50):

(50)   (Situation: Kathleen and Jeff have just come from Chicago on the Greyhound bus to visit Bob in Ithaca.)

Bob: You guys must be starving. You want to go get something to eat?
Kathleen: Yeah, isn't there a vegetarian restaurant around here-- Moosewood, or something like that?
Bob: Gee, you've heard of Moosewood all the way out in Chicago, huh? OK, let's go there.

So although Kathleen believes that there is a vegetarian restaurant, she does not assert it. Speakers often use a negative polar question, according to Romero and Han (2004, p. 630), when they have insufficient knowledge to assert the proposition. By using a negative polar question, they introduce their beliefs without asserting them.

The use of the negative polar questions in English with an 'outside NEG' reading is very similar to the conjectural use of negative polar questions in Ecuadorian Siona. Another language that has a similar use of negative polar questions is the Mayan language Tseltal. As in Ecuadorian Siona, one type of negative polar questions in Tseltal (Shklovsky, 2011, in prep.) is ambiguous between a negative question and an epistemic statement as illustrated in example (51):

(51)   ma'   yakal   y-uch'-bel   ↓
        NEG   PRG   ERG:3-drink-NF
        Ambiguous between 1. 'He might be drinking' and 2. 'Is he not drinking?' (Shklovsky, 2011, p. 14)

In Tseltal, these negative polar questions are marked with a negation *ma'* and a descending tone, marked by the arrow ↓ in this example. This

descending tone is one of the strategies to form a polar question. These negative polar questions used as positive statements have an epistemic modal interpretation in Tseltal; they indicate that the speaker is not fully committed to the truth of the proposition. Shklovsky (in prep., pp. 8-9) notes that they also may have an evidential meaning, since according to Von Fintel and Gillies (2010) many epistemic modals have an evidential meaning.

The use of these negative polar questions in Tseltal is very similar to the use of those types of questions in Ecuadorian Siona.[150] In both languages, these questions can be used as positive statements denoting uncertainty on the side of the speakers, possibly because they do not have any conclusive direct evidence. In both languages, the speakers seem to be expressing their belief state, when they use a negative polar question as an conjectural / epistemic modal statement.

So, in various languages, when a speaker uses a negative polar question, she/ he implicates that she/ he believes the opposite. When a speaker uses it as a real question, she/ he is asking for an update of their belief state, as we have seen in the case of 'inside NEG' in Ladd's terminology (Ladd, 1981). In English, we have seen that in some contexts the request for a knowledge update is backgrounded and both speakers and addressees only take on the presentation of the speaker's belief state (Heritage, 2002; Koshik, 2002). Since this only seems to happen in certain contexts, the interpretation of negative polar questions as a positive statement is not a conventionalized interpretation. In Ecuadorian Siona, and possibly also in Tseltal, the backgrounding of the request for an update of the speaker's belief state appears to be more generalized. Negative polar questions always seem to be ambiguous out of context in the language. The presentation of speaker's belief seems to have become more conventionalized of the negative polar questions.

The interpretation of negative polar questions as positive statements, as in English negative polar questions, seems to have an epistemic modal function. When speakers do not have enough evidence in order to assert a proposition, they will introduce the information as a

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[150] There is a third language that has a similar use of negative polar questions: Colombian Siona. Since Ecuadorian Siona and Colombian are very closely related it is not surprising that Colombian Siona has similar structures. Nevertheless, Colombian Siona uses a different negation structure to form these negative polar questions. Speakers of Colombian Siona use the negative suffix *-ma* in combination with non-assertive subject agreement morphology (see Wheeler, 1987b, pp. 153-156).

negative polar question in Ecuadorian Siona. The fact that the speakers are not asserting the proposition yields the evidential and epistemic modal reading of conjecture.

6.2.3.4 How to understand the conjectural reading.

In summary, conjecture in Ecuadorian Siona is expressed by a specific type of question, namely a negative polar question. In some ways this construction behaves like a modal structure: it can only be used when the speaker does not know whether the proposition is true or false. However, compositionally the conjectural construction is not an epistemic modal; the speaker does not assert that the proposition is possibly or necessarily true. This modal reading is not generated by a propositional modal, as it is in the case of the propositional modal evidentials in St'át'imcets and Gitksan (Matthewson et al., 2007; Peterson, 2010). In Ecuadorian Siona this epistemic modal reading is generated by means of an epistemic presupposition. The conjectural construction is used when speakers have insufficient evidence to claim that the proposition is true. As in the case of the Quechua conjectural *-chá* (Faller, 2007), negative polar questions in their conjectural use seem to tone down the assertion in Ecuadorian Siona.[151]

6.3 The system

In the introduction of this chapter, it was already mentioned that the Ecuadorian Siona subject agreement morphology systems is reminiscent of the evidential systems in Eastern Tukanoan languages. As in the languages of that branch of the family, subject agreement plays a role in the expression of evidentiality in Ecuadorian Siona. The major differences are that evidentiality cannot be expressed in questions, and that not all members of the system express evidentiality in the language. Therefore, the question arises whether Ecuadorian Siona actually has an evidential system. First, I will provide an overview of the subject agreement systems in the language that has be discussed in the sections before in 6.3.1 and then in 6.3.2 I will address the question whether the subject agreement system can be considered to be an evidential system.

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[151] Another analysis of the conjectural construction is that it is a clause type in its own right and that the conjectural value is not a pragmatic extension of negative questions. However, there are no clear indications that the conjectural has reached this stage of grammaticalization.

In section 6.3.3, I will present an alternative analysis of the Ecuadorian Siona system.

6.3.1 Subject agreement categories

Morphologically, the Ecuadorian Siona subject agreement system shows a clear cut between two categories: it expresses both assertive and non-assertive morphology. Assertive and non-assertive morphology are different in both form and organization, as shown in the previous chapter. Assertive morphology is only used in assertions, and non-assertive morphology is used in both questions and reports. Non-assertive subject agreement morphology is also used in conjectural constructions, but, as shown above, conjecturals are a subclass of questions; conjecture is expressed by negative polar questions.

The morphological connection between interrogatives and reportatives is not very common cross-linguistically, but it is not inconceivable that these two semantic categories go together. The link between the two categories lies in the fact that the speaker does not assert the proposition in both cases. In the case of the interrogative, the speaker inquires about the proposition, and in the case of the reportative, the speaker only presents the proposition that is provided to her/ him by a third party. So the non-assertive character of the two categories binds them together.

Semantically, there is a three way split in the subject agreement system. It consists of the following categories: assertive, interrogative, and reportative. These categories are expressed by the different subject agreement paradigms in combination with some additional morphology in the case of the reportative and content questions. Since these values are not expressed in a single slot on the verb, they cannot be interpreted as a single morphological system. Yet, as shown in subsection 5.2.2, they can be analyzed as a single semantic system, because they behave similarly and more importantly because the three values are mutually exclusive. A sentence cannot be assertive, interrogative, and reportative at the same time. Only a single value can be selected. Now the question remains what type of system this is.

6.3.2 An evidential system?

One of the values in this semantic system is an evidential one. The reportative is an evidential, but does that make this system into an evidential system? If we take an evidential system to be a system in

which all elements express an evidential meaning, it is not very plausible that the Ecuadorian Siona system, in contrast with the Eastern Tukanoan systems, is an evidential system. All the elements in the Eastern Tukanoan systems seem to express evidentiality, while in Ecuadorian Siona only a single element does.

Nonetheless, there is a way to preserve the evidential system analysis in the case of the Ecuadorian Siona subject agreement morphology. One could consider Ecuadorian Siona to be a language that only expresses evidentiality in declarative utterances. The type of evidential system that the language would then represent in declarative utterances is a system in which the reportative value is opposed to everything else, an A3 system in Aikhenvald's (2004) terminology. This type of evidential system is typologically common in- and outside of South-America. For instance, Arabela, a Zaparoan language, Dâw, a Nadahup language, Terêna, a Southern Arawak language and many others have a system in which only the reportative is marked and nothing else (Aikhenvald, 2004, pp. 31-34).

Another way to view the expression of evidentiality in the Ecuadorian Siona is that it does not have an evidential system, but that this function is carried out by scattered evidentials. The scattered evidentials are evidentials that are found in different morphosyntactic systems in the grammar (see Aikhenvald, 2004, pp. 80-82 for more on scattered evidentials). Conjectures, in this analysis, are expressed by a specific type of question while reports are expressed by a verbal suffix -jã. In this view, there is no tight-knit evidential system and the reportative and the conjectural are scattered evidentials in the language.

Although both of these analyses are descriptively accurate, they only focus on evidential meanings and neglect the fact that the reportative forms a semantic system together with the assertive and the interrogative. The two analyses also overlook the structural similarities between the reportative and the interrogative. In order to understand the Ecuadorian Siona subject agreement system better, I will argue that it is better not to analyze this it as an evidential system.

6.3.3 An alternative analysis

The semantic system of the assertive, the interrogative, and the reportative can alternatively be analyzed as a clause-typing system. The first aspect that leads to think that this system is a clause-typing system is that two of its three elements are clause-typing categories: assertions and questions are two different clause types that are marked in many

languages, as discussed in chapter 2 in subsection 2.3.1. Assertions are clause types that have the sentential force of asserting. When a speaker uses an assertive marker in a language, she/he asserts that the information is true. Questions have the sentential force of asking. When a speaker uses an interrogative marker, she/he asks for information. Therefore, assertive and interrogative markers provide information about the grammatical function of the sentence (Chierchia & McConnell-Ginet, 1990; Portner, 2009).

The category of reports is traditionally not considered to be a distinct clause type. However, there are various indications in Ecuadorian Siona that reports function as a clause type. Not only is the category in complementary distribution with two other clause-typing categories, reports semantically behave as a clause type as well. The sentential force of reports is different from the sentential force of assertion and questions. In reports, the information uttered in the sentence is not asserted or questioned. When a speaker uses a reportative verb from in Ecuadorian Siona, she/ he only presents the information in the sentence without making any claims about its veracity, as shown in subsection 6.2.2. Therefore, the assertive, the interrogative, and the reportative in the language can be considered as three distinct clause types. The three clause types and their associated sentential force are summarized in the table below.

Table 6.1: An overview of three main clause types in Ecuadorian Siona and associated sentential force

Clause Type	Sentential Force
Assertive	Asserting
Interrogative	Asking
Reportative	Presenting

When the semantics of the three clause types is further analyzed, the appeal of the clause-typing analysis becomes even more apparent. As discussed in chapter 2 in subsection 2.2.3, the function of clause types can be broken down into roles assigned to the different speech act participants. For instance, when a speaker makes an assertion she/ he claims to be knowledgeable about the uttered information: the speaker is assigned the role of epistemic authority. When a speaker asks a question, she/he assumes that the addressee is knowledgeable about the requested information. In this case, the role of epistemic authority is assigned to the addressee, while the speaker is only assigned the role of inquirer.

The semantics of reports in Ecuadorian Siona can be decomposed in this way as well. As discussed in subsection 6.2.2, it is possible to determine a epistemic authority in reports as it is in assertions and questions. In this type of clause, the epistemic authority is neither assigned to the speaker nor to the addressee, but to a non-speech act participant. In this case, the speaker merely assumes the role of presenter of the information.

The different functions of the three clause types can be best understood by analyzing the assignment of the epistemic authority. The speaker assigns the role of epistemic authority to a different deictic entity in each clause type. In assertions, she/he assigns this role to the speaker, in questions to the addressee, and in reports to a non-speech act participant. This is summarized in table 6.2 below:

Table 6.2: An overview of the major clause types and associated epistemic authority

Clause type	Epistemic authority
Assertive	Speaker
Interrogative	Addressee
Reportative	Non-speech act participant

The Ecuadorian Siona imperative and hortative, as discussed in chapter 5 in subsection 5.2.4, can also be included in this system. The imperative is commonly considered to be a clause type in the languages of the world and has the sentential force of requiring (Chierchia & McConnell-Ginet, 1990; König & Siemund, 2007; Portner, 2004, 2009; Sadock & Zwicky, 1985). This is no different in the case of the Ecuadorian Siona imperative. The hortative can be analyzed as a subtype of the imperative, because the hortative has the sentential force of requiring as well. The only difference between a regular imperative and a hortative is the directed party. In the imperative, the addressee is the person who is required to do something, while in the hortative, it is the speaker and the addressee who are required to do something. The Ecuadorian Siona clause-typing system including the imperative and its semantics is presented in table 6.3 below:

Table 6.3: An overview of the major clause types and associated sentential force

Clause Type	Sentential Force
Assertive	Asserting
Reportative	Presenting
Interrogative	Asking
Imperative	Requiring

As the semantics of the other clause types, the semantics of the imperative can be decomposed as well. It is possible to identify roles assigned by the speaker when she/ he utters an imperative. However, since the imperative does not concern the transmission of knowledge, these assigned roles do not include the epistemic authority, as discussed in chapter 2 in subsection 2.3.3. The roles that the speaker assigns when she/ he uses an imperative are the deontic authority and the directed party. The deontic authority refers to the role of requirer and the directed party is, as discussed above, the person who is required to do something. The speaker assigns the role of the deontic authority to her/himself in an imperative. The assignment of the directed party is different for the imperative proper and the hortative, as discussed above. The clause types and the associated types of authority are summarized in table 6.4 below:

Table 6.4: The main clause types and associated authority

Clause type	Type of authority	Authority
Assertive	Epistemic	Speaker
Interrogative	Epistemic	Addressee
Reportative	Epistemic	Non-speech act participant
Imperative	Deontic	Speaker

The question remains whether it is possible to assign the deontic authority to another deictic entity in Ecuadorian Siona. As discussed in chapter 2 in subsection 2.4.3, it is possible in some languages of the world, such as Shipibo-Konibo, to shift the deontic modality to a non-speech act participant. The example presented in chapter 2 in which this is the case is repeated below:

Shipibo-Konibo
(52) Onpax-ki   be-wé!
       Contained.water:ABS-REP   bring-IMP
       '(S/he says that you must) bring water!' (Valenzuela, 2003, p. 42).

Because of the use of the reportative clitic *-ki* in example (52), the speaker does not utter the order on behalf of her/himself, but on behalf of a non-speech act participant. That means that the speaker no longer holds the deontic authority, but that she/ he has assigned it to a non-speech act participant.

The Ecuadorian Siona reportative can be used in a similar way. It is possible to use a present or future tense reportative verb form with a second person in order to express that the speaker orders the addressee to do something on behalf of someone else. An example that illustrates this use of the reportative is presented below in (53):

(53) Më'ë tsoaja̠'coaña.
       Mɨ'ɨ   zoa-hã'-ko-a-jã.
       2S   wash-PRP-NLZ.F-COP-REP
       'You will / have to wash.' (I am told). (20110328elicr001.085).

Example (53) illustrates a construction that can be used in order to repeat an order made by a third person. The speaker does not order the addressee to wash on her/ his own authority; she/ he does so on behalf of someone else.

The communicative function of the present or future tense reportative in Ecuadorian Siona is very similar to the one of the Shipibo-Konibo combination of the imperative and the reportative. Nevertheless, the Ecuadorian Siona use of the reportative cannot be analyzed as a shift of the deontic authority. The reported order function is only a communicative function of the reportative in Ecuadorian Siona and not a grammatically marked function. First of all, the sentence is not grammatically marked as an imperative, and secondly, the present or future tense reportative with a second person subject can also be used in order to express that the speaker has heard that the addressee will do something. It does not necessarily express the function of reported order.

Therefore, the reported order function is not part of the sentential force of a clause type. Since it is a communicative function

and not a grammatical function, it operates at the level of the speech act. It is an illocutionary function.

The analysis presented above has implications for linguistic theory, especially with respect to our understanding of the nature of evidentiality and clause-typing. These will be discussed in chapter 8.

Chapter 7: Reconstructing Ecuadorian Siona verb morphology

7.1 Introduction

Although Ecuadorian Siona has complex verbal morphology with distinct subject agreement paradigms for assertive, non-assertive and dependent verbs, there are also many regularities in the system as shown in chapter 6. For instance, the second and third person singular feminine form in the present tense is generally expressed by the suffix *-ko* and its past counterpart is *-o* or *-ko*. The same regularity is found in the third person masculine forms: the present suffix *-kɨ* has *-ɨ* and *-kɨ* as its past counterparts. Despite these regularities, it is difficult to split up the semantically complex suffixes into a subject agreement suffix, a tense suffix and a clause typing suffix. Synchronically, these suffixes are best analyzed as fused suffixes that express these three grammatical categories simultaneously.

Diachronically, however, it is probably possible to tease the categories apart. By reconstructing an earlier state of the verb morphology, it is possible to distinguish separate tense and subject agreement marking. It is also possible to explain why different clause types, assertive, non-assertive, and dependent clauses, have different subject agreement systems. Furthermore, there is a historical explanation for the fact that questions and reports share the same subject agreement morphology.

In this chapter, I analyze the subject agreement system in the language from a diachronic perspective. In order to understand the issues to the fullest extent I will first address the regularities of the synchronic system in section 7.2. Then, in section 7.3, I present some sound changes that have occurred in Ecuadorian Siona that bring to light even more regularities in the system. In section 7.4, I will describe the different processes of grammaticalization and reanalysis that have led to the emergence of the verbal system as it is now. Finally, in section 7.5, I will provide a summary of this chapter and some conclusions.

7.2 Regularities in the subject agreement morphology

There are many regularities in the Ecuadorian Siona subject agreement morphology system. For instance, the past tense subject agreement paradigms of the non-assertive category and of the dependent verb category are identical except for their organization with respect to

person. Specifically, the dependent verb morphology does not distinguish between different persons, whereas the non-assertive morphology opposes second and third person singular masculine, second and third person singular feminine and all other categories. The tables with all the different subject agreement paradigms that were presented in chapter 5 are repeated below:

Table 7.1: Subject agreement morphology in assertions

Tense	Person / Gender / Number	Assertions		
		Non -*i* verbs	-*i* verbs	bound verbs -*a* and -*si*
PRESENT	3S.F	-ko	-ko	-o
	3S.M	-hi	-hi	-bi
	OTHER	-jɨ	-jɨ	-'ɨ
PAST	3S.F	-o	-ko'ɨ	
	3S.M	-bi	-hV'i	
	OTHER	-wɨ	-ɨ'ɨ	

Table 7.2: Subject agreement morphology in non-assertions

Tense	Person / Gender / Number	Questions & Reports			Conjectural
		Non -*i* verbs	-*i* verbs	Bound verbs -*a* and -*si*[152]	All verbs
PRS	2/3S.F	-ko	-ko	-o	-a ba-'i-o
	2/3S.M	-kɨ	-kɨ	-ɨ	-a ba-'i-ɨ
	OTHER	-je	-je	-je	-a ba-'i-je
PST	2/3S.F	-o	-ko		-a bah-ko
	2/3S.M	-ɨ	-kɨ		-a bah-kɨ
	OTHER	-de	-te		-a bah-te

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[152] This morphology is only found for questions and not for reportatives.

Table 7.3: The subject agreement morphology in dependent verbs

Tense	Number / gender	Same subject		Different subject	
		Non -i verbs	-i verbs	Non -i verbs	-i verbs
PRS	S.F	-ko	-o	-ko-na	-o-na
	S.M	-kɨ	-ɨ	-kɨ-na	-ɨ-na
	PL	-hɨ	-hɨ /-bɨ	-hɨ-na	-hɨ /-bɨ-na
PST	S.F	-ni		-o-na	-ko-na
	S.M			-ɨ-na	-kɨ-na
	PL			-de-na	-te-na

The vowels in the subject agreement paradigms show the most regularity. For instance, whenever a suffix explicitly refers to a feminine subject, it always ends in *-o*. Many suffixes that refer explicitly to a masculine subject end in *-ɨ*, except for assertive suffixes whose masculine suffixes end in *-i*. In the case of the rest categories, which I refer to as the 'other' category in the paradigms, there are also some regularities with respect to the vowel: in the assertive paradigms it is an *-ɨ* and in non-assertive and past dependent paradigms it is an *-e*. These regularities are summarized in the table below:

Table 7.4: The reoccurring vowels with their categories

Morphological material	Function
-o	Feminine: • 3rd singular, assertive • 2nd & 3rd person singular, non-assertive • dependent verbs
-ɨ	• other: assertive • masculine: 2nd and 3rd person singular non-assertive • plural: present dependent verbs
-e	Other: • non-2nd or 3rd person singular non-assertive • plural past dependent verb
-i	Masculine: • 3rd person singular masculine assertive

There are also consonantal regularities that occur in the paradigms. For instance, many present suffixes start with a plain *-k*. In

the case of past tense of the *-i* verbs, the stem ends in a glottal fricative and the suffix starts with a voiceless fricative *-k* or *-t*. The absence of a consonant marks past tense in the case of the non *-i* verbs, and present in the case of the conjectural and dependent *-i* verbs as well as the bound verbs. These regularities are summarized in the table below:

Table 7.5: Regularities in the use of consonants

Morphological material	Function(s)
-k	• Present: all non *-i* verbs and most paradigms with *-i* verbs.
-h.C	• Past: *-i* verbs
-Ø	• Present: some paradigms with *-i* verbs. • Past: non *-i* verbs

Despite these regularities it is not possible to generalize rules, neither in the case of the vowels nor in the case of the consonants. For example, it is impossible to say that *-o* always marks feminine subjects, because it does not mark all feminine subjects. First and second person feminine are not marked with an *-o* in the assertive paradigm. Neither is it possible to say that *-o* marks third person singular feminine, because in non-assertive verbs it also marks second person feminine, and on dependent verbs it marks all feminine persons. On the whole, it is difficult to make generalizations for any of the vowels or consonants. From a synchronic perspective it is, therefore, more satisfactory to analyze the subject agreement suffixes as portmanteau forms that additionally express tense and the clause type of the sentence.

Nonetheless, all the regularities suggest that these paradigms were historically not strictly fusional. They show that a relation may have existed between specific morphological elements and a grammatical category. More precisely, the use of the vowels in the suffixes seems to be involved in the expression of subject agreement, whereas consonants are more related to the expression of tense. The difference in clause type is often expressed through the use of a different subject agreement morpheme. Especially, the assertive morphology is different from the non-assertive and the dependent verb morphology. The differences between non-assertive and dependent verb morphology are mainly found in the organization of the paradigms. While dependent verbs do not distinguish any person, but just gender and number, non-assertive verbs treat second and third person singular masculine and feminine different from all other categories. All these

patterns do not seem to be coincidental. They seem to have emerged from some historical processes that will be discussed throughout this chapter.

7.3 Phonological changes

One type of historical process that has affected Ecuadorian Siona verb morphology is sound change. Due to phonological changes, some general morphophonological processes have been obscured. Reconstruction of an earlier stage of Ecuadorian Siona verb morphology allows for even more regularities to become visible. It is, then, possible to understand how the different functions were fused into a single morpheme.

In this section I will discuss four of the most relevant sound changes for the historical processes and I will show to which suffixes of the verb morphology they apply. First, I will address the processes that have taken place in the consonantal system: lenition in subsection 7.3.1 and debuccalization of *p in 7.3.2. Then I will discuss important phonological processes in the vowel system: coalescence in subsection 7.3.3 and vowel assimilation, in subsection 7.3.4. Finally, I will provide an overview of the reconstructed system in 7.3.5.

7.3.1 Lenition

One diachronic phonological process that is very likely to have affected the verbal morphology in Ecuadorian Siona is lenition. The lack of a consonant in some of the verbal suffixes is in all likelihood due to this phonological process. The consonantless suffixes, *-o* and *-ɨ*, are found in the past tense paradigms of the non *-i* verb class and in some present tense paradigms of the *-i* verb class. The cognates of these Ecuadorian Siona suffixes in some other Western Tukanoan languages do have a consonant. The cognates of the Ecuadorian Siona past tense non-assertive suffixes *-o* and *-ɨ* in the non *-i* verb paradigms of Colombian Siona (Wheeler, 1987b) and Máíhɨ̀kì (Velie, 1975; Velie & Velie, 1981) are *-go* and *-gɨ* respectively.[153] An overview of the past tense subject

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[153] These forms are in the Colombian Siona orthography used by Wheeler (1987b, p. 155): *-guë* and in the Máíhɨ̀kì orthography used by Velie (1975, p. 26) and Velie and Velie (1981, p. 125): *-guɨ*. These orthographies are based on the Spanish orthography in which a voiced dorsal [g] that occurs before [i] or [e] is spelled as <gu>.

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agreement morphology from various West-Tukanoan languages is provided in the table below:

Table 7.6: The past tense subject agreement morphology for questions with verbs from the non –*i* class[154] (Cook & Criswell, 1993, pp. 56-57; Velie, 1975, p. 26; Velie & Velie, 1981, p. 125; Wheeler, 1987b, p. 160).

Person/ number/ gender	Ecuadorian Siona	Koreguaje	Colombian Siona	Máíhɨ̀kì
2/3S.F	-o	-o	-go	-go
2/3S.M	-ɨ	-ɨ	-gɨ	-gɨ
OTHER[155]	-de	-re	-re	-de

In the table above it can be observed that the Colombian Siona and Máíhɨ̀kì suffixes for second and third person singular masculine and feminine have a voiced dorsal, while the Ecuadorian Siona and Koreguaje cognates do not contain any consonant.

The past question paradigm is not the only paradigm where these sound correspondences occur. Wherever Ecuadorian Siona subject agreement suffixes consist of a single vowel, the Colombian Siona and Máíhɨ̀kì cognates, if they exist, have a dorsal stop /g/ in their onset. For instance, the cognate form for the third person singular feminine copula form -*ao* in Ecuadorian Siona is *ago* in Máíhɨ̀kì (Velie & Velie 1981: 125). Another example involves the present tense dependent suffixes that occur with the -*i* verb class. These suffixes are -*o* and –*ɨ* in Ecuadorian Siona while their cognates in Colombian Siona are -*go* and -*gɨ*:

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[154] This verb class is referred to as the regular verbs in Máíhɨ̀kì (Velie, 1975; Velie & Velie, 1981) and Koreguaje (Cook & Criswell, 1993) and as the first inflection class in Colombian Siona (Wheeler, 1987b).

[155] The difference in consonant in the suffixes -*de* and -*re* is probably an orthographical one. The choice between <d> or <r> depends on the phonological analysis of the language.

Table 7.7: The non-past tense subject agreement morphology for dependent verbs with verbs from the –*i* class[156] (Cook & Criswell, 1993, pp. 56-57; Velie, 1975, p. 26; Velie & Velie, 1981, p. 125; Wheeler, 1987b, p. 160).

Person/ number/ gender	Ecuadorian Siona	Colombian Siona
S.F	-o	-go
S.M	-ɨ	-gɨ
PL	-hɨ	-hɨ̃

The sound correspondence between [g] in Colombian Siona and Máíhɨ̀kì and [Ø] in Koreguaje and Ecuadorian Siona suggests that a phonological change has taken place. The situation in Koreguaje and Ecuadorian Siona looks like a typical case of lenition in which the intervocalic dorsal stops first softened and then disappeared. Therefore, the onsetless suffixes -*o* and -*ɨ* can be reconstructed as **-go* and **-gɨ*. The consonant **g* in these suffixes represents a lenited dorsal consonant.

Interestingly, the reconstruction of the lenis consonant **g* unveils further regularities in the paradigms that contain suffixes with this consonant. The other suffixes in these paradigms mostly start with a lenis consonant as well. For instance, the past tense non-assertive suffixes for non -*i* verbs all start with a lenis consonant: **-go*, **-gɨ* and -*de*. The dental consonant *d* is lenited and is pronounced as [ɾ]. Another example of a paradigm that is reconstructed as having only lenis consonants is the present tense -*i* verb dependent paradigm. The reconstructed lenis forms are **-go* and **-gɨ*. The third lenis form, which still used in the Sototsiaya variety, is the form -*bɨ*. The bilabial consonant is lenited and is pronounced as [β]. The tables below show the paradigms that show lenited consonants:

Table 7.8: Lenited consonant paradigms in assertive clauses

Person / Number / Gender	Past tense non -*i* verbs	Present tense bound verbs
3S.F	*-go	*-go
3S.M	-bi	-bi
OTHER	(-wɨ)	(-'ɨ)

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[156] Wheeler (1987b) refers to this verb class as the second inflectional class in his description of Colombian Siona.

Table 7.9: Lenited consonant paradigms in non-assertive clauses

Person / Number / Gender	Past tense non -*i* verbs	Present tense conjectural	Present bound verbs
3s.f	*-go	*-go	*-go
3s.m	*-gɨ	*-gɨ	*-gɨ
OTHER	-de	(-je)	(-je)

Table 7.10: Lenited consonant paradigms in dependent clauses

Person / Number / Gender	Past tense non -*i* verbs	Present tense -*i* verbs
s.f	*-go	*-go
s.m	*-gɨ	*-gɨ
PLURAL	-de	-bɨ

The tables above show that lenis consonants are associated to specific past and present tense paradigms. Most of the suffixes in the paradigms start with a lenis consonant or are reconstructed to start with a lenis consonant. Some suffixes from these paradigms do not participate in this pattern. These suffixes, which are placed between brackets in the tables above, are found in the 'Other' categories of the assertive clauses and in the present tense non-assertive clauses for the -*i* verbs. The use of some of the suffixes in these positions can be explained by different historical processes. Nevertheless, there is a general tendency that lenis consonants are used in the paradigms presented above.[157]

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[157] I leave the question of how these lenis consonants used to be pronounced unanswered in this dissertation. Synchronically, the labial and dental lenis consonants are allophones of the laryngealized consonants that are found in word-initial position. It is, however, unclear at this stage of the diachronic analysis of Ecuadorian Siona, whether the word-internal lenis consonants developed from voiced stops or from laryngealized stops. This question goes back further to Proto-Tukanoan. Most Tukanoan languages have two types of stops: some languages have voiceless and voiced stops and others have plain and laryngealized stops. Chacón (to appear) reconstructs the voiced stops and the laryngealized stops as laryngealized stops in Proto-Tukanoan. Waltz and Wheeler (1972) reconstruct the same group as voiced stops in Proto-Tukanoan. More evidence is needed to confirm one of these reconstructions. Because I do not want to take a stance on this topic, I have decided to adopt Wheeler's

7.3.2 The debuccalization of *p

A second type of sound change that has occurred in Ecuadorian Siona is the debuccalization of *p, as suggested in chapter 3. This is probably an old sound change that happened before the Western Tukanoan languages split up. Its result is found in all of the languages of this branch of the family. When a consonant debuccalizes, it loses its place of articulation and is pronounced as a glottal fricative [h]. There is a considerable amount of evidence that this change occurred in Ecuadorian Siona and in Western Tukanoan languages in general. Many words that have a glottal fricative [h] in Ecuadorian Siona have a bilabial stop in Eastern Tukanoan languages. The table below shows examples of this correspondence:

Table 7.11: Sound correspondence between [p] or [b] in the Eastern Tukanoan languages Desano (DES), Kubeo (KUB), Piratapuyo (TAP), Tukano (TUK) and Wanano (WAN) and [h] in Ecuadorian Siona (SIO) (Data on Eastern Tukanoan languages from Chacón, to appear, Appendix I; N. E. Waltz & Wheeler, 1972)

	DES	KUB	PIR	TUK	WAN	SIO	Meaning
#_V	~pabo	~pabu	~pabo	~pabo	~pabo	hãmũ	armadillo
	-	-	pahi	pahi	-	hai	big
	pagɨ	pakɨ	pʰɨkɨ	pakɨ	pʰɨkɨ	ha'-kɨ	father
	pea	peka	pʰicha	peka	pʰicha	hẽhka	firewood
V_(')V	gobe	kobe	kope	kope	kope	gohe	hole
	jeeba	jeba	ja'pa	je'pa	ja'pa	jiha	land
	bupu	õpõ	wipo	bɨpo	wɨpo	mõhõɨ	thunder
	-	-	~dabo	~dɨbo	~dabo	dɨhõ	wife

The first four words in table 7.11, for *armadillo, big, father* and *firewood*, show that there is a sound correspondence between [p] in most Eastern Tukanoan languages and [h] in Ecuadorian Siona in word initial position. The last four words, for *hole, land, thunder* and *wife*, show that there is a correspondence between [p] in some Eastern Tukanoan languages, [b] in other Eastern Tukanoan languages and [h] in Ecuadorian Siona. Since it is typologically more common for [p] to debuccalize to [h] than for [h] to become [p], the best reconstruction of [h] in Ecuadorian Siona is *p*.

Gómez-Imbert (2004) describes this same process for the Eastern Tukanoan language Barasana in which *p* also has become [h]. A similar reconstruction is proposed for the glottal fricative [h] in

description of the consonants (1987b), in which he makes a difference between lenis and fortis consonants: *consonantes suaves y fuertes*.

Colombian Siona by Waltz and Wheeler (1972, p. 125). They argue that the [h] in the language derives from a *p* in Proto-Tukanoan. Chacón (to appear) extends this reconstruction *p > h* to all Western Tukanoan languages and to some Eastern Tukanoan languages.

Since the debuccalization of *p* occurs in both word initial and in root internal position in Ecuadorian Siona, it seems to be a generalized sound change in the language, and it probably took place in suffixes as well. One indication that the sound change *p > h* also took place within bound morphology is that there are no suffixes containing a bilabial stop [p]. Furthermore, an even better indication can be found in some cognate suffixes. There is a suffix in Ecuadorian Siona that contains [h] that has cognates in Eastern Tukanoan languages that contain a bilabial stop. This is the suffix *-hi* 'third person singular masculine present assertive' in Ecuadorian Siona. Its cognate forms are, for instance, *-bi* in Kubeo and *-~bi* in Desano and Tukano (Chacón, to appear). The glottal fricative [h] in this Ecuadorian Siona suffix corresponds to a bilabial stop in Eastern Tukanoan languages, just as it does in root morphemes.

Because of the correspondence in suffixes between [h] in Ecuadorian Siona and bilabial stops in Eastern Tukanoan languages, I assume that the *p* has debuccalized in suffixes in Ecuadorian Siona as well. Therefore, I reconstruct the third person masculine present assertive suffix *-hi* as *-pi*. I follow Chacón (to appear, Appendix I) in this reconstruction. He reconstructs cognate suffixes of the Siona suffix *-hi* as *-pi* as well. Other suffixes that contain the glottal fricative [h] in Ecuadorian Siona are the third person singular masculine past tense assertive suffix *-hV'i* and the plural present tense suffix for dependent verbs *-hɨ*. I reconstruct these suffixes as *-pV'i* and *-pɨ* at an earlier stage of the language. These reconstructions are summarized in the table below:

Table 7.12: The reconstruction of the subject agreement
morphemes that contain a glottal fricative [h]

Function	Suffix	Reconstructed form
3S.M.PRS.ASS	–hi	*–pi
3S.M.PST.ASS (–*i* verbs)	–hV'i	*–pV'i
PL.PRS.DEP	–hɨ	*–pɨ

7.3.3 Coalescence

A third type of sound change that has blurred some of the regularities in Ecuadorian Siona verb morphology is coalescence. Coalescence is not a

diachronic process in the language; it is a productive process. Examples of this process that make it difficult to recognize specific verbal morphology are the coalescence of /e/ and /i/ and of /i/ and /ɨ/.

This first synchronic coalescence of /e/ and /i/ affects present tense main verb forms of the *-i* class with a root that ends in *-e*. These roots that end in *-e* cannot be recognized as *-i* verbs in present tense main verbs. The reason for this is that the main indicator for class in this verb form, the imperfective suffix *-i*, has fused with the preceding vowel and is not overtly realized. The suffix *-i* is realized as a lengthening of the vowel *-e* in the root. This is illustrated in example (1a):

(1)   a.   hueji.
                 [wee.hi]
                 we-i-hi.
                 lie.in.hammock-IMPF-3S.M.PRS.ASS
                 'He is lying in the hammock.'
    b.   saiji.
                 [sai.hi]
                 sa-i-hi.
                 go-IMPF-3S.M.PRS.ASS
                 'He is going.'

Example (1a) shows that the imperfective suffix *-i* is not pronounced as [i] when it is suffixed to a root that ends in [e]. The vowel /e/ and /i/ fused and form a long /ee/ in those cases. These verbs with a long *-e* in the stem in the present tense behave as *-i* verbs in all other paradigms. The coalescence of /e/ and /i/ obscures the membership of these verbs of the *-i* verb class in the present tense.

The second example of coalescence, of /i/ and/ɨ/, has an impact on a the recognition of various subject agreement suffixes. An example of a suffix that assimilates in this way is *-ɨ*. This suffix came into existence when the dorsal lenis stop **g* stop was deleted in intervocalic position, as shown in subsection 7.3.1. The suffix *-ɨ* fuses with /i/ when it is used as a past tense non-assertive suffix and as a past tense different subject dependent verb suffix with the only non *-i* verb of which the root ends in *-i*: *go'ije* 'to return.' This is illustrated in the examples below:

(2) a. caëña.
         [kaɨ.ɲã]
         ka-ɨ-jã.
         say-2/3S.M.PST.N.ASS-REP
         'He said.' (I am told).
     b. go'iña.
         [ko̠.ʔi.ɲã]
         go'i-ɨ-jã.
         return-2/3S.M.PST.N.ASS-REP
         'He returned.' (I am told).

(3) a. caëna...
         [kaɨ.nã]
         ka-ɨ-na...
         say-S.M.PST.-DS
         'When he had said...'
     b. go'ina...
         [ko̠.ʔi.nã]
         go'i-ɨ-na.
         return-S.M.PST-DS
         'When he had returned...'

The past tense suffix -ɨ is overtly realized when it is used with a non -i
verb that does not end in -i, as shown for the verb *kaje* 'to say' in
examples (2a) and (3a). When the morpheme is suffixed to the non -i
verb *go'ije* 'to return,' the vowels /i/ and /ɨ/ fuse and are realized as [i],
as shown in examples (2b) and (3b). This same synchronic process of
coalescence occurs with the third person singular present tense
assertive suffix -ɨ when it used with the bound verb -*si*, as discussed in
chapter 5, subsection 5.2.3.2, and with the masculine singular present
tense suffix -i that is used with dependent -i verbs, as discussed in
subsection 5.3.1.4.

7.3.4 Vowel assimilation

A final type of sound change that is discussed in this chapter is vowel
assimilation. This is a common process in the language that can in some
cases be characterized as diachronic and in others as synchronic. The
synchronic processes of vowel assimilation were discussed in the
phonological sketch of Ecuadorian Siona in chapter 3 and are briefly
repeated here. An example of synchronic vowel assimilation is the

assimilation of the vowel /ɨ/ to [i] with the present tense suffix -'ɨ 'other assertive' when it is attached to the bound future verb -si. The combination of -si and the suffix -'ɨ is realized as -si'i, as shown in the overview of the verb morphology in subsection 5.2.3.2.

Another suffix that has undergone vowel assimilation is the third person singular masculine past tense assertive -i verb suffix -hV'i. This suffix seems to have undergone a chain of sound changes. This chain is represented in diachronic order in the example below:

(4)   *-3S.M-PST →   *p > h   →   assim. I→   assim. II
        *-pi-'ɨ   →   *-hi-'ɨ →   *-hi'i   →   -hV'i

As illustrated in (4), the suffix -hV'i is reconstructed as a combination of a third person singular masculine suffix *-pi and a past tense suffix *-'ɨ. The combination of the two suffixes was affected by three sound changes that have obscured the regularity in this paradigm. The first change, the debuccalization of *p, was discussed in subsection 7.3.2. The second two changes are diachronic processes of vowel assimilation. I will address these changes in this subsection.

The final vowel of the suffix -hV'i, the high front vowel [i], is probably the vowel that first underwent assimilation while the first vowel V subsequently underwent assimilation. These vowels display irregularity with respect to the vowels in the other suffixes of the paradigm and the vowels in the suffixes of other paradigms. The paradigm to which the suffix -hV'i belongs is presented here below:

Table 7.13: The subject agreement paradigm for –i verb past tense assertions.

Person / number / gender	Suffix
3S.F	-hV'i
3S.M	-ko'ɨ
OTHER	-ɨ'ɨ

As mentioned in the overview of verbal morphology in subsection 5.2.3.1.2, it appears that the suffixes of this assertive past paradigm actually consist of two parts. The first part, -hV for 3S.M, -ko for 3S.F and -ɨ for the OTHER category, seems to mark subject agreement, since these suffixes are similar to the suffixes found in other paradigms. The second part, -'i for 3S.M and -'ɨ for both 3S.F and the OTHER category, seems to mark past tense.

The third person singular masculine marker *-hV* can be reconstructed as *-hi. The vowel in this suffix assimilates to the vowel of the verb root, as in *saha'i* 'he went', *tuhu'i* 'he sat on top of something' and *sẽhẽ'i* 'he asked.' Since this vowel always assimilates to the vowel in the verb root, it is not immediately straightforward that is should be reconstructed as **i*. However, the form *-hi* is still found in other paradigms marking the same subject agreement category, such as in the present tense assertive paradigms of *-i* verbs and non *-i* verbs. Further evidence is found in Colombian Siona (Wheeler, 1987b, p. 156) and Secoya (Johnson & Levinsohn, 1990, p. 66). The third person singular masculine past tense suffix for *-i* verbs is *-hi'i* in these closely related languages. This evidence suggests that the assimilation of the first vowel in the suffix *-hV'i* is an innovation in Ecuadorian Siona and that the first part of the suffix can be reconstructed as **-hi*. If the debuccalization of **p* in Ecuadorian Siona described in subsection 7.3.2 is taken into account, the reconstruction to **-pi* can be completed.

The tense marker was probably *-'ɨ*, which can be reconstructed as **-'ɨ* in the case of the third person singular masculine. There are two main arguments for this reconstruction. First of all, the assimilation from **ɨ* to [i] is a regular sound change in the language. Therefore it would not be exceptional if this assimilation had happened. Secondly, the reconstruction of **-'ɨ* shows one past suffix for the three subject agreement categories. The third person singular feminine and the 'other' both have this tense marker. This is a uniformity that is to be expected for a regular tense marker. If a suffix is a pure past tense marker, one would not expect it to differ for the subject agreement categories. Taking into account the three sound changes that the suffix *-hV'i* underwent, it can be reconstructed as a combination of the subject agreement suffix **-pi* and a tense marker **-'ɨ*.

7.3.5 An overview of the reconstruction

Sound changes such as lenition, the debuccalization of *p, coalescence and vowel assimilation have changed the picture of the verbal morphology. Some of the regularities in the verb paradigms that existed at an earlier stage of the language were blurred completely. These regularities can be brought to light via the reconstruction of various sounds. One of these regularities, as discussed in subsection 7.3.1, is that some paradigms show mainly lenis consonants. The feminine and masculine suffixes always seem to follow this pattern in the lenis paradigms, while the 'other' suffixes participate in some of the

paradigms. For instance, the past tense non-assertive paradigm for non *-i* verbs contains the lenis suffixes *-o* (**-go*), *-ɨ* (**-gɨ*) and *-de*. This regularity may seem to be a coincidence, if only the lenis paradigms are taken into account.

However, the lenis consonant regularity becomes more striking when the paradigms without lenis consonants are taken into consideration. These non-lenis paradigms show further regularity: they mainly display plain voiceless stops, or fortis consonants. It is the feminine and masculine suffixes that show this regularity in all the paradigms and the 'other' suffixes in a part of the paradigms as well. These fortis paradigms often show exactly the same suffixes as the lenis paradigms, but with a fortis consonant. An example of a full fortis paradigm is the past tense non-assertive paradigm for *-i* verbs that consists of the fortis suffixes *-ko*, *-kɨ* and *-te*. The consonants in the suffixes of this paradigm all have the same place of articulation as the consonants of their non *-i* verbs counterparts, they just differ with respect to their energy of production. There is a contrast between fortis and lenis consonants that seems to mark the distinction between the different verb classes.

Another grammatical category that is marked by this contrast is tense. In many cases the only difference between a past and present tense suffix is the fortis or lenis pronunciation of the consonant. For example, the assertive non *-i* verb paradigms contain suffixes with fortis consonants in the present: *-ko* and *-hi (*-pi)* and lenis suffixes with lenis consonants in the past: *-o (*-go)* and *-bi*. Another reconstructed regularity in the tense marking concerns the past tense suffix *-ʼɨ* that is found in the assertive past tense paradigm for the *-i* verb class. These reconstructed regularities show that the verbal suffixes expressing subject agreement, tense, and clause type were not always portmanteau suffixes, but that the grammatical functions were fused into a single suffix for historical reasons. Tense was, for instance, expressed by the fortis / lenis distinction, and there was a past tense marker that can still be found in one of the paradigms. I will dedicate the rest of this chapter to describing how this complex verbal system evolved. The tables below provide an overview of the reconstructed verbal paradigms as a summary of this section:

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Table 7.14: A reconstruction of assertive subject agreement morphology

Tense	Person/ Gender/ Number	Non -*i* verbs	-*i* verbs	Bound verbs -*a* and -*si*
Present	3S.F	-ko	-i-ko	-go
	3S.M	-pi	-i-pi	-bi
	OTHER	-jɨ	-i-jɨ	-'ɨ
Past	3S.F	-go	-ko-'ɨ	
	3S.M	-bi	-pi-'ɨ	
	OTHER	-wɨ	-ɨ-'ɨ	

Table 7.15: A reconstruction of non-assertive subject agreement morphology

Tense	Person/ Gender/ Number	Non -*i* verbs	-*i* verbs	Bound verbs -*a* and -*si*
Present	2/3S.F	-ko	-i-ko / -i-go	-go
	2/3S.M	-kɨ	-i-kɨ / -i-gɨ	-gɨ
	OTHER	-je	-i-je	-je
Past	2/3S.F	-go	-ko	
	2/3S.M	-gɨ	-kɨ	
	OTHER	-de	-te	

Table 7.16: A reconstruction of dependent subject agreement morphology

Tense	Gender / Number	Same subject		Different subject	
		Non -*i* verbs	-*i* verbs	Non -*i* verbs	-*i* verbs
Present	F	-ko	-i-go	-ko-na	-i-go-na
	M	-kɨ	-i-gɨ	-kɨ-na	-i-gɨ-na
	PL	-pɨ	-i-bɨ	-pɨ-na	-i-bɨ-na
Past	F	-ni		-go-na	-ko-na
	M			-gɨ-na	-kɨ-na
	PL			-de-na	-te-na

7.4 The origin of the Ecuadorian Siona verb morphology system

A peculiarity of the Ecuadorian portmanteau verbal suffixes is that various suffixes are repeated in many paradigms, often with a slight

difference, and occasionally with no difference at all. As mentioned previously, the differences between the paradigms are comprised of the following phenomena:

1. The fortis / lenis distinction
2. The differences in suffixes in the different clause types (assertive, non-assertive and dependent clauses).
3. The differences in organization of the person, number and gender categories.

For instance, the suffix *-ko* / *-o* (**-go*) is found in all paradigms to mark some type of feminine singular subject. The fortis / lenis distinction between these two counterparts is a morphophonological feature that marks tense and verb class contrasts. An example of different suffixes in different clause types are the masculine singular counterparts of the suffix *–ko* / *-o* (**-go*). Its counterparts are *-hi* (**-pi*) / *-bi* in assertive clauses and *-kɨ* / *-ɨ* (**-gɨ*) in non-assertive and dependent clauses. An example of the final difference between the paradigm is that suffix *-ko* / *-o (*-go)* marks a different but overlapping subject agreement category in every clause type: third person singular feminine in assertive clauses, second and third person singular feminine in non-assertive clauses and singular feminine for any person in dependent clauses.

In this section I will address the historical background of these distinctions and describe how this complex verb system developed in Ecuadorian Siona. In subsection 7.4.1, I will discuss the possible origins of the subject agreement suffixes that exist in the different paradigms. In subsection 7.4.2, I will discuss the development of distinct clause type markings. In subsection 7.4.3, I will present the introduction of finite categories in the non-assertive and dependent subject agreement morphology, such as the marking of tense and person.

7.4.1 Sources for the subject agreement suffixes

The suffixes that are found in the non-assertive paradigms and the dependent paradigms are much more similar to each other than either is to the suffixes in the assertive paradigms. This is probably due to the fact that these suffixes have different origins. The suffixes of the non-assertive and dependent paradigms are reminiscent in function and form of various nominal classifiers. Therefore, I propose that the subject agreement function of these suffixes developed from a verbal use of nominal classifiers.[158] I will discuss the origin of the subject agreement

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[158] I am not the first to propose a nominal origin for subject agreement morphology in Tukanoan languages. Malone (1988) reconstructs the subject

in assertive paradigms in subsection 7.4.1.1 and of the subject agreement in the non-assertive and dependent paradigms in subsection 7.4.1.2. In subsection 7.4.1.3, I will provide an overview of the origins of the different suffixes.

7.4.1.1 The origin of the assertive subject agreement suffixes

Most of the subject agreement suffixes in the assertive paradigms do not resemble any nominal classifier. The suffixes *-hi (*-pi) / -bi*, *-ji*, *-wɨ* and *-'ɨ* do not have a counterpart in the set of nominal classifiers. Only the third person singular feminine assertive suffix *-ko / -o* (*-go) is identical to the nominal classifier *-ko / -o (*-go)* that marks animate feminine entities. Because most assertive subject agreement suffixes lack any resemblance to nominal classifiers, I reconstruct this paradigm as consisting of original subject agreement morphemes in the language.

There is comparative evidence to support this reconstruction. For instance, the suffix *-hi (*-pi) / -bi* has cognates in Eastern and Western Tukanoan languages, as mentioned above. These cognates only function as verbal suffixes and not as nominal classifiers. The cognates are used for the same subject agreement category as in Ecuadorian Siona: third person singular masculine. Cognate forms consist of a bilabial stop and the vowel *i*. An example of a cognate suffix in Kubeo is the suffix *-bi* (Chacón, 2012). Some languages have two allomorphic versions of this suffix: Carapana, Tatuyo and Barasana (Gomez-Imbert, 2003; Gomez-Imbert & Jones, 2000, p. 340) contain the third person singular masculine suffixes *-~bi* and *-pi*. The choice of the suffix depends on the evidential category.

The past tense suffix *-wɨ* that is used for non-third person singular suffixes in Ecuadorian Siona has cognates in other Tukanoan languages as well. These cognates can be found amongst the verbal suffixes and they have a very similar function as the Ecuadorian Siona suffix. The suffix *-wɨ* is found in Carapana (Metzger, 2000, p. 152), Barasana (Gomez-Imbert, 2003, p. 127), Tatuyo (Gomez-Imbert & Jones, 2000, p. 335), Tuyuca (Barnes, 1984, p. 258) and Yurutí (Kinch & Kinch,

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agreement morphology in some evidential paradigms and the question morpheme as nominalizers. Michael (2012b, p. 2) and Schwarz (2012) suggest a nominal origin for the non-assertive subject agreement morphemes in respectively Máíhɨ̀kì and Sekoya as well. Idiatov and Van der Auwera (2004, 2008) propose that the verbal morphology in questions and in indirect evidential paradigms in various Tukanoan languages developed out of nominalizers.

2000) and marks non-third person and past tense. The same suffix marks non-third person and remote past in Tukano (Ramirez, 1997, p. 120) and non-third person animate in Kubeo (Chacón, 2012). There is some variation in the exact person, number and gender categories that are included in the marking of this suffix. In Ecuadorian Siona, for example, third person plural marking is included, while in most Eastern Tukanoan languages this category has its own suffix. Nevertheless, the suffix -*wɨ* marks a non-third person rest category of person, number and gender in all the languages.

The suffix -*wɨ* does not have a counterpart in the set of nominal classifiers, just as in the case of the suffix -*hi (*-pi) / -bi*. There is a nominal classifier -*wɨ* in Ecuadorian Siona that marks containers. However, there are no indications that this specific classifier is related to the subject agreement suffix -*wɨ*. First of all, this classifier is not found throughout the language family. Therefore, it may be an innovation in Ecuadorian Siona. Secondly, the functions of this classifier and the verbal suffix are dissimilar in Ecuadorian Siona. Finally, this specific classifier does not have a wide range of uses. It is only found in the nominal domain. Therefore, I consider the verbal suffix -*wɨ* and the nominal classifier -*wɨ* to be two unrelated homophones.

The other non-third person singular agreement suffixes, -*jɨ* and -*'ɨ* do not have clear cognates in other Tukanoan languages. One suffix that is functionally and phonologically rather close to the suffix -*'ɨ* is the suffix -*ʔV* in Tukano (Welch & West, 2000, p. 424). Their functions are similar: the Tukano suffix is used as a non-third person present marker and the Siona suffix is used as a non-third person singular marker for present tense bound verb roots, such as the copula -*a* and the future tense marker -*si*, and for past tense -*i* verbs. The two suffixes are phonologically similar as well: both start with a glottal stop. The vowel of the Tukano suffix -*ʔV* assimilates to the previous vowel in the word. It is not unthinkable that this is a high dorsal vowel [ɨ] underlyingly, since this vowel seems susceptible for vowel assimilation. However, the existence of this one possible cognate suffix is not sufficient evidence for the existence of the suffix -*'ɨ* in the proto-language.

Although the suffixes -*jɨ* and -*'ɨ* cannot be reconstructed to Proto-Tukanoan, there is evidence that these suffixes have a verbal and not a nominal origin. Crucially, both suffixes contain the high dorsal vowel [ɨ]. This vowel is found throughout the language family as the subject agreement marker within portmanteau suffixes that also express tense and evidentiality. For instance, Malone (1988) isolates this vowel in the verbal subject agreement morphology in Tuyuka and reconstructs it as a

marker of non-third person subjects. The vowel [ɨ] is not found in the nominal suffixes that function as general classifiers for non-masculine and feminine categories. The vowel [e] is found in this type of suffixes throughout the language family. Therefore, it is more likely that the suffixes *-jɨ* and *-'ɨ* have a verbal subject agreement origin rather than an origin as a nominal classifier.

The only suffix in the assertive paradigm that does seem to have originated as a nominal classifier is the third person singular feminine suffix *-ko / -o (*-go)*. Cognate classifiers of this assertive suffix in Ecuadorian Siona are found in both the language itself and in most other Tukanoan languages. This suffix generally marks feminine entities. Although the cognate suffixes of *-ko / -o (*-go)* occur in both the verbal and nominal domains in various Tukanoan languages, it is more likely that they are of nominal origin. One indication for this is that their use as nominal classifiers is more widespread. Furthermore, the Tuyuka cognate *-go* that was found in some evidential paradigms, such as the secondhand paradigm, has been reconstructed as a derivation of a nominalization (Malone, 1988).

7.4.1.2 The origin of the non-assertive and dependent subject agreement suffixes

All the non-assertive and dependent subject agreement suffixes can be reconstructed as nominal classifiers. The suffixes *-ko / -o (*-go)*, as mentioned in the previous subsection, *-kɨ / -ɨ (*-gɨ)*, *-je* and *-hɨ (*-pɨ) / -bɨ* all have counterparts in the set of nominal classifiers in Ecuadorian Siona, and in other Tukanoan languages. The feminine marker *-ko / -o (*-go)* and the masculine marker , *-kɨ / -ɨ (*-gɨ)* are used as classifiers in Ecuadorian Siona and cognate suffixes deploy these same functions throughout the language family (Gomez-Imbert, 2011, p. 1452). The suffix *-je* functions as a general classifier in Ecuadorian Siona that does not mark any specific class. This suffix is found with the same function in various Tukanoan languages, such as Barasana (Gomez-Imbert, 1997, p. 86), Kubeo (Chacón, 2012), and Tatuyo (Gomez-Imbert, 2007b, p. 407). The function of general classifier does not differ much from the function of the suffix with the same shape in the non-assertive paradigm, in which it is used to mark the agreement of the rest category. The dependent agreement suffix *-hɨ* (*-pɨ*) / *-bɨ* has a classifier as its nominal counterpart in Ecuadorian Siona as well. This classifier marks animate collective nouns in the language, as shown in chapter 4, and has cognates throughout the language family (Gomez-Imbert, 2007b, p. 424).

The function of the collective classifier *-hɨ (*-pɨ) / -bɨ* is similar to the function of the plural subject agreement suffix in the dependent paradigm.

There is one subject agreement suffix in the non-assertive paradigm that does not have a counterpart in the set of nominal classifiers in Ecuadorian Siona, namely the past tense 'other' suffix *-de /-te*. In other Tukanoan languages, however, there are probable cognates of this suffix. These cognates have functions related to the functions of nominal classifiers. The cognate suffixes with the form *-re* function as a nominalizer in various languages, such as Barasana (Gomez-Imbert, 1997, p. 235), Tuyuka (Malone & Barnes, 2000, p. 445) and Yurutí (Kinch & Kinch, 2000, p. 476). The nominalization of verbs is a function that is regularly carried out by nominal classifiers in Tukanoan languages.[159] Therefore it is not unthinkable that the suffix *-de /-te* has developed from a nominal classifier into a nominalizer and then into a subject agreement marker in Ecuadorian Siona.

All these similarities in form and function between most of the subject agreement suffixes and the nominal classifiers suggest that there is a historical relation between these two categories. The non-assertive and dependent subject agreement morphology probably developed from nominal classifiers. An intermediate step between nominal classification and finite subject agreement morphology is nominalization. Other scholars have already suggested that the finite subject agreement morphology used in non-assertive and dependent clauses in other Western Tukanoan languages originates in nominalization (Idiatov & Van der Auwera, 2004, 2008; Michael, 2012b, p. 2; Schwarz, 2012). I propose that all these suffixes originally were nominal classifiers that were used as nominalizers and developed later on into subject agreement morphemes.

7.4.1.3 An overview of the origins of the subject agreement suffixes

As shown in the previous two subsections, the subject agreement suffixes in the assertive paradigms generally seem to have a verbal origin while the suffixes in the non-assertive and dependent paradigms seem to have a nominal origin. The only suffix in the assertive paradigms that seems to have a nominal origin is the suffix *-ko / -o*

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[159] There is an indication that the suffix *-de* is historically related to the suffix *-je*: the suffixes *-re* and *-je* in Barasana are allomorphs. They are both used to create the infinitival forms of verbs and the use of these two suffixes seems to depend on phonological conditions (Gomez-Imbert, 1997, p. 235).

(*-go). It is possible that this suffix was introduced in the assertive paradigms due to analogy with the non-assertive and dependent paradigms. An overview of the origins of the suffixes is presented in the table below:

Table 7.17: An overview of the verbal suffixes, their functions and origin

Suffix	Current function	Origin
-jɨ	• Other present assertive for non -*i* verbs and -*i* verbs	Original subject agreement marker
-wɨ	• Other past assertive for non –*i* verbs	Original subject agreement marker
-'ɨ	• Other assertive for past -*i* verbs[160] and present bound verbs	Original subject agreement marker
-hi (*-pi) / -bi	• Third person masculine singular assertive for all verb classes.	Original subject agreement marker for third person singular masculine suffixes.
-ko / -o (*-go)	• Third person singular feminine assertive clauses • Second and third person singular feminine non-assertive clauses • Singular feminine dependent clauses	Animate feminine classifier
-kɨ / -ɨ (*-gɨ)	• Second and third person singular masculine non-assertive clauses • Singular masculine dependent clauses	Animate masculine classifier
-je	• 'Other' present tense non-assertive clauses	General classifier
-de/-te	• 'Other' past tense non-assertive clauses • Plural past tense dependent clauses	General classifier
-hɨ (*-pɨ) / -bɨ	• Plural present tense dependent clauses	Animate collective classifier

[160] This suffix is probably reduced from -*'ɨ* to -*ɨ* when it is used in its past tense assertive function for -*i* verbs. An indication that -*'ɨ* in this context is the reduced version of -*'ɨ* is that speakers often want to write the suffix as –*'ɨ*. A possible explanation for the deletion of the glottal stop in this context is the difficulty of pronunciation of the suffix in combination with the past tense suffix. The subject agreement -*'ɨ* is always followed by the past tense suffix -*'ɨ*. This combination forms the suffix cluster -*'ɨ'ɨ*. The deletion of the first glottal stop of this suffix cluster facilitates its pronunciation.

7.4.2 The development of different clause type markings

The question remains as to how nominal classifiers were introduced into the subject agreement paradigms of non-assertive and dependent clauses. An intermediate step between nominal classifiers and finite subject agreement morphology is the use of the nominal classifiers as nominalizers, as mentioned above. Evidence for this step is still attested currently in many Tukanoan languages. The animate feminine and masculine classifiers *-ko* and *-kɨ* are used as nominalizers in most of the languages and in Máíhɨ̀kì all of the classifiers can be used as nominalizers (Michael, pers. com). These nominalizers have developed into finite subject agreement morphemes.

One explanation for this development was provided in two thought-provoking papers by Idiatov and Van der Auwera (2004, 2008). According to the authors, nominalizers were historically used in mirative constructions in Tukanoan languages. The nominalized verbs were used as predicative complements of auxiliary verbs. The authors present as evidence for this mirative use of the nominalizers the inferential / mirative construction in Wanano (Idiatov & Van der Auwera, 2004; 2008, p. 39). This construction is illustrated in the examples below:

Kotiria
(5)   a'yoo   tipa-wa'a-ri   hi-ra
        Oh!   be.flat-become-NLZ   COP-2/3VIS.IMPF
        'Oh! This one's (been) flattened.' (Stenzel, 2008a, p. 419).

Mirativity is expressed by a combination of a nominalized verb that contains the nominalizer *-ri* and the inflected copula *hi-* 'to be' in Wanano, as shown in example (5). This construction also expresses inferential evidentiality.

These mirative constructions were the basis of the interrogative verb morphology. The nominalized verbs became main clause verbs due to the deletion of the copula in this type of constructions (Idiatov & Van der Auwera, 2004; 2008, p. 35). The use of these mirative and indirect evidential constructions was then extended to dubitative contexts and from dubitative contexts to interrogative contexts (Idiatov & Van der Auwera, 2004; 2008, pp. 45-46).

I propose a similar reconstruction for the non-assertive subject agreement morphology in Ecuadorian Siona. I analyze the introduction of the nominal classifiers into interrogative subject agreement paradigms as a result of deletion of the auxiliary verb in an auxiliary

construction as well. However, in my analysis, the nominal classifiers were not introduced first in mirative and evidential clauses and then extended into interrogative clauses. I believe that non-assertive morphology in reports and in questions have a similar yet distinct origin in the language. In my view, both types of verb morphology developed from complementation structures that consisted of a nominalized verb and an auxiliary verb. In the reportative constructions, the auxiliary verb was maintained in the form of the reportative suffix *-jã* and in the question constructions, the auxiliary verb was deleted. I will illustrate this reconstruction for questions in subsection 7.4.2.1 and for reportative constructions in 7.4.2.2. In subsection 7.4.2.3, I will propose a similar origin for the dependent verbs.

7.4.2.1 The development of reportative morphology

A cross-linguistically common origin for reportative suffixes is a speech verb (Aikhenvald, 2004, pp. 271-273). An example is the reportative suffix *-ti* in Tsafiki that is identical to the speech verb *ti* 'to say' (Dickinson, 2000). The Ecuadorian Siona reportative suffix *-jã* seems to have a similar origin. The language does not at present have a cognate speech verb. The speech verbs are *kaje* 'to say' and *kɨaje* 'to tell' in the language.[161]

Other Tukanoan languages do seem to have cognate verbs that express an action of speech. Various Tukanoan languages have a speech verb that contain the syllable *ja* or *jã*. The Eastern Tukanoan language Barasana has a copula *ja* that means 'to do / to say / to think.' This copula is used with direct speech complements. The language contains another speech verb with a possible cognate syllable: *~jago* 'to speak' (Jones & Jones, 1991, p. 28). Kubeo also has a verb for 'to speak' that contains the syllable *ja*: *jawa* (Chacón, 2012, p. 55). This language has another possible cognate of the Ecuadorian Siona reportative suffix *-jã*: Kubeo contains a reportative suffix *-ja* (Chacón, 2012; Morse & Maxwell, 1999, p. 36).[162]

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[161] Ecuadorian Siona has a verb *jãje*, which means 'to see.' I assume that this is not a cognate of the reportative suffix *-jã*.

[162] These speech verbs are not necessarily all cognates. It is possible that it was not a speech verb that introduced the indirect speech complement that has led to the Ecuadorian Siona reportative construction. It may have been a copula as well. Barasana possible candidate, as Gomez-Imbert (pers. comm.) suggests, namely the copula *~já(á)*.

These speech verbs are close in form and function, and the Kubeo reportative suffix *-ja* is almost identical to the Ecuadorian Siona reportative suffix *-jã*. The cross-linguistic evidence in combination with evidence from inside the Tukanoan family suggests that this reportative suffix originated as a speech verb. This speech verb grammaticalized, lost its inflection, and became a suffix. The Kubeo reportative suffix probably has a similar origin.

The use of non-assertive verb morphology, which originates from nominalized verbs, can be explained in this reconstruction. The reportative in Ecuadorian Siona probably developed from indirect speech reports. These indirect reports consisted of a speech verb and a nominalized verb that functioned as its complement. This reconstruction is illustrated in example (6):

(6)   *[[VERB.ROOT-NOMINALIZER]   say-AGREEMENT.MORPHOLOGY]
      [[je'je-kɨ]   jã-jɨ.]
      [[study-NML.M]   say-OTH.PRS]
      'They say that he studies.'

The speech verb **jã* 'to say' in combination with its inflection formed the verb in the main clause and the nominalized verb was the predicative complement of the speech verb. When the main verb **jã* 'to say' lost its subject agreement inflection and was reanalyzed as a suffix, the nominalizers were reinterpreted as main verb morphology subject agreement morphology.

This reanalysis of two clauses, including the complement clause and the main clause, into a single complex verb phrase was called 'clause union' by Givón (2001b, pp. 78-87; 2009a, pp. 61-63; 2009b). According to this author, there are two main pathways that this process can take. One pathway consists of the union of two equal clauses that are joined in conjunction. This union often leads to a complex verb phrase, but does not frequently cause one of the two clauses to become an affix. The second pathway concerns the union of a complement clause and a main clause. In this grammaticalization chain, the original main verb often becomes an affix. Ecuadorian Siona seems to illustrate a typical example of this second pathway. The complement clause is reanalyzed as a main clause as a result of the clause union, and the original main clause is maintained as the suffix *-jã*.

One problem for this reconstruction could be that nominalizations are no longer used synchronically as predicative complement clauses in Ecuadorian Siona. Nonetheless, it is likely that

nominalizations used to carry out this function in the language. Evidence for this claim can be found in some Tukanoan languages in which it is still possible to use a nominalization as a predicative complement clause. For instance, nominalizations are used as predicative complement in Barasana (Jones & Jones, 1991, pp. 160-161), Desano (Miller, 1999, pp. 142-143) and Kubeo (Morse & Maxwell, 1999, pp. 148-151). This is illustrated in the example below from Desano:

Desano
(7)   [[ẽrã   yese-a taribu-re   koe-ro]_{COMPL}   [ẽrã   ba-ri-re
        [[3PL   pig-PL room-OBJ   wash-NLZ]_{COMPL} [3PL   eat-NLZ-OBJ
        sã-ro]_{COMPL}   buʔe-bɨ]_{MAIN CLAUSE}
        put.in-NLZ]_{COMPL} study-NON3.PST
        'We studied washing the pig pens and putting in their food.'
        (Miller, 1999, p. 143, brackets added).

Example (7) from Desano shows two complement clauses that function as objects of the verb *buʔebɨ* 'we studied' in the main clause. This use shows that nominalization used as complement clauses are still found in the Tukanoan language family. Therefore, it is conceivable that the nominalizations in Ecuadorian Siona used to be deployed for this function as well.

In summary, I analyze the reportative construction as a case of historical clause union, in which the non-assertive subject agreement suffixes developed from nominalizers and the suffix *-jã* from a speech verb. This analysis is similar to the analysis of Idiatov and Van der Auwera (2004, 2008), except for the deletion of the auxiliary verb. The main verb for 'to say' was maintained as a suffix in my analysis. The advantage of this analysis is that it can both explain the origin of the nominalizer-like non-assertive subject agreement morphology in reportative clauses and the origin of the suffix *-jã*.

7.4.2.2 The development of the interrogative morphology

The interrogative subject agreement morphology seems to have developed in a way similar to that of the reportative morphology. The verb forms in questions probably originated as nominalizations that were used as complement clauses in a main clause. This reconstructed structure is presented in the example below:

(8)   *[[VERB.ROOT-NOMINALIZER]   COPULA-AGREEMENT.MORPHOLOGY]
        [[je'je-kɨ]   a-bi.]
        [[study-NML.M]   COP-3S.M.PRS]
        'Is it that he studies?'

As shown in example (8), I propose that questions used to be expressed by a combination of a nominalized verb and an inflected copula.[163] This combination was probably a type of copula construction, similar to a cleft construction, that had a focus function at some point.

Cleft constructions are not uncommon as the origin of question morphology. The French interrogative construction with the question particle *est-ce que* developed from a cleft construction as well (Foulet, 1921; M. Harris, 1978). Cleft constructions are used in the Bantu language Kihung'an in content questions as well (Givón, 2001b, pp. 308-309). Other languages in which a cleft construction is a common question strategy are Dravidian and Tibeto-Burman languages (Bhattacharya & Devi, 2004) Since cleft-constructions are cross-linguistically widespread in questions, it is not unthinkable that Ecuadorian Siona questions were originally formed with cleft constructions as well.

The reconstructed copula construction for questions in (8) shows a very similar structure to that of the reconstructed 'say' verb construction for the reportative. Both reconstructions contain a nominalized verb that forms the head of a complement clause. This similarity provides a historical explanation of why questions and reportative utterances share the same subject agreement morphology: the morphology developed in both cases out of nominalizing morphology.

The development of the question and reportative constructions is not completely identical. A difference between the reportative and the interrogative is that in the case of the interrogative there is no trace of the main verb anymore. The deletion of a main verb and the promotion of a subordinate structure to main clause structure are not unusual. Evans (2007) describes similar processes for many different languages and labels this process as 'insubordination.' The author defines the term as follows: "the conventionalized main clause use of what, prima facie grounds, appear to be formally subordinate clauses" (Evans, 2007, p. 367).

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[163] Since this copula was deleted at a later stage, it is not clear what its exact form may have been. In example (8), the copula is reconstructed as *a*, because there is a copula -*a* that sometimes tends to disappear in Ecuadorian Siona.

Evans views insubordination both as the main clause use of subordinate clauses and as the historical development of this phenomenon. The historical process of insubordination consists of four stages:

1. Subordination
2. Ellipsis
3. Conventionalized ellipsis
4. Reanalysis as a main clause structure.

The starting point is a regular subordinate clause that occurs with an overt main clause. During the second stage, the main clause can be elided, but it can still be reconstructed by the hearer (Evans, 2007, pp. 370-371). An example of utterances at this stage are the repeated *of* questions in Dutch:

(9)　　A:　　Kom je morgen?
　　　　　　　'Will you come tomorrow?'
　　　　B:　　Wat zeg je?
　　　　　　　'What did you say?'
　　　　A:　　(Ik vroeg) of je morgen komt?
　　　　　　　'(I asked) if you will come tomorrow?'

The third sentence in (9) is an example of insubordination. The subordinate clause that starts with the subordinating conjunction *of* and that displays a subordinate word order is used without a main clause. The main clause can easily be reconstructed as 'I asked.' The use of these subordinate *of* clauses is not conventionalized in Dutch.

Conventionalization of the ellipsis is the next stage. During this third stage, the conventionalized ellipsis obtains a specific function. An example of an insubordinate construction is this stage is the use of English *if* clauses in requests. These *if* requests are illustrated below:

(10)　　a. (I wonder) if you could give a couple of 39c stamps please
　　　　b. If you could give me a couple of 39c stamps please, (I would be most grateful). (Evans, 2007, p. 380).

These *if* clauses have the function of making a polite request, as illustrated in (10). They are attested in various languages such as English, Dutch and French (Evans, 2007, p. 380).

The last stage of the process of insubordination is conventionalization of the subordinate clause as a main clause. During this stage it is no longer possible for the hearer to reconstruct a main clause. This main clause has completely been deleted and there is no material left from it (Evans, 2007, pp. 384-386). Specifically, the main verb is not maintained as a suffix, as happened in the case of the Ecuadorian Siona reportative. The historical development of the question subject agreement suffixes in the language seems to be a case of insubordination, because in the case of questions, there is no trace of the main clause left. The copula that probably functioned as main verb during a previous stage in the language was deleted completely. The nominalized verbs were reanalyzed as main verbs, and the subject agreement suffixes developed into portmanteau suffixes that expressed more finite features such as person and tense.

This process of insubordination is probably quite old. It may have started in Proto-Tukanoan already, since nominalizers are found throughout the language family instead of regular subject agreement suffixes. Because the subordination process probably occurred a long time ago, the only concrete evidence that the interrogative subject agreement morphology has emerged as a result of this process is the presence of the nominalizers in questions.

Nonetheless, there is evidence that insubordination is a reoccurring process in Ecuadorian Siona and possibly in Tukanoan languages in general. Interestingly, nominalizations can be used as main clauses nowadays as well. Speakers regularly use nominalizations with a main verb such as a copula verb. This is illustrated in example (11):

(11)   ai ba'isicuao hua'i.
        ai   ba-'i-sih-ko-a-o   wa'i.
        a.lot   be-IMPF-COMPL-CLS:ANIM.F-COP-3S.F.ASS fish
        'There was a lot of fish.' (20103006srocr001.071).

The nominalization *ba'isihko* in example (11) is used in combination with the bound copula *-ao*. The copula is sometimes omitted in these type of contexts, as illustrated in the example below:

(12) A: sai ñaquëna a̱i̱na ja̱' bota dutao̱a̱ni saisiquë.
          sa-i-ɨ   jã-kɨ-na   ã-i-ɨ-na
          go-IMPF-S.M.PRS see-S.M.PRS-DS eat-IMPF-S.M.PRS-DS
          hã'   bota duhta-õã-ni
          DEM.DST boot pull.out-put.down-SS
          sa-i-sih-kɨ.
          go-IMPF-CMPL-CLS:ANIM.M
          'I went and saw that he (the animal) was eating, so I took
          of   my   boots   and   I   went   (towards   him).'
          (20120806oolpa001.007).
      B: be'o quë̱o̱?
          be'o   kɨ̃o?
          neg.exis   foot
          'Barefoot?' (20120806oolpa001.008).
      A: be'o quë̱o̱ saë'ë.
          be'o   kɨ̃o   sa-ɨ'ɨ.
          NEG.EXIS   foot   go-OTH.M.PST.ASS
          'I went barefoot.' (20120806oolpa001.009).

In the first sentence in example (12), speaker A uses the nominalization
saisihkɨ 'I went' as the main verb in the sentence. It can be recognized as
a main verb, because it is the last verb in the sentence. In this example
the end of the sentence is marked as it regularly is, with a lowering of
the intonation. Speaker B takes up on the sentence final intonation and
reacts to the utterance. In the third sentence, speaker A uses a regular
main verb. The use of nominalizations as main verbs is not uncommon
in Ecuadorian Siona. This shows that insubordination is a process that is
found in the language at present as well.[164] The fact that the language
possesses these nominal suffixes that can mark some type of subject
agreement makes the language susceptible to the process of
insubordination.

        In summary, I reconstruct the question construction of an earlier
stage of Ecuadorian Siona as copula constructions consisting of a
nominalized verb and a copula. This construction underwent
insubordination as a consequence of the deletion of the copula. The
deletion of the copula is not exotic to the language, since this still occurs.
After the conventionalization of the ellipsis of the copula, the
nominalizers were reinterpreted as main verb subject agreement

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[164] A function of insubordination seems to be the backgrounding of information.
Mithun (2008) describes a similar function for insubordinate clauses in various
North-American languages.

suffixes and other finite categories such as tense and person developed as part of the function of the suffix.

7.4.2.3 The development of dependent verb morphology

Another clause type that probably originates from nominalization is the dependent clause. This clause type in Ecuadorian Siona shows almost identical portmanteau suffixes as the suffixes found in the non-assertive main clauses presented above. These portmanteau suffixes express tense in the same way and the subject agreement suffix forms overlap almost entirely. The only difference in form concerns the present tense 'rest' category suffixes: the present tense 'Other' suffix *-je* is found in the non-assertive paradigms and the present tense plural suffix *-hɨ* (**-pɨ*) */-bɨ* is found in the dependent paradigms. This difference can be attributed to the grammaticalization of two distinct nominalizers in the two different contexts: the general classifier *-je* has been grammaticalized in the non-assertive paradigm as a present tense subject agreement suffix, and the animate collective classifier has been grammaticalized in the dependent verb paradigms as a present tense plural subject agreement suffix. All the subject agreement suffixes in the dependent verb paradigms can be reconstructed as nominalizers, as shown above.

A more substantial difference between the non-assertive and dependent paradigms is the organization of the subject agreement categories that are encoded by the suffixes. The organization of subject agreement in dependent verbs shows that the language has introduced less finite categories than the non-assertive paradigms. Givón (2001b, pp. 24-26) describes finiteness as a cline with non-finite nominalizations on the one hand and fully finite verbs functioning as independent verbs on the other. A lower degree of finiteness can be determined by the reduction of finite categories. This reduction includes the loss of tense-aspect-mood morphology and the reduction of subject agreement categories (Givón, 2001b, p. 68). The dependent verbs in Ecuadorian Siona are less finite than assertive and non-assertive main verbs, but more finite than nominalizations. This is illustrated in the figure in (13):

(13)

Nominalizations	Dependent verbs	Main verbs
Non-finite verbs		Finite verbs

The lower degree of finiteness of dependent verbs in Ecuadorian Siona can be recognized in various ways. First of all, the dependent verbs cannot be used as independent verbs. Secondly, they have reduced tense-aspect-modal categories: dependent verbs only express relative tense, whereas main verbs express absolute tense. Another indication of the reduced tense-aspect-mood marking is that dependent verbs are not marked for assertive or non-assertive sentential force. Finally, dependent verbs mark a more limited number of subject agreement categories. While main verbs mark person, number and gender, dependent verbs only mark number and gender. This marking seems more nominal: these exact categories are marked in the set of general nominal classifiers and in the nominalizations as well. This shows that the dependent verbs are halfway between nominalizations and main verbs in the development of finite features.

The difference in degree of finiteness between the dependent verbs and the non-assertive verbs can be explained by a different historical development. Both verb types probably originated from a nominalization that was used as a complement clause. However, the dependent verbs did not undergo the reduction or deletion of the main verb that the non-assertive verbs underwent. The dependent verbs probably started off as nominalized verbs. These were used as relative clauses that occurred as arguments of the main verb. The feminine, masculine and collective / plural nominalizers *-ko / -o (*-go)*, *-kɨ / -ɨ (*-gɨ)* and *-hɨ (*-pɨ) / -bɨ* were probably used as agentive nominalizers during the first stage. These nominalizations would refer to the agent of the action rather than to the event itself, similar to the function of the nominalizing classifiers *-ko* and *-kɨ*. The reconstructed general nominalizer **-de/*-te* was probably used to refer to an action in general and not to a specific event, similar to the function of the cognate suffix *-re* in Barasana (Gomez-Imbert, 1997, p. 235), Tuyuka (Barnes & Malone, 2000, p. 445) and Yurutí (Kinch & Kinch, 2000)(Kinch & Kinch 2000:476) nowadays. During these first stages, these nominalizations were used as non-predicative complements of the verb.

These non-predicative nominalizations were then reanalyzed as predicative verbs. These verbs were first used to refer to a specific event instead of to an agentive entity or a general action. These nominalizations also underwent another change from relative clause to dependent clause. The dependent verbs are no longer used as complements of the main verbs, but to refer to a chain of events. This change from nominalization used as a relative clause to dependent verb has occurred in other South-American languages as well. For instance,

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Epps (2009) describes how a nominalization developed from a headless relative clause into a dependent verb in Hup, a Nadahup language spoken in the Vaupés area. Similar developments have also been observed for Cavineña, a Takanan language (Guillaume, 2011), Aguaruna, a Jivaroan language and Panoan languages (Overall, 2011).

The emergence of the different subject marker -*na* can also be explained in this reconstruction. It is probably derived from the locative case marker -*na* that refers to a goal. The nominalized verbs in combination with the case marker -*na* were probably used in the past as an oblique argument of the main verb. The combination of a nominalized verb and a case marker has developed into a dependent subject agreement marker and a switch reference marker. A similar process seems to have taken place in Aguaruna. Overall (2011) proposes that the different subject marker in Aguaruna derives from a locative case marker, similarly to the origin of the different subject marker in Ecuadorian Siona. The author proposes a similar origin for some of the dependent verb markers in Panoan languages as well. Another case of a language family in which a case marker probably developed into a switch reference marker is the Aymaran language family (Cerrón-Palomino, 2000, pp. 244-245). In view of the cross-linguistic evidence that case markers can develop into dependent verb markers, it seems reasonable to assume that the different subject marker -*na* has a similar origin.

The past same subject marker -*ni* may have originated as a case marker as well. A possible indication is that there is a case marker -*ni* in Ecuadorian Siona. However, this same subject suffix is not preceded by a subject agreement suffix. Therefore, it is not clear whether the same subject verb form can be analyzed historically as a nominalized verb in combination with a case marker.[165]

In conclusion, the dependent subject agreement morphology seems to have developed from nominalizers in Ecuadorian Siona, similarly to the almost identical subject agreement morphemes in the non-assertive paradigms. These nominalizers were probably first used to mark relative clauses. These relative clauses were reanalyzed as dependent verbs and the locative case marker was reanalyzed as a different subject marker.

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[165] There are various other etymologies possible for the same subject marker -*ni*. One other possible etymology is that it may be a borrowing from the neighboring language Cofán. The Cofán locative case suffix -*ni* is used as a dependent verb marker as well (Fischer & Van Lier, 2011).

7.4.3 The introduction of finite features

The difference between the subject agreement markers in non-assertive and dependent clauses and the nominalizer is that the former express more finite verb categories, as discussed above. The non-assertive suffixes express absolute tense and person and the dependent suffixes express relative tense. If it is accepted that these two sets of clause type suffixes originated as nominalizers, as argued in the previous subsections, an explanation is needed for why these additional finite categories of tense and person are found in the verb paradigms. This is the topic of this subsection, which is organized as follows: in subsection 7.4.3.1, I will address the origin of the expression of tense in non-assertive and dependent clauses, and in subsection 7.4.3.2 I will address how the category 'person' was introduced in the non-assertive paradigm as a result of reanalysis of the reference of the suffixes in the paradigms.

7.4.3.1 The marking of tense

Since the nominalizers do not originally express tense, the question remains as to how these nominalizers developed into portmanteau morphemes that do express tense. An additional complication for the reconstruction of tense in the subject agreement morphology is that there are verb classes that express tense differently.

Let us first discuss the introduction of the expression of tense in the non -*i* verb morphology. The phonological reconstruction of the subject agreement suffixes in section 7.3 has uncovered a morphophonogical process that was used in order to express tense. Tense was probably expressed by a fortis/lenis contrast in the past. The non -*i* verb class mostly shows fortis consonants in its present tense suffixes and lenis consonants in its past tense suffixes.

This contrast was generalized throughout the subject agreement paradigms: its reflexes are found in the assertive, the non-assertive and the dependent subject agreement paradigms. One possible explanation for the introduction of tense in the non-assertive and the dependent suffixes is that the morphophonological marking of tense spread from the assertive to the non-assertive and dependent verb forms when the nominalizations were reanalyzed as subject agreement suffixes. Under this analysis the fortis/lenis distinction spread from the assertive paradigms to the non-assertive and dependent paradigms.

However, there are indications that the association of tense with the fortis/lenis distinction is considerably older. Specifically, the fortis /lenis distinction in its function of tense marking is found in some

Eastern Tukanoan languages as well. The distinction is found in nominalizers and question morphemes that are derived from nominalizers. For instance, the Barasana nominalizers with fortis consonants, *-ko*, *-kʉ* and *-to*, are used in the remote past and future. The nominalizers with lenis consonants *-go*, *-gʉ* and *-do/-ro* are used in the present and in the (recent) past. Interestingly, the inanimate suffix has a three-way distinction: *-to/-do/-ro* (Jones & Jones, 1991, p. 42). The languages Karapana and Makuna have a fortis / lenis distinction in the case of the question particle: *-ti/-ri*. The suffix *-ti* is used for present tense questions and *-ri* for past tense questions in the two languages (see Metzger, 2000, p. 147 for Karapana; see Smothermon et al., 1995, p. 61 for Makuna).

 According to Gomez-Imbert (2004), the fortis/lenis distinction in Barasana has a phonological explanation. She proposes that the lenis consonants are the default consonants and the fortis consonants occur only under specific conditions. In her view, the fortis consonants only occur when they follow a syllable that has a latent *t* in its coda. This is illustrated in the example from Barasana below:

Barasana
(14)   a.   baá-ri?
      eat-INT
      'Did he eat?' (Gomez-Imbert, 1997, p. 299 the glosses and translation are mine).

    b.   baá-bet-ri?
      ↓
      baá-be-ti?
      eat-NEG-INT
      'Didn't he eat?' (Gomez-Imbert, 1997, p. 300 the glosses and translation are mine).

Example (14a) shows that the root *baá* 'to eat' does not have a latent *t* in its coda. For this reason, the dental consonant *r* is realized as such when it follows the stem directly. When the suffix **-ri (-ti)* follows the negative suffix *-be(t)*, which contains a latent consonant *t* in its coda, just as in example (14b), it is realized as *-ti*. The effect of the latent voiceless *t* in the coda is that it prevents the voicing of the consonant in the following onset.

 The question remains as to whether the prevention of voicing is caused by a latent *t* or by some other phonological condition in the Tukanoan languages. The latent *t* lacks independent evidence in the

language family. There are many languages that show the fortis / lenis distinction, but there are no languages that show a *t* in coda position. It is, therefore, also possible that another phonological condition prevents the voicing of the consonant in the following onset.

However, a phonological condition such as the existence of a latent consonant *t* can at least explain the fortis / lenis distinctions in some Eastern Tukanoan languages, including Barasana and Tatuyo (Gomez-Imbert, 2004, pp. 60-63). When analyzing the fortis / lenis distinction in Ecuadorian Siona from a synchronic perspective, it is more difficult to explain the distinction in this way. To be specific, fortis and lenis consonants are used in combination with the same stem, as illustrated below for the non -*i* verbs:

(15) a. caco.
          ka-ko.
          say-3S.F.PRS.ASS
          'She says.'
      b. cao.
          ka-o.
          say-3S.F.PST.ASS
          'She said.'

The present tense suffix -*ko* that contains a fortis consonant is attached to the verb root *ka* 'to say' in example (15a). This is synchronically the exact same root as the one that the suffix -*o*, reconstructed as having a lenis consonant: **-go*, is attached to in example (15b).

It is possible, however, that an analysis such as the latent *t* analysis by Gomez-Imbert (2004) can provide a historical explanation for the existence of the fortis and lenis suffixes. The present tense verb forms, such as *kako* 'she says' in example (15a), may have had a present tense suffix in the past that possessed the phonological properties that prevented the fortis consonant *k* from leniting. As a result of these phonological conditions the consonant would have been realized as a fortis consonant. The present tense suffix must have disappeared in Ecuadorian Siona, but only the phonological process of preventing the fortis consonants from voicing that was caused by the suffix would have remained.

There is evidence from Eastern Tukanoan languages that there may have been such a present tense morpheme that prevented the following consonant from voicing. In both Karapana and Makuna, the fortis 'present tense' question marker -*ti* is preceded by a present tense

suffix: *-a* in Karapana (Metzger, 2000, p. 147) and *-jã* in Makuna (Smothermon et al., 1995, p. 61). When the present tense suffix is not used in these languages the interrogative marker surfaces as *-ri*. It is possible that a similar type of present tense suffix preceded the non *-i* verb subject agreement suffixes and is now lost in Ecuadorian Siona.

It would not be the only time in Ecuadorian Siona that a tense suffix was lost, leaving some phonological traces behind. That is to say, the remote past in the language is expressed by the nasalization of the vowel of the stem and a glottal stop before the following suffix. This is illustrated in the example below:

(16)   ba̱'quëña.
         ba-~'-kɨ-jã
         be-REM.PST-2/3S.M.N.ASS-REP
         'He lived (a long time ago).' (They say).

The verb in example (16) shows that the remote past marking is expressed by the morphophonological processes of nasalization and glottalization. These processes seem to be the result of the deletion of the remote past marker *-ã'. This remote past marker still exists in Ecuadorian Sekoya (Schwarz, 2012). Ecuadorian Siona seem to have lost the vowel of suffix *-ã', but it preserved the morphophonological processes. Therefore, it is possible that it has lost a suffix such as the mono-vocalic present tense suffix *a* that had some type of phonological property that caused the following consonant to be pronounced as a fortis consonant.[166] A similar suffix still exists in some Eastern Tukanoan languages. Because of the loss of the present tense suffix, it was no longer the suffix that marked the tense of a verb, but the fortis / lenis distinction became the tense marking device in the case of the non *-i* verbs.

Now that the introduction of the fortis / lenis distinction has been discussed for the non *-i* verbs, I will address the historical development of tense marking in the other verb classes. An important element that is involved in the expression of tense in the *-i* verb class is the imperfective suffix *-i*. It is possible that this suffix is considerably old. Its use is strongly reminiscent of the use of the suffix *-i* in Kubeo (Chacón, 2009; 2012, pp. 261-264). In this Eastern Tukanoan language, a suffix *-i* is used to create an imperfective stem out of an eventive verb root. The language shows a split between stative and eventive verbs.

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[166] It is possible that the suffix was followed by a glottal stop that caused the following consonant to be a fortis consonant.

Stative verbs are inherently imperfective and eventive verbs are inherently perfective. Additional morphology is needed when a speaker wants to talk about a past state or a present tense event. This phenomenon in Kubeo is illustrated for both the eventive and the stative verbs in the examples below:

Kubeo

Eventive
(17) a.   da-bi.
              come-3M
              'He came.' (Chacón, 2009, section 1.1)[167].
      b.   da-i-bi
              come-ST-3M
              'He is coming.' (Chacón, 2009, section 1.1).

Stative
(18) apu   hedewa-kobe-i   'dũ-bi
      Alfonso   outside-hole-LOC   stand-3M
      'Alfonso is standing by the door.' (Chacón, 2012, p. 277).

In example (17a), it is shown that when the subject agreement marker -*bi* is suffixed to a bare eventive root the verb is interpreted as a past event. When the suffix -*bi* is attached to a derived eventive verb that carries the stative suffix -*i*, as in example (17b), the verb is interpreted as a present event. A stative verb, such as *'dũ* 'to stand' in example (18), does not need the suffix -*i* in order for it to obtain a present interpretation. The subject agreement morphology does not express tense; it is the combination of the lexical semantics of the verb and the additional morphology that expresses the tense relations in the language.

Because the suffix -*i* derives imperfective verbs from eventive roots that are inherently perfective, the suffix is found in the present tense and also in nominalizations, as illustrated in the example below:

(19) wĩ-i-kakɨ.
      inhale-ST-PST.NLZ.M
      'The one who was inhaling (it).' (Chacón, 2012, p. 122).

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167 The glosses are adapted to mine.

In example (19), the suffix *-i* is used in a nominalization. This is a typical context in which the suffix *-i* is also found in Ecuadorian Siona. The suffix *-i* is used in Kubeo and in Ecuadorian Siona in the present tense. This shows that the use of the suffix *-i* is remarkably similar in the two languages. Another correspondence between the two suffixes is that the form is identical. Therefore, it makes sense to consider these two suffixes as cognates in the two languages. I therefore analyze the suffix *-i* in Ecuadorian Siona as a morpheme that derives imperfective stems as well.

There is, however, a difference between the suffix *-i* in Ecuadorian Siona and the suffix *-i* in Kubeo. That is, in Kubeo the suffix is linked to the eventive verb class and in Ecuadorian Siona it is not. Some eventive stems, such as *ãõjẽ* 'to feed,' *duhtaje* 'to pull' and *zoaje* 'to wash,' do not belong to the class of verbs in Ecuadorian Siona that obtain the suffix *-i* in present tense and other imperfective contexts. This can be explained from a historical perspective.

The Ecuadorian Siona imperfective suffix *-i* not only has a semantic function; it is also used as a prosodic device, as discussed in chapter 5, subsection 5.4.2. Remember that the *-i* verbs in the language are monomoraic roots that need additional morphology such as subject agreement suffixes in the past tense, the epenthetic suffix *-ti* in counterfactual contexts and the imperfective suffix *-i* in order to fulfill the bimoraic constraint of stems. It means that the imperfective suffix *-i* is used in order to form a bimoraic stem.

It is possible that Ecuadorian Siona had a verbal system with a split between stative and eventive roots, as Kubeo still has. In this reconstructed system for Ecuadorian Siona, the suffix *-i* derived imperfective stems from inherently perfective eventive roots. This split disappeared at some point and the suffix *-i* was only maintained on verbs that consisted of a monomoraic root. Although the semantic motivation for the use of the suffix *-i* was lost, these monomoraic verb roots needed the phonological material of the suffix in order to complete the obligatory bimoraic stem structure.

Because bimoraic verb stems do not need the extra phonological material in order to satisfy the bimoraic stem constraint, the historical perfective marker *-i* was lost in contexts with bimoraic verbs. This reconstruction provides an explanation for the lack of derived transitive or causative verbs in the *-i* verb class: the transitive and causative derived stems contain extra morphological material that completes the bimoraic stem in the form of the transitive suffix *-a* or of the causative suffix *-o.* The lack of derived transitive or causative verbs in the *-i* verb

class, therefore, is not due to a difference in semantics, contrarily to what some authors have assumed (cf. Johnson & Levinsohn, 1990; Wheeler, 1987b). Because the suffix *-i* was no longer necessary for semantic purposes and it lacked any prosodic function, it was lost in the bimoraic derived verb class.

The loss of the split between stative and eventive verbs in Ecuadorian Siona made it possible to introduce stative verbs in the *-i* verb class. Before the loss of the split, only eventive verbs, which had an inherent perfective meaning, needed the imperfective suffix *-i* in order to form a present tense or infinitival form. When the inherent perfective / imperfective distinction between the stative and eventive verbs was lost, the imperfective marker *-i* could be introduced with monomoraic stative verbs as well, such as *ba'ije* 'to be / to live,' *jũ'ĩjẽ* 'to be seated' and *tuije* 'to be on top of something.'

Further evidence for a historical split between stative and eventive verbs in Ecuadorian Siona can be found in the subject agreement morphology of the bound verbs. A feature of the stative / eventive system in Kubeo, as shown in example (17) and (18) above, is that the use of a bare subject agreement suffix, without additional morphology, leads to a past interpretation with an eventive verb and to a present tense interpretation with a stative verb. The subject agreement morphology of the bound verbs in Ecuadorian Siona shows a similar relationship to that of the non *-i* verbs. The non *-i* verbs have lenis consonants in the past tense, while bound verbs have lenis consonants in the present tense, as illustrated in the table below:

Table 7.15: A reconstruction of assertive subject agreement morphology for non *-i* verbs and bound verbs

Tense	Person/ Gender/ Number	Non *-i* verbs	Bound verbs *-a* and *-si*
Present	3S.F	-ko	-go
	3S.M	-pi	-bi
	OTHER	-jɨ	-'ɨ
Past	3S.F	-go	
	3S.M	-bi	
	OTHER	-wɨ	

The third person present tense singular suffixes for the bound verbs are identical to the third person singular past tense suffixes of the non *-i* verbs. The bound verb class is reminiscent of the stative verb class. The verbs do not show the imperfective marker *-i* in their (present tense)

forms. The fact that these verbs do not need this imperfective derivation suggests that these verbs were inherently imperfective and that they used to belong to the stative verbs in an earlier stage of the language. This stative analysis fits especially well in the case of the copula -*a*, since the copula expresses states.

In summary, tense marking in Ecuadorian Siona can historically be reconstructed as a fortis / lenis distinction, which was obscured due to some sound changes. The non -*i* verbs show a fortis marking in the present and lenis marking in the past. The fortis marking is possibly historically the result of a lost suffix that used to prevent the following consonant from leniting. This suffix was probably used with assertive, non-assertive, and dependent paradigms and this accounts for the similar tense marking in all these paradigms. The differences in tense marking with the different verb classes is probably due to the fact that Ecuadorian Siona used to have an eventive / stative split system in which the eventive verbs were inherently perfective and the stative verbs were inherently imperfective. The non -*i* and the -*i* verbs seem to behave like eventive verbs. The main distinction between these two verb classes is the prosodic structure: the non -*i* verbs are bimoraic and the -*i* verbs are monomoraic. The bound verbs seem to behave like the original stative verbs: they are only used in the present tense. Not all fortis / lenis distinctions can be explained by this reconstruction. For instance, the -*i* verbs show a split in the present tense: the assertive, interrogative, and reportative subject agreement suffixes have a fortis consonant in the present tense and the conjectural and the dependent verbs have a lenis consonant in the present tense. It is possible that historical processes such as analogy have obscured the historical patterns. The -*i* verbs may have developed a fortis contrast in the present tense assertive, interrogative, and reportative under influence of the non -*i* verb morphology, which always shows fortis consonants in the present tense.

7.4.3.2 Reanalysis of the paradigms

A final process that took place in the development of distinct subject agreement suffixes in the various clause types is reanalysis of the subject agreement categories. The nominalizers -*ko*, -*kɨ*, -*je* and -*de*/-*te* referred to different entities in their nominal use than in their newly developed verbal use. For instance, the historical nominalizer -*de*/-*te* was probably used as a general nominalizer that referred to a general action. When it was introduced in dependent verb marking, it referred

to plural subjects in the paradigm. The suffixes *-ko*, *-kɨ* and *-bɨ* did not undergo this many changes in the dependent paradigm. The feminine and masculine agentive nominalizers *-ko* and *-kɨ* refer to feminine and masculine subjects in the dependent paradigms. The nominalizers *-ko* and *-kɨ* are, in their original function, underspecified for number. The two nominalizers can both be used to refer to plural entities in combination with the plural suffix *-wa'i*. In the dependent paradigms, the suffixes *-ko* and *-kɨ* are specified for number; the suffixes only refer to singular subjects. The collective nominalizer *-bɨ* came to refer to a plural subject in the present tense in the dependent paradigms. These changes in the paradigms do not involve major reanalysis.

More extensive reanalysis has taken place in the non-assertive paradigms. As in the dependent paradigm, number was introduced in the meaning of the suffixes *-ko* and *-kɨ*. The subject agreement paradigms introduced another category: the category of person. The feminine and masculine suffixes *-ko* and *-kɨ* now refer only to second and third person singular subjects. The general nominalizers *-je* in the present tense and *-de/-te* in the past tense came to refer to the 'rest' category: non-second or third person singular. The introduction of person is probably associated with the non-assertive verbs becoming main verbs.[168] As a result of their development into independent finite verbs, the paradigms probably began to introduce more finite features, such as person and absolute tense.

Although the reportative and the interrogative developed from different constructions, the two categories developed identical subject agreement morphology. This may be because the speakers associated the two categories by means of their form or meaning. At some stage, these two categories were grouped together, and the processes of reanalysis in the interrogative and reportative paradigms may have influenced each other. Because reports and questions developed

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[168] Interestingly, the non-assertive subject agreement did not develop the same person marking system as the assertive suffixes. Assertions show a third person singular versus non-third person singular pattern and non-assertions show a third and second person singular versus non-second and third singular pattern. Although Schwarz (2012) makes an interesting proposal for the existence of this difference, there is still no clear-cut answer to the question why second person groups with first person in assertive paradigms and with third person in non-assertive paradigms. This organization may be older than Proto-Western Tukanoan. Second person and third person singular are marked by the same suffixes in the apparent present paradigm in Tuyuka (Barnes, 1984, p. 258).

indistinguishable subject agreement morphology, the two categories became mutually exclusive. It is not possible to construe a reported question, because when the reportative suffix is added to a (polar) question, the sentence ceases to be a question. The utterance becomes a report in those cases. Due to the linking of reports and questions with respect to the subject agreement morphology, these two categories have become two mutually exclusive non-assertive clause types. As a consequence of this mutual exclusivity, the reportative category has become part of the clause typing system.

7.5 Conclusions

The different clause type markings in Ecuadorian Siona have distinct origins. Subject agreement morphology plays a crucial role in the marking of a clause type, because most clause types have their own subject agreement morphology. The distinctions are due to different etymologies. The subject agreement suffixes in assertions are most likely the oldest finite verb suffixes in Ecuadorian Siona. Most of the suffixes are found in Eastern Tukanoan as well, and may therefore even go back to Proto-Tukanoan. The origin of the assertive subject agreement marking is represented below:

(20)   Assertive
        *ROOT-(TENSE)-AGREEMENT

As shown in (20), the reconstructed assertive construction is very similar to the present one. The only difference probably lies in the fact that there used to be a tense morpheme between the root and the subject agreement morpheme.

The subject agreement morphology in non-assertive clauses probably developed from a nominalizing classifier. The original construction is represented below in (21):

(21)   Non-assertive:
        *ROOT-(TENSE)-NOMINALIZER   AUXILIARY.VERB-AGREEMENT

Both the reportative and the interrogative morphology seem to originate from a structure as the one represented in (21). The reportative probably developed from an indirect speech report that underwent the historical process of clause union. This indirect speech report contained a nominalized verb that functioned as a complement of a speech verb. The nominalizer probably developed into the present day

subject agreement morphology. The reportative suffix *-jã* is most likely the remainder of the speech verb. Due to the grammaticalization of the speech verb this reported construction underwent clause union: the nominalized complement clause and the main clause with the speech verb became one clause.

The interrogative developed from an auxiliary verb construction as well. However, this construction may have been a copula construction that consisted of a nominalized verb and a copula and marked some type of focus. The copula was deleted and the nominalizer was reanalyzed as main verb morphology. This process of the deletion of the main verb and the promotion of the subordinate verb to main verb was called insubordination by Evans (2007).

Although the reportative and the interrogative have a different origin, the two clause types were most likely associated at some stage in the language. That is why, reports and questions developed identical subject agreement morphology that marks the exact subject agreement categories. This linking of the two categories has led to the mutual exclusivity of the two categories and has caused reports to function as a clause type, just as assertions and questions.

The similarities between the subject agreement morphology of the two non-assertive categories and the dependent verbs are due to a similar origin. The dependent subject agreement suffixes probably originated as nominalizers as well. The dependent verbs may have started off as relative clauses. These relative clauses were reanalyzed as dependent verbs that are now used as a clause chaining device. The different subject suffix *-na* is probably a reanalyzed case marker. The reconstructed origin of the dependent verb morphology is presented in (22):

(22)   Dependent:
        *ROOT-(TENSE)-NOMINALIZER(-CASE)   MAIN.VERB-AGREEMENT

As a result of the reanalysis of the nominalizations as dependent verbs, these verbs obtained a more finite character, and the dependent subject agreement morphemes started to express number and relative tense. However, the dependent verbs were half-way to becoming finite.

The verbal system that developed in Ecuadorian Siona is very different from the systems in Eastern Tukanoan languages. Ecuadorian Siona did not develop an extensive evidential system that can be used in various clause types. Instead, Ecuadorian Siona has a single evidential that is part of the clause typing as a result of the linking of reports and questions with respect to their subject agreement morphology.

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Although the origin of the systems in Ecuadorian Siona and Eastern Tukanoan languages is similar, the outcomes are very different. Both systems seem to have developed out of auxiliary verb constructions. Traces of the auxiliary verbs are found in the expression of evidentiality in many Eastern Tukanoan languages. These traces now function as evidential suffixes (Malone, 1988) Both Eastern Tukanoan languages and Ecuadorian Siona have incorporated nominalizers in their subject agreement systems. The nominalizers are mostly found in indirect evidential subject agreement paradigms and in questions (Malone, 1988), similarly to the Ecuadorian incorporation of nominalizers.

Another difference between Eastern Tukanoan languages and Ecuadorian Siona is that Eastern Tukanoan languages have introduced a different nominalizer in questions and in the declarative paradigms. In most Eastern Tukanoan languages, questions contain a cognate form of the nominalizer *-ri* and they often do not display any person marking. By contrast, declarative paradigms contain either the original subject agreement morphemes or cognate forms of the nominalizers *-go*, *-gɨ*, *-ro* and *-ra* (Malone, 1988). The incorporation of different nominalizers in declarative and interrogative utterances has led to a split between the two clause types. Most evidential suffixes are not linked to declarative or interrogative morphology: they can occur in both clause types. Therefore, it is not possible to analyze the different evidential categories as different clause types in Eastern Tukanoan languages. The systematic difference between Ecuadorian Siona and Eastern Tukanoan languages is due to differences in their development. Suffixes with similar etymologies have developed into distinct systems.

Chapter 8: Conclusions

8.1 Introduction

This dissertation set out to study the expression of evidentiality in Ecuadorian Siona. I investigated both the current semantics and pragmatics of the elements that express evidentiality in the language and their historical development. The findings in this dissertation have implications for our understanding of both evidentiality and clause-typing. These findings and implications are summarized in this chapter in sections 8.2 and 8.3. Some recommendations for future research will be made in section 8.4.

8.2 Findings

The findings of this dissertation are presented in the following two subsections: the synchronic analysis of the expression of evidentiality and of the system in which these evidentiality interpretations occur is addressed in subsection 8.2.1 and the diachronic analysis of this system in 8.2.2.

8.2.1 Ecuadorian Siona clause types from a synchronic perspective

Ecuadorian Siona has various verbal paradigms of portmanteau morphemes that express subject agreement, tense, clause type and in some cases evidentiality, as shown in chapter 5 and 6. The two types of evidentiality that are found in the language are reportative and conjectural evidentiality. The reportative verb form is used when the speaker does not have direct access to the information, but has heard it from someone else. The conjectural verb form is also used when the speaker does not have direct access to the information, but in this case the speaker only formulates a conjecture about the information.

These two types of evidentiality are mutually exclusive with assertions and questions, as illustrated in the examples below repeated from chapter 1:

(1)   a.   Ocoji.   (Assertive).
               Ohko-hi.
               rain-3S.M.PRS.ASS
               'It is raining.' (I vouch for it). (20110325elicr001.205).

b.   Ocoquë?   (Interrogative).
      Ohko-kɨ?
      rain-2/3S.M.PRS.N.ASS
      'Is it raining?' (I am asking). (20110325elicr001.204).

c.   Ocoquëña.   (Reportative).
      Ohko-kɨ-jã.
      rain-2/3S.M.PRS.N.ASS-REP
      'It is raining.' (I am told). (20110402elicr001.001).

d.   Ocoa ba'i.   (Conjectural).
      Ohko-a   ba-'i-ɨ.
      rain-NEG   be-IMPF-2/3S.M.PRS.N.ASS
      'It is raining.' (I am conjecturing).
      (20110402elicr001.002).

The assertive, as illustrated in example (1a), is distinct from the interrogative, reportative and conjectural because of its assertive subject agreement morphology. The interrogative, reportative, and conjectural all show the same non-assertive subject agreement morphology. The last two categories are distinguished by additional morphology, such as the reportative suffix *-jã* and the periphrastic negator *-a ba'i*.

There seem to be distinct reasons for this distribution of the assertive, interrogative, reportative and conjectural clause types. The reason in the case of the conjectural is that it is actually a type of question; this evidential form is expressed by a negative question. For instance, the conjectural sentence in example (1d) can be literally translated as 'Isn't it raining?' When this type of negative question is used, the speakers are usually not asking the addressee for information. They are requesting an information update as they do with regular questions. In such negative questions, speakers introduce information to which they do not have direct access, but which they consider to be possible or probable.

This evidential and epistemic interpretation is not reached by introducing a propositional modal to the clause. Rather, it is generated by the presupposition that speakers believe the opposite when they ask a negative question. For instance, when a speaker asks 'Isn't it raining?' it appears that she/he believed that it was raining. This presupposition about the beliefs of the speaker seems to have generalized in Ecuadorian Siona and therefore, the negative questions with the negation *-a ba'i* are now regularly used as conjectural statements.

By contrast, the reportative cannot be analyzed as a subtype of questions. There is a different reason why reportative utterances are mutually exclusive with the assertive and interrogative utterances. The assertive, interrogative and reportative cannot co-occur because they are three distinct clause types. The differences between these clause types can be viewed in terms of differences in epistemic authority. In assertive clauses, speakers assert the information in the proposition. This means that they vouch for the truth of this information and that they assign the epistemic authority for the proposition to themselves. When they use an assertive clause, speakers present themselves as *knowers*. In interrogative clauses, speakers ask the addressee for information. They present the addressee as the one who holds the information that they are inquiring about. Therefore, in interrogative clauses speakers assign the epistemic authority to the addressee.

In reportative clauses, speakers do not assign the epistemic authority to either one of the speech act participants, as they do in the case of assertions and questions. Rather, speakers present the information as coming from a third party that is neither the speaker nor the addressee. In reportative clauses, then, the epistemic authority lies with that third party. Speakers do not vouch for the truth of this information, as illustrated in the example below repeated from chapter 6:

(2)   Jairo toto nejëyoëña. Caëna toto jëyëma'co baja'i.
        Jairo   tohto   ne-hɨjo-ɨ-jã.   ka-ɨ-na
        Jairo   board   do-break-2/3S.M.PST.N.ASS-REP   say-S.M.PST-DS
        tohto   hɨjɨ-ma'-ko   ba-ha'i.
        board   be.broken-NEG-NLZ.F   be-3S.M.PST.ASS
        'Jairo, supposedly, broke the board, (but although) someone said that, the board was not broken.' (20110830elicr001.061).

Example (2) shows that it is possible to use a reportative when speakers know that the information portrayed by the proposition is false. Speakers convey that they just report what someone else has said. This shows that they do not assign the epistemic authority to themselves; but to a non-speech act participant.

Deferring the epistemic authority to a third party can have various usage effects, as shown in chapter 6 in subsection 6.2.2. Although the reportative is often used in order to mitigate the speaker's responsibility for the information, this does not mean that the speaker is uncertain about the information. In some cases, speakers are quite

knowledgeable about the information, but they cannot claim epistemic authority because speaker and addressee both know that the speaker was not present or born yet.

Another use of the reportative is in reported requests or orders. A second person present tense or future reportative form can be used in order to express that someone else made the request. This use of the reportative cannot be interpreted as a 'secondhand imperative,' since the sentence is not marked for imperative. A literal interpretation of these sentences is: "You are doing it, it is said." When a reportative is used in this way, the communicative function of the sentence is that of a reported order or request, but that is not part of its semantics. The various distinct usages of the reportative all derive from the semantics of the clause type: a non-speech act participant has the epistemic authority over the information.

At first sight the expression of evidentiality in the Ecuadorian Siona clause typing system is similar to the evidential systems in Eastern Tukanoan languages. Evidentiality is expressed by portmanteau suffixes that also express tense and subject agreement in various Eastern Tukanoan languages. However the complex evidentiality systems that are found in Eastern Tukanoan languages cannot be analyzed as clause-typing systems. In contrast to Ecuadorian Siona, Eastern Tukanoan languages have evidentials that can co-occur with distinct clause types. Specifically, evidentials can occur in both declarative and interrogative clauses. Most Eastern Tukanoan evidentials therefore appear not to be part of the clause typing system, as is the case for the Ecuadorian Siona reportative.

I hypothesize that the Eastern Tukanoan evidentials operate within the sentential force domain. They may be sentential force modifiers, similarly to the Quechua evidential clitics. If this is the case, the Eastern Tukanoan evidentials do not mark different clause types, but they only modify the different clause types. It is also possible that Eastern Tukanoan evidentials operate within a different domain. More research on Eastern Tukanoan evidentials is necessary in order to help determine within which domain these evidentials operate.

8.2.2 Ecuadorian Siona clause types from a diachronic perspective

The Ecuadorian Siona portmanteau morphemes that mark subject agreement, tense and clause type were probably historically not portmanteau morphemes. These different functions can be connected to various features of the portmanteau morphemes. Subject agreement is

expressed by the complete morpheme and the switch of clause type is indicated by using a different set of subject agreement markers. For instance, the suffix *-hi* is used to mark third person singular masculine in assertive clauses and *-kɨ* is used to mark this same category and second person singular masculine in non-assertive clauses. Additionally, clause type distinctions are marked by distinct organizations of the paradigms; the suffixes in the distinct paradigms correspond to different subject agreement categories. For instance, the assertive suffix *-ko* marks a third person singular feminine subject, the non-assertive suffix *-ko* a second and third person singular feminine subject, and the dependent suffix *-ko* a singular feminine subject.

The use of distinct subject agreement suffixes in different clause types can be explained historically. The non-assertive and dependent subject agreement suffixes appear to have developed from nominal classifiers that were introduced in the verbal domain as nominalizers. Reportative, interrogative, and dependent verb morphology probably developed in different ways.

The reportative morphology seems to have arisen from indirect speech reports that contained a nominalized complementation clause. These indirect speech reports first underwent clause union and later on reanalysis of the subject agreement morphemes. The reportative suffix *-jã* seems to be the residue of the old speech verb or copula that was used in to introduce an indirect speech report. Language internal evidence for this reconstruction is that the nominal classifiers that can be used as nominalizers are similar or identical in form and function to the non-assertive subject agreement morphology that is used in reportative clauses. Additionally, these nominalizers are found throughout the language family. Further comparative evidence from other Tukanoan languages is found in Barasana (Jones & Jones, 1991, p. 28) and Kubeo (Chacón, 2009, p. 14; 2012). These languages have speech verbs that resemble the suffix *-jã* in Ecuadorian Siona. The reconstructed grammaticalization path of the reportative is summarized in the table below:

Table 8.1: The historical development of the reportative marking in stages

Stage	Form	Description
1.	* [[VERB ROOT-NLZ] say-SBJ.AGR] [[je'je-kɨ] jã-jɨ.] [[study-NLZ.M] say-OTH.PRS] 'They say that he studies.'	Nominalizations as complement clauses with a speech verb
2.	* [[VERB ROOT-NLZ] say] [[je'je-kɨ] jã] [[study-NLZ.M] say] 'He studies, they say.'	Loss of original agreement morphology
3.	* [[VERB ROOT-NLZ]-REP] [[je'je-kɨ]-jã] [[study-NLZ.M]-REP] 'He studies, they say.'	Reanalysis of the speech verb *jã as a reportative suffix -*jã*.
4.	* [[VERB ROOT-SBJ.AGR]-REP] [[je'je-kɨ]-jã] [[study-M]-REP] 'He studies.' (They say).	Reanalysis of the nominalizers as subject agreement morphology
5.	[[VERB ROOT-SBJ.AGR]-REP] [[je'je-kɨ]-jã] [[study-2/3S.M]-REP] 'He studies.' (They say).	Introduction of finite categories person and number in the subject agreement morphology

The interrogative seems to have undergone a similar development. The subject agreement suffixes probably also developed from nominalizations that were used as complement clauses. The difference is that these nominalizations were probably not complements of speech verbs. The nominalizations seem to have been used as complement clauses in (pseudo-)cleft constructions. These cleft constructions underwent a process of insubordination: the auxiliary verb in the main clause that accompanied the nominalization was deleted and then the subordinate verb remained in a main clause environment. There is both language internal and cross-linguistic evidence for this analysis. The language internal evidence is the same as in the case of the reportative: the nominalizers that were probably the

source for the subject agreement morphemes are still found in the language as nominal classifiers that can be used as nominalizers. The cross-linguistic evidence is that cleft constructions are common question strategies in languages from all over the world (Bhattacharya & Devi, 2004; Foulet, 1921; Givón, 2001a, pp. 308-310; M. Harris, 1978). Therefore, it is not inconceivable that the interrogative form has developed from a cleft construction. The reconstructed grammaticalization path of the interrogative marking is summarized in the table below:

Table 8.2: The historical development of the interrogative marking in stages

Stage	Form	Description
1.	* [[VERB ROOT-NLZ] COP-SBJ.AGR] [[je'je-kɨ] a-bi.] [[study-NLZ.M] COP-3S.M.PRS] 'Is it that he studies?'	The use of nominalizations in cleft constructions in questions
2.	* [[VERB ROOT-NLZ] Ø] [[je'je-kɨ] Ø] [[study-NLZ.M] Ø] '(Is it) that he studies?'	Loss of the main verb.
3.	* [VERB ROOT-SBJ.AGR] [je'je-kɨ] [study-M] 'Does he study?'	Reanalysis of the nominalizers as subject agreement morphology
4.	[VERB ROOT-SBJ.AGR] [je'je-kɨ] [study-2/3S.M.PRS] 'Does he study?'	Introduction of finite categories such as person and number in the subject agreement morphology

The dependent verb marking seems to have a similar historical background as the reportative and the interrogative marking. The subject agreement morphology that is found for same subject verbs in the present tense and for different subject verbs in the past and present tense developed from nominalizing classifiers. The different subject suffix *-na* probably developed from the goal case marker *-na*. The nominalizations in combination with the case marker were probably

first used as an oblique argument of a main clause. Later on, the construction lost its role as an argument and became a dependent verb. The nominalizing morphology was then reanalyzed as a subject agreement suffix and the case marker was reinterpreted as a different suffix marker. A similar origin can be proposed for the present tense same subject agreement suffixes, except that there is no residue of an old case marker. The past tense same subject verb suffix for present tense *-ni* may have developed from a case marker, as the different subject suffix *-na*. There is a case marker *-ni* in Ecuadorian Siona. However, there are also other possible origins for this suffix.[169]

Language internal evidence for these reconstructions is that the dependent verb subject agreement suffixes closely resemble the nominalizers in the languages, as in the case of the reportative and interrogative paradigms. Further language internal evidence is that both switch reference suffix *-na* and *-ni* are also found as case markers in the language. Cross-linguistic evidence for this reconstruction is that nominalized verbs sometimes in combination with case markers have also developed into dependent verb morphology (see Cerrón-Palomino, 2000; Haiman, 1983, p. 117; Overall, 2011). The reconstructed grammaticalization path of the dependent verb marking in different subject contexts is summarized in the table below:

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[169] It is also possible that the suffix *-ni* is a borrowing from Cofán, the neighboring language. This language has a case suffix *-ni* that is also used to mark subordinate clauses (Fischer & Van Lier, 2011). Another possibility is that it has always been a verbal suffix in the language. Possible evidence for this reconstruction is found in Máíhɨ̀kì. In this Western Tukanoan language some verbs have alternate verb stems that end in *-ni* (Farmer, 2011, pp. 4-5).

Table 8.3: The historical development of the DS marking in stages

Stage	Form	Description
1.	* [[VERB ROOT-NLZ]-GOAL (…)] [[je'je-kɨ]-na (…)] [[study-NLZ.M]-GOAL (…)] '(To) the one who studies (…).'	The use of nominalizations as arguments of a main clause
2.	* [[VERB ROOT-NLZ]-DS (…)] [[je'je-kɨ]-na (…)] [[study-NLZ.M]-DS (…)] 'He studies (…).'	Reanalysis of the case marker as different subject marker
3.	* [[VERB ROOT-NLZ]-DS (…)] [[je'je-kɨ]-na (…)] [[study-M]-DS (…)] 'He studies (…).'	Reanalysis of the nominalizers as subject agreement morphology
3.	[VERB ROOT-SBJ.AGR-DS] (…) [je'je-kɨ-na] (…) [study-S.M.PRS] (…) 'He studies (…).'	Introduction of finite categories such as number in the subject agreement morphology

Whereas reportative, interrogative, and dependent subject agreement morphology seems to have developed from nominalizing classifiers, the assertive subject agreement morphology can be reconstructed as the traditional subject agreement morphology in the language. There is comparative evidence for this reconstruction, namely, most of the Ecuadorian Siona assertive subject agreement morphemes can be found throughout the language family. The main exception is the third person singular feminine suffix *-ko*. This suffix was probably introduced into the paradigm under the influence of non-assertive and dependent paradigms. Since the suffix *-ko* is used in the non-assertive paradigms and in the dependent paradigms to mark some type of feminine subject, the subject marker *-ko* was also introduced in the assertive paradigms to mark a third person singular feminine subject by analogy.

The reconstruction I have presented suggests up to this point that the distinct subject agreement paradigms for assertive, reportative, interrogative and dependent verbs emerged due to various reanalysis processes of subordinate verbs. However, this proposal does not explain

why these morphemes also express tense. The marking of tense can generally be found as morphophonological marking on the suffix that affects only the consonant in the onset of the suffix. The morphophonological phenomenon that marks tense is a fortis - lenis distinction. For instance, fortis consonants are found in present tense for non *-i* verbs, in present tense assertive, interrogative and reportative for *-i* verbs, and in past tense for *-i* verbs. Lenis consonants are found in the present tense for bound verbs and dependent and conjectural *-i* verbs, and in the past for non *-i* verbs.

This fortis - lenis distinction is found throughout the Tukanoan language family under specific conditions. It depends on the preceding morpheme whether a fortis or lenis consonant will be used. Some preceding morphemes prevent the following consonant from leniting.[170] Some Eastern Tukanoan languages display tense morphemes that have this quality of preventing the next consonant to lenite. It is imaginable that Ecuadorian Siona also used to have tense markers that had this same effect. These tense markers have disappeared and all that is left now is reminiscent of this morphophonological effect that marks tense.

The morphophonological tense marking system is more complex because the marking is different for the distinct verb classes. There are three verb classes consisting of the non *-i* verbs, the *-i* verbs and the bound verbs. The differences between the three verb classes can be explained historically. The current verb classes probably derive from an older semantic split between stative and eventive verbs. The stative verbs were inherently imperfective and needed additional morphology in order for them to be used with a past tense reference. The eventive verbs on the other hand were inherently perfective and needed additional morphology in order to be used with present tense reference. This system is still found in the Eastern Tukanoan language Kubeo and there is some cognate morphology; eventive verbs are marked with the imperfective suffix *-i* in order to be used in the present tense (Chacón, 2009, 2012). Ecuadorian Siona has a similar imperfective suffix *-i*. This suffix, however, is not only used with eventive verbs. The *-i* verb class to which the imperfective suffix is applied consists of both stative and eventive verbs.

The distinction between *-i* verbs and non *-i* verbs is no longer semantic. The distinction is currently based on the prosodic structure of the stem. The *-i* verbs consist of monomoraic stems and the non *-i* verbs

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[170] Gomez-Imbert (1997, 2004) proposes that these preceding morphemes have a latent [t] in their coda. This [t] is not pronounced, but causes the following consonant to devoice.

consist of bimoraic stems. What seems to have happened is that monomoraic verbs maintained the imperfective suffix -*i* in order to form bimoraic stems. In non-imperfective contexts, these verbs show other strategies in order to form bimoraic stems. One strategy is that the monomoraic roots phonologically integrated the subject agreement morphology in their stem in order to form a bimoraic stem. Another strategy is the introduction of an epenthetic syllable -*ti* that is used before the counterfactual bound root -*da'*.

The bimoraic verbs did not maintain the imperfective suffix -*i*. Because of this change, the stative - eventive distinction was lost and verbs were classified based on their prosodic characteristics. So due to a phonological process, namely the loss of the imperfective suffix -*i*, a semantic distinction was first obscured and then disappeared. Only the bound copula -*a* and future verb -*si* seem to remain from the stative verb class.

The final diachronic question that remains is whether we can explain the differences between the Eastern Tukanoan languages and Ecuadorian Siona historically. The answer to this question is yes. Although the evidential and interrogative marking systems in Eastern Tukanoan languages and Ecuadorian Siona have similar origins, there seem to be some differences in the development of the marking that have caused that the languages have distinct systems. A similarity is that the verbal systems seem to have developed in both Eastern Tukanoan languages and Ecuadorian Siona from complex verbal constructions. Malone (1988) provides the following construction as a source for the portmanteau suffixes that express tense, evidentiality, and subject agreement in Tuyuka:

(3)   [[VERB ROOT-NLZ]   AUX-SBJ.AGR].

The auxiliary verb and the subject agreement morphology in (3) mostly fused in Tuyuka and therefore, the morphemes have become complex portmanteau suffixes that cannot be teased apart anymore. The auxiliary verbs in these languages have been reanalyzed as markers of evidentiality.

The main difference between the Ecuadorian Siona clause typing system and the Eastern Tukanoan systems is that the languages developed different interrogative markings. The interrogative marking developed in all these languages from nominalizing morphology. The difference is, however, that Ecuadorian Siona developed a complete subject agreement system from different nominalizers, whereas Eastern

Tukanoan languages only developed one interrogative marker from the nominalizer *-ri/-ti*. This marker replaces the subject agreement morphology that is found in declarative systems. Since the evidential interpretation is mostly conveyed by the morphemes that were historically auxiliary verbs and not by the subject agreement morphology, it is possible to combine the evidential marking with the interrogative marking. Therefore it is possible to express evidentiality in questions and it is not possible, at least in most cases, to analyze the evidentials in Eastern Tukanoan languages as distinct clause types, in contrast to the reportative clause type in Ecuadorian Siona.

8.3 Implications for linguistic theory

The findings in this dissertation, as presented in the previous section, have various implications for linguistic theory. This work provides new insights, especially, in the notions of evidentiality and clause-typing. The implications for our understanding of the nature of evidentiality are discussed in subsection 8.3.1 and the implications for our understanding of clause-typing and clause types in subsection 8.3.2.

8.3.1 Implications for the study of the nature of evidentiality

It is argued in this dissertation that evidentiality is not an independent linguistic category. Various scholars have previously argued that evidential interpretations can emerge in various linguistic domains. It was shown for various languages that evidential interpretations arise in the temporal or aspectual domains (Chung, 2005, 2007; Faller, 2003, 2004; Kalsang et al., in press; Lee, 2011). Evidential interpretations can also emerge in the modal domain, as shown by various scholars (De Haan, 2001b; Matthewson et al., 2007; McCready & Ogata, 2007; Peterson, 2010; Von Fintel & Gillies, 2010 amongst others).

This dissertation has shown that evidential interpretations can arise within yet another domain: Ecuadorian Siona data provide good evidence that evidential interpretations can arise in the domain of sentential force. That is, the reportative interpretation arises from the semantics of a specific clause type, namely the *report*. Reports are clause types in which speakers assign the epistemic authority to a non-speech act participant, as mentioned above. As such, *reports* contrast with *assertions* on the one hand, in which speakers assign the epistemic authority to themselves, and with questions on the other, in which speakers assign the epistemic authority to the addressee. The effect of

assigning the epistemic authority to a non-speech act participant is that speakers present the information as coming from a third party. As a result, the reportative clause type can be analyzed as an evidential.

The fact that Ecuadorian Siona has a verbal form that assigns a clause type to a clause and simultaneously marks evidentiality suggests that this phenomenon may be found among languages at large. An example of a language that may have a similar system is Shipibo-Konibo. This language has a system of clitics that consists of a direct evidential clitic *-ra*, a reportative clitic *-ronki*, a reportative clitic *-ki* and an interrogative clitic *-ki.* These clitics mutually exclude each other (Valenzuela, 2003). The evidential clitics may also function as clause-typing elements just as the interrogative clitic. For instance, the use of the direct evidential *-ra* is very similar to the use of the assertive clause type in Ecuadorian Siona. It is, therefore, possible that the direct evidential in Shipibo-Konibo can also be analyzed as an assertive clause-typing element and that it conveys that the speaker is the epistemic authority in this type of sentence. The reportative clitics *-ronki* and *-ki* may express that a non-speech act participant is the epistemic authority in these clauses. This possible analysis should be tested. It is likely that there are also other languages in the world that have a similar system.

The Ecuadorian Siona clause-typing system also has properties in common with systems such as the Cuzco Quechua system of evidential clitics as described by Faller (2002). For instance, the reportative clitic *-shi* is used in declarative sentences in order to show that the speaker is not the epistemic authority in the sentence. However, the Quechua evidential clitics cannot be analyzed as clause-typing elements. Since the clitics can occur in both declarative and interrogative clauses, they do not seem to be clause-typing elements themselves; the clitics only modify the sentential force of the clause type. Therefore, these morphemes are analyzed as clause type modifiers, following Portner (2006). This suggests that the Quechua evidentials operate within the same domain as the Ecuadorian Siona reportative: they both are clause-type evidentials. The difference is that the Ecuadorian Siona reportative is itself a clause-typing element, while the Quechua clitics are only clause-type modifiers.

The Ecuadorian Siona evidentials provide additional evidence that evidentiality is a category that is parasitic on other linguistic categories. Both structurally and semantically, there are many differences among evidentials in the languages of the world. These morphemes and constructions all express the access to the expressed information, but the domain within which the evidential operates will

determine how this evidential interpretation arises. Both the structural and the semantic behavior provide indications about the domain within which the evidential operates. Researchers in evidentiality should take into account both the morphosyntactic system to which the evidential belongs and its semantic peculiarities when analyzing the expression of evidentiality in a language.

8.3.2 Implications for the study of clause-typing

Although this thesis set out to obtain more insights in the nature of evidentiality, the Ecuadorian Siona data also provided a new perspective on the nature of clause-typing and sentential force. I have shown that in addition to the major clause types assertive, interrogative and imperative, there is another clause type, namely the report, as mentioned in the previous subsection. The sentential force of assertive clauses is assertion, of interrogative clauses is asking and of imperative clauses it is inquiring (Portner, 2004, 2009). In reportative clauses speakers only present information that they heard from someone else, they do not assert this information. These clause-types and their corresponding sentential force are summarized in table 8.4 below:

Table 8.4: An overview of the major clause types and associated sentential force

Clause Type	Sentential Force
Assertive	Assertion
Reportative	Presentation
Interrogative	Asking
Imperative	Requiring

This dissertation has also made a contribution to the fine-grained semantic structure of clause-types. Not only the function of the clause type seems to be marked, but also its authority. When the function of the clause type is the transmission of knowledge, it has an epistemic authority. This term was first used in the literature on languages with egophoric systems in order to describe why first person in declarative clauses and second person in interrogative clauses are marked by the same morphology (Curnow, 1997, pp. 209-217; 2002; Hargreaves, 1990, 1991, 2005). The idea behind this system is that the marking agrees with the holder of the knowledge, which is the speaker in declarative clauses and the addressee in interrogative clauses.

The role of epistemic authority is also present in non-egophoric systems, but is not overtly marked. When speakers make assertions in any language, they assign the epistemic authority to themselves. When they ask a question, they assign the authority to the addressee. When a language has reports as a separate clause type, the speaker assigns the epistemic authority to a non-speech act participant. As such, the speaker is able to transfer knowledge without making a claim about its veracity. Imperatives do not have an epistemic authority since they do not convey the function of transmitting information. Nonetheless, there is an authority in this clause type: the speaker takes the deontic authority and requires the addressee to do something. The clause types and their corresponding types of authority are presented in the table below:

Table 8.5: The main clause types and associated authority

Clause type	Type of authority	Authority
Assertive	Epistemic	Speaker
Interrogative	Epistemic	Addressee
Reportative	Epistemic	Non-speech act participant
Imperative	Deontic	Speaker

8.4 Issues for future research

This dissertation has raised various questions for future research. First of all, there are still many questions with respect to the fine-grained analysis of the Eastern Tukanoan evidential systems. It is not clear within which domain the evidentials in these languages operate. It is possible that not all evidential operate within the same domain. More semantic fieldwork needs to be conducted on these languages to find answers to these questions. Such research will not only provide a thorough description of these evidential systems, but it will surely provide further insights in the nature of evidentiality.

A second line of research would be the detailed study of the semantic elements that are involved in clause-typing. Clause types convey the grammatically marked function of a sentence. The question remains what semantic elements contribute to this function. It was argued that the role of the epistemic or deontic authority is important for the interpretation of the function of a clause type. Furthermore, the study of the interaction between evidentiality and sentential force has shown that other roles also seem to be important. For instance, when the reportative *-shi* in Cuzco Quechua is used to modify the sentential force of the clause, it modifies a specific element of the interpretation of

the clause type. When it is used in declarative clauses, it shifts the epistemic authority from the speaker to a non-speech act participant, similar to what a reportative does in Ecuadorian Siona. However, when a reportative is used to modify content questions in Cuzco Quechua, there is no always a shift of the epistemic authority. The epistemic authority remains, in some cases, with the addressee. The role that is shifted in these cases is the role of the inquirer; it is shifted from the speaker to a non-speech act participant. The fact that the role of the inquirer can be manipulated suggests that this role also is important for the interpretation of clause types. It is possible that other roles can be identified for specific clause types as well. A detailed study of the different components that construct the grammatically marked function of a clause will provide a better understanding of the concept of clause-typing.[171]

A further line of research lies in the study of how different evidential meanings arise in different languages. Evidential interpretations can arise in different domains. Therefore, the emergence of evidential interpretations should be studied by identifying the domain in which they operate. Both structural and semantic indications can be found for this in languages. The morphosyntactic system in which the evidential occurs should always be taken into account. If an evidential occurs in a tense system it is likely to be a tense operator. The semantic behavior of an evidential also provides indications of the domain within which it operates. For instance, if an evidential can be used in declarative clauses when the speaker knows the information to be false, it is likely that the evidential operates within a sentential force domain. The study of both the morphosyntactic and the semantic behavior of evidentials can provide more insights in the nature of evidentiality.

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[171] A similar proposal was made by Beyssade and Maradin (2006) who propose that both the role of the speaker and of the addressee should be studied in order to understand the function of a sentence. A difference is that these authors analyze illocutionary acts instead of clause types.

Apendix I: The Hammock

(1)   yure quëasi'i te'e bǫsë yo'quë ba'ise'e.
        jude   kɨa-si-'i   te'e   bõsɨ   jo'-kɨ
        now   tell-FUT-OTH.ASS   one   young.man   do-M.PRS
        ba-'i-se'e.
        be-IMPF-NLZ.PST
        'Now I am going to tell (the story) about what a young man did.'

(2)   jaë bǫsë ñocua neni dani sereni cua'coni cuenani ị ñocua oyaquë
        bạ'quëña.
        hã-ɨ   bõsɨ   jõhkʷa   ne-ni
        DEM.DST-CLS:ANIM.M   young.man   chambira   make-SS
        da-a-ni   sede-ni   kʷa'ko-ni   kʷena-ni
        come-TRS-SS   strip-SS   cook-SS   secar-SS
        ĩ-ɨ   jõhkʷa   oja-kɨ
        DEM.PRX-CLS:ANIM.M   chambira   roll-S.M.PRS
        ba-~'-kɨ-jã.
        be-REM.PST-2/3S.M.PRS.N.ASS-REP
        'The young man made 'chambira,' he brought (it), stripped (it),
        cooked (it) and roled the chambira.'

(3)   oyaquëbi ị jaẹ̈rë ju'ani hueina yecua'i careña jaẹ̈te bǫsëre. aireba
        hueye bạjë'ẹ̈ jaẹ̈rë, jaẹ̈rë jejẹquë careña.
        oja-kɨ-bi   ĩ-ɨ   hãɨ̃-dɨ
        roll-NLZ.M-SBJ   DEM.PRX-CLS:ANIM.M   hammock-CLS:MAZE
        hu'a-ni   we-ɨ-na   jehk-wa'i   ka-de-jã
        knot-SS   acostar-S.M.PST-DS   otro-PL   say-OTH.PST.N.ASS-REP
        ha-ɨh-te   bõtsɨ-re   ai-deba
        DEM.DST-CLS:ANIM.M-OBJ   young.man-OBJ   big-INTENS
        we-je   bã-hɨ̃'ɨ̃   hãɨ̃-dɨ
        lie.down.in.hammock-INF   NEG.COP-IMP   hammock-CLS:MAZE
        hẽhẽ-kɨ   ka-de-jã.
        get.stuck-NLZ.M   say-OTH.PST.N.ASS-REP.
        'When he rolled (the chambira), he knotted a hammock and he
        lay down in it and the others said to the young man: "Don't lie
        down in the hammock, because the hammock will get stuck,"
        they said.'

(4)   cajëna i̱ sehuoye ba̱ëña. ba̱quë ja̱re ja̱ëröse'e hueina tiju̱bë careña
guinaëni hueye bajë'ë̱ catoje̱ ti sehuocaiye ba̱ëña.

ka-hɨ-na	ĩ-ɨ	sewo-je
say-PL.PRS-DS	DEM.PRX-CLS:ANIM.M	accept-INF

bã-ɨ-jã.	bã-kɨ	hã-de
NEG.COP-2/3M.PST.N.ASS-REP	NEG.COP-NLZ.M	DEM.DST-OBJ

hãĩ-dɨ-se'e	we-ɨ-na
hammock-CLS:MAZE-just	lie.down.in.hammock-S.M.PRS-DS

tihũbɨ	ka-de-jã
again	say-OTH.PST.N.ASS-REP

gʷina-ɨ-ni
the.one.who.does.it.again-CLS:ANIM.M-OBJ

we-je	bã-hɨ̃'ɨ̃	ka-to-hẽ
lie.down.in.hammock-INF	NEG.COP-IMP	say-CLS:PLACE-like

ti	sewo-ka-i-je	bã-ɨ-ɲa.
AN	accept-APPL-IMPF-INF	NEG.COP-2/3S.M.PST.N.ASS-REP

'After they said that, he did not listen. He would just lie down in the hammock again and they said to him: "Don't lie down in the hammock!" but although they said that he did not listen.'

(5)   ba̱quëbi ja̱ë̱rë hueicaina ja̱ë̱rë së'aëña i̱ jetena

bã-kɨ-bi	hãĩ-dɨ
NEG.COP-NLZ.M-SBJ	hammock-CLS:MAZE

we-i-kã-i-ɨ-na
lie.down.in.hammock-IMPF-sleep-IMPF-S.M.PRS-DS

hãĩ-dɨ	sɨ'a-ɨ-jã
hammock-CLS:MAZE	get.stuk-2/3S.M.PST.N.ASS-REP

ĩ-ɨ	hehte-na.
DEM.PRX-CLS:ANIM.M	back-GOAL

'Not doing (that) he lay down to sleep in the hammock and the hammock got stuck to his back.'

(6)   së'aëna huësi'i cani yo'quëna je̱je̱së̱quëña. si'a ja̱ë̱rë huëquëña.

sɨ'a-ɨ-na	wɨh-si-'i	ka-ni	jo'-kɨ-na
get.stuck-S.M.PST-DS	get.up-FUT-OTH.ASS	say-SS	do-S.M.PRS-DS

hẽhẽ-sɨh-kɨ-jã		si'a	hãĩ-dɨ
get.stuck-be.stuck-2/3S.M.PST.N.ASS-REP		all	hammock-CLS:MAZE

wɨh-kɨ-jã.
get.up-2/3S.M.PST.N.ASS-REP

'After it got stuck, he wanted to get up, but it was still stuck (on his back). He got up with hammock and all.'

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(7) huëni i̱ ai quëquëña. yë'ë me neja̱'quëa'ne yure caquëna yecua'i aibë ñani ja̱je̱ yo'maquë cani ca̱iñe ba̱jë'e̱ ja̱ërë cajëna sehuoye ba̱siquë careña.

wɨ-ni   ĩ-ɨ   ai   kɨkɨ-ɨ-jã
get.up-SS DEM.PRX-CLS:ANIM.M big be.scared-2/3S.M.PST.N.ASS-REP
jude   jɨ'ɨ   me   ne-hã'-kɨ-a-'ne   ka-kɨ-na
now   1S   how   do-PRP-NLZ.M-COP-Q   say-S.M.PRS-DS
jehk-wa'i   ai-bɨ   jã-ni   hã-hẽ
other-PL   big-CLS:COL   see-SS   DEM.DST-like
jo'-ma-kɨ   ka-ni   kã-i-je   bã-hɨ̃'ɨ̃
do-NEG-NLZ.M see-SS   sleep-IMPF-INF NEG.COP-IMP
hãɨ̃-dɨ   ka-hɨ-na   sewo-je
hammock-CLS:MAZE   say-PL.PRS-DS   accept-INF
bã-sih-kɨ   ka-de-jã.
NEG.COP-CMPL-NLZ.M   say-OTH.PST.N.ASS-REP
'When got up he was really scared. "What I am going to do?" he said and the elders said: "See, we said that you should that, "don't sleep in the hammock," we said, but you didn't listen."'

(8) carena i̱ ba'iquëbi airo sai si'a ja̱ërë hue'equë saquëña i̱ bo̱së.

ka-de-na   ĩ-ɨ   ba-'i-kɨ-bi
say-PL.PST-DS   DEM.PRX-CLS:ANIM.M   be-IMPF-NLZ.M-SBJ
ai-do   sa-i-ɨ   si'a   hãɨ̃-dɨ
big-CLS:PLACE   go-IMPF-S.M.PRS   all   hammock-CLS:MAZE
we'e-kɨ   sah-kɨ-jã   ĩ-ɨ   bõsɨ.
carry-S.M.PRS   go-2/3S.M.PST-REP DEM.PRX-CLS:ANIM.M   young.man.
'After they had said that, some time passed and the young man went to the forest carrying the hammock and all around.'

(9) sani daisiquëbi guyaquë si'a ja̱ërë gajeni guyaëña.

sa-ni   da-i-sih-kɨ-bi   guja-kɨ   si'a
go-SS   come-IMPF-CMPL-NLZ.M-SBJ bathe-S.M.PRS   all
hãɨ̃-dɨ   gahe-ni   guja-i-jã.
hammock-CLS:MAZE go.down-SS   bathe-2/3S.M.PST.N.ASS-REP
'He went and came back and he would bathe and he would go down to bathe with hammock and all.'

(10)　guyani tumani ja'ruquëna yureta̲'a̲ ja̲maca ja̲ërë i̲ose'e joyeni hueiña.
guja-ni　tuma-ni　　ha'du-kɨ-na　　　　jude-tã'ã
bathe-SS go.up-SS　sit.down-S.M.PRS-DS　now-CNTEXP
ha-mahka　hãɨ̃-dɨ　　　　ĩ-o-se'e
DEM.DST-DIM　hammock-CLS:MAZE　DEM.PRX-CLS:ANIM.F-just
hoje-ni　　we-ɨ-jã.
open-SS　　tie.up-2/3S.M.PST.N.ASS-REP
'After he had come up after bathing and he said down and the hammock opened and tied up by itself.'

(11)　i̲bi ja'ruquëna tsoe huesico baquëña.
ĩ-ɨ-bi　　　　　　　ha'ru-kɨ-na　　　zoe we-sih-ko
DEM.PRX-CLS:ANIM.M-SBJ sit.down-S.M.PRS-DS time tie.up-CMPL-NLZ.F
bah-kɨ-jã.
be-2/3S.M.PST.N.ASS-REP
'When he sat down it was already tied up.'

(12)　huëina ja̲re i̲ose'e joyeni jete huequëña.
wɨ-i-ɨ-na　　　　　　hã-de　　　　ĩ-o-se'e
get.up-IMPF-S.M.PRS-DS DEM.DST-OBJ　DEM.PRX-CLS:ANIM.F
hoje-ni　hehte　　weh-kɨ-jã.
open-SS　back　　tie.up-2/3S.M.PST-REP
'When he would get up it would tie up on his back by itself.'

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(13) jaj̱e̱ yo'quëna yureṯa̱'a̱ airo sai si'a ja̱ërë saisiquëbi yureṯa̱'a̱
jamaca i̱o̱ caoña ja̱ërëbi. airo sani ñocua neñu'u̱ caoña.

hã-hẽ	jo'-kɨ-na	jude-tã'ã
DEM.DST-like	do-S.M.PST.DS	now-CNTEXP

ai-do	sa-i-ɨ	si'a	hãɨ̃-dɨ
big-CLS:PLACE	go-IMPF-S.M.PRS	all	hammock-CLS:MAZE

sa-i-sih-kɨ-bi	jude-tã'ã	hã-mahka
go-IMPF-CMPL-NLZ.M-SBJ	now-CNTEXP	DEM.DST-DIM

ĩ-o	ka-o-jã
DEM.PRX-CLS:ANIM.F	say-2/3S.M.PST.N.ASS-REP

hãɨ̃-dɨ-bi	ai-do	sa-ni	jõhkʷa	ne-jũ'ũ
hammock-CLS:MAZE-SBJ	big-CLS:PLACE	go-SS	chambira	do-HORT

ka-o-jã.
say-2/3S.M.PST.N.ASS-REP

'It was doing like that and when he went to the forest he would go with his hammock and all and then the hammock started talking. "Let's go to the forest to make 'chambira,'" she said.'

(14) caona i̱ sani ñocua nequë ba̱'quëña.

ka-o-na	ĩ-ɨ	sa-ni	jõhkʷa	ne-kɨ
say-S.F.PST-DS	DEM.PRX-CLS:ANIM.M	go-SS	chambira	do-S.M.PRS

ba-~'-kɨ-jã.
be-REM.PST-2/3S.M.PSTN.ASS-REP

'When she would say that, he would go to make chambira.'

(15) neni go'ini sereiña.

ne-ni	go'i-ni	sede-ɨ-jã.
do-SS	return-SS	strip-2/3S.M.PST.N.ASS-REP

'After making (chambira) he would go back and strip (it).'

(16) sereni cua'coni oyaquë si'a ja̱ë̱rë huei oyaquë yo'quëbi yureta̱'a̱ i̱ tiju̱bë caoña i̱o.

sede-ni kʷa'ko-ni oja-kɨ si'a hã̱ɨ̃-dɨ
strip-SS cook-SS roll-S.M.PRS all hammock-CLS:MAZE

we-i-ɨ oja-kɨ jo'-kɨ-bi
lie.down.in.a.hammock-IMPF-S.M.PRS roll-S.M.PRS do-NLZ.M-SBJ

jude-tã'ã ĩ-ɨ tihũbɨ ka-o-jã
now-CNTEXP DEM.PRX-CLS:ANIM.M again say-2/3S.M.PST.N.ASS-REP

ĩ-o.
DEM.PRX-CLS:ANIM.F

'First he stripped (it), then he cooked (it) and he rolled it, he rolled lying in the hammock and then she said: "Again."'

(17) airo sani beto hua'quejañu'u̱ caoña.

ai-do sa-ni behto wa'ke-ha-jũ'ũ
big-CLS:PLACE go-SS coco tear.off-go-HORT

ka-o-jã.
say-2/3S.F.PST.N.ASS-REP

'"Let's go to the forest and tear off some coconut," she said, it is said.'

(18) caona i̱ jaë' cani saiquëbi ti̱'a̱ëña betoñë.

ka-o-na ĩ-ɨ haɨ' ka-ni
say-S.F.PST-DS DEM.DST-CLS:ANIM.M OK say-SS

sa-i-kɨ-bi tĩ'ã-ɨ-jã behto-jɨ̆.
go-IMPF-CLS:ANIM.M-SBJ arrive-2/3S.M.PST.N.ASS-REP coco-CLS:TREE

'When she said that he said: "Ok," and the one who went arrived to a coconut palm.'

(19) ti̱'a̱ëna i̱o ja̱ë̱rë ba'isijkota̱'a̱ ba̱i̱ño de'oña.

tĩ'ã-ɨ-na ĩ-o hã̱ɨ̃-dɨ
arrive-S.M.PST-DS DEM.PRX-CLS:ANIM.F hammock-CLS:MAZE

ba-'i-sih-ko-tã'ã bãĩ-o
be-IMPF-CMPL-NLZ.F-CNTEXP person-CLS:ANIM.F

de'o-o-jã.
become-2/3S.F.PST.N.ASS-REP

'When he had found (it), she, who first was a hammock, became a woman.'

(20) nëcaco ñaoña. ñaco de'oco bojai dañaquë'iyo bacoña i̯o.
 nɨhka-ko   jã-o-jã.   jã-ko   de'o-ko
 stand-S.F.PRS   see-S.F.PST-DS   see-S.F.PRS   be.good-S.F.PRS
 bohai dajã -kɨ'i-o   bah-ko-jã   ĩ-o.
 white hair-have-S.F.PRS be-2/3S.M.N.ASS-REP   DEM.PRX-CLS:ANIM.F
 'She stood there watching. She was watching and had beautiful blond hair.'

(21) ba'icobi ja̯o beto jubë ja̯o cato ju̯i̯ñao ocua'ë caoña.
 ba-'i-ko-bi   hã-o   behto-hubɨ
 be-IMPF-NLZ.F-SBJ   DEM.DST-CLS:ANIM.F   coconut-bunch
 hã-o   ka-to   hũĩ-a-o
 DEM.DST-CLS:ANIM.F   say-CLS:PLACE   green-COP-3S.F.ASS
 ohko-a-'ɨ   ka-o-jã.
 water-COP-OTH.ASS   say-2/3S.F.PST.N.ASS-REP
 'She said: "This bunch is still green, they (the coconuts) are just water."'

(22) ja̯o ai yequë jubë jai jubë ja̯obi aiyo ja̯oni huatotojë̯'ë caoña.
 hã-o   ai   jehk-ɨ   hubɨ
 DEM.DST-CLS:ANIM.F   more   other-CLS:ANIM.M   bunch
 hai   hubɨ   hã-o-bi   ai-o
 big   bunch DEM.DST-CLS:ANIM.F-SBJ big-3S.F.ASS
 hã-o-ni   wahtoto-hĩ̯'ĩ̯   ka-o-jã.
 DEM.DST-CLS:ANIM.F-OBJ   take.down-IMP   say-2/3S.F.PST.N.ASS
 '"That one, the other bunch, the big bunch is ripe, take that one down," she said.'

(23) caona i̱ mëni cu̱a'se̱'kewë nesicore mëani i̱ da̱ëquëna ai jëaye
da̱ëjë'ë̱ caona i̱ jëaye da̱ëquëna i̱ ñama'ë̱ da̱ëquëna i̱o ye'oca
nëcasicobi i̱o beto jubë to̱meja̱'co ëmëje̱'e̱ ye'ocare nëcaoña.

ka-o-na	ĩ-ɨ	mɨ-ni	kʷã'sẽkɨ-wɨ
say-S.F.PST-DS	DEM.PRX-CLS:ANIM.M	go.up-SS	hook-CLS:CONTAIN

ne-sih-ko-de	mɨ-a-ni	ĩ-ɨ
do-CMPL-NLZ.F-OBJ	go.up-TRS-SS	DEM.PRX-CLS:ANIM.M

daɨ-kɨ-na	ai	hɨa-je	daɨ-hĩ'ĩ̃
pull-S.M.PRS-DS	more	be.hard-INF	pull-IMP

ka-o-na	ĩ-ɨ	hɨa-je	daɨ-kɨ-na
say-S.F.PST-DS	DEM.PRX-CLS:ANIM.M	be.hard-INF	pull-S.M.PRS-DS

ĩ-ɨ	jã-ma'-ɨ	daɨ-kɨ-na
DEM.PRX-CLS:ANIM.M	see-NEG-S.M.PRS	pull-S.M.PRS-DS

ĩ-o	je'oka	nɨhka-sih-ko-bi
DEM.PRX-CLS:ANIM.F	below	stand-CMPL-NLZ.F-SBJ

ĩ-o	behto-hubɨ	tome-hã'-ko	ɨmɨ-hẽ
DEM.PRX-CLS:ANIM.F	coco-bunch	fall-PRP-NLZ.F	above-like

je'oka-de	nɨhka-o-jã.
below-OBJ	stand-2/3S.F.PST.N.ASS-REP

'When she had said that he went up and he took up a hook he
had made when he pulled (it) she said: "Pull harder," and he
pulled harder, he pulled without watching toward where she
stood below and then the bunch of coconuts was going to fall
and she stood there.'

(24) nëcacona i̱ da̱ë huatotoquëna i̱o beto jubëre su'cuayë caco i̱o
ja̱ërë de'oni i̱o beto jubëna ga̱'nehuesëoña.

nɨhka-ko-na	ĩ-ɨ	daɨ-wahtotõ-kɨ-na
stand-S.F.PRS-DS	DEM.PRX-CLS:ANIM.M	pull-make.fall-S.M.PST-DS

ĩ-o	behto-hubɨ-de	su'kʷa-jɨ
DEM.PRX-CLS:ANIM.F	coco-bunch-OBJ	catch-OTH.PRS.ASS

ka-ko	ĩ-o	hãĩ-dɨ	de'o-ni
say-S.F.PRS	DEM.PRX-CLS:ANIM.F	hammock-CLS:MAZE	become-SS

ĩ-o	behto-hubɨ-na
DEM.PRX-CLS:ANIM.F	coco-bunch-GOAL

gã'ne-wesɨ-o-jã.
become.entangled-for.ever-2/3S.F.PST.N.ASS-REP

'She stood (there). While she stood (there) he pulled down and
dropped the coconut bunch while she said: "I am catching (it),"
and she became a hammock again and she got entangled.'

(25) gạ'nehuesëni guicona meñe ñaquëna bạiño ba'isicotạ'ạ tsoe jạ̈ rëbi gạ'nehuesëni guico memecona ị esaëmaca gajeni ị huëhuëña.

gã'ne-wesɨ-ni   gʷi-ko-na
be.entangled-for.ever-SS   scream-S.F.PRS-DS

me-je   jã-kɨ-na   bãĩ-o
move.head.down-SS   see-S.M.PRS-DS   people-CLS:ANIM.F

ba-'i-sih-ko-tã'ã   zoe   hãĩ-dɨ-bi
be-IMPF-CMPL-NLZ.F-CNTEXP   time   hammock-CLS:MAZE-SBJ

gã'ne-wesɨ-ni   gʷi-ko
be.entangled-for.ever-SS   schreeuwen-S.F.PRS

meme-ko-na   ĩ-ɨ   esa-ɨ-mahka
be.afraid-S.F.PRS-DS   DEM.PRX-CLS:ANIM.M   quick-M-DIM

gahe-ni   ĩ-ɨ   wɨwɨ-ɨ-ɲa.
go.down-SS   DEM.PRX-CLS:ANIM.M   run-2/3S.M.PST.N.ASS-REP

'Entangled she was screaming and then he looked down the woman who had already become a hammock entangled (in the coconut bunch) and she was screaming scared and he climbed down quickly and run away.'

(26) go'iña
go'i-ɨ-jã.
return-2/3S.M.PST.N.ASS-REP
'He returned.'

(27) go'ini ị quëaëña yecua'ire.
go'i-ni   ĩ-ɨ   kɨa-ɨ-jã
return-SS   DEM.PRX-CLS:ANIM.M   tell-2/3S.M.PST.N.ASS-REP
jehk-wa'i-de.
other-PL-OBJ
'When he got back he told the others.'

(28) io̱ yure më' ja̱ë̈rë cajëna tsoe io̱ quea'ne betojubëna
ga̱'nehuesëona je̱o̱go̱ni daë'ë caquë i̱ memequëna güi̱naobi dasio
kani yohuë ayamëni yequë ti'huina i̱ je̱ni ca̱quëña.

ĩ-o jude mɨ hã̰ɨ̃-dɨ ka-hɨ-na
DEM.PRX-CLS:ANIM.F now 2S hammock-CLS:MAZE say-PL.PRS-DS

zoe ĩ-o ke-a-'ne behto-hubɨ-na
time DEM.PRX-CLS:ANIM.F what-COP-Q coconut-bunch-GOAL

gã'ne-wesɨ-o-na hẽõgõ-ni
be.entangled-for.ever-S.F.PST-SS leave.behind-SS

da-ɨ'ɨ ka-kɨ ĩ-ɨ
come-OTH.PST.ASS say-S.M.PRS DEM.PRX-CLS:ANIM.M

meme-kɨ-na gʷina-o-bi
be.afraid-S.M.PRS-DS the.one.who.does.it.again-CLS:ANIM.F-SBJ

dah-si-o ka-ni jo-wɨ aja-mɨ-ni
come-FUT-3S.F.ASS say-SS canoe-CLS:CONTAIN fill-go.down-SS

jehk-ɨ ti'wi-na ĩ-ɨ hẽ-ni
other-CLS:ANIM.M side-GOAL DEM.PRX-CLS:ANIM.M cross-SS

kãh-kɨ-jã.
sleep-2/3S.M.PST.N.ASS-REP

'"And your hammock," they said and he said: "She got entangled
in a bunch of coconuts, and I left (her) behind," and he (added)
afraid: "She will come back," so he went down into the canoe and
he slept on the other side.'

(28) ja̱re ja̱o̱ja'a̱ i̱ yo'se'e carajaja'i.

hã-de hã-o-hã'ã ĩ-ɨ
DEM.DST-OBJ DEM.DST-CLS:ANIM.F-LIM DEM.DST-CLS:ANIM.M

jo'-se'e kada-ha-ha'i.
do-NLZ.PST end-go-3S.M.PST.ASS

'This is (until) where the story ends.'

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Samenvatting in het Nederlands

Het Siona van Ecuador wordt gesproken in het noordoosten van Ecuador, in het tropische laagland. De taal behoort tot de Tukano taalfamilie, die bestaat uit een twintigtal talen. Al deze talen worden in het Amazonegebied gesproken. De taalfamilie is onder te verdelen in twee groepen: de Oost-Tukano en de West-Tukano talen. De grootste groep, de Oost-Tukano talen, wordt in het oosten van Colombia en het noordwesten van Brazilië gesproken in en rond om het Vaupés gebied (Barnes, 1999, 2006; Chacón, to appear; Gomez-Imbert, 2011; Stenzel, 2013).

De West-Tukano talen, waar het Siona van Ecuador toe behoort, vormen een kleinere groep van vijf talen, die over een groter gebied verspreid zijn. Deze talen worden in het zuiden van Colombia en het noordoosten van Ecuador en Peru gesproken. Het Siona van Ecuador is zeer nauw verwant aan het Siona van Colombia en het Sekoya van Ecuador. Deze drie talen zouden als varianten van één en dezelfde taal beschouwd kunnen worden. Ondanks de kleine verschillen kunnen de sprekers van de talen elkaar toch meestal verstaan wanneer ze hun eigen taal gebruiken. De drie groepen beschouwen zichzelf echter wel als drie verschillende etniciteiten.

Één van de interessante eigenschappen van het Siona van Ecuador is dat het een uitzonderlijk systeem heeft om zinstypes aan te duiden. In dit systeem worden de gebruikelijke zinstypes uitgedrukt, zoals beweringen (assertieve zinnen), vragen (interrogatieve zinnen) en bevelen (imperatieve zinnen). In het Nederlands en in het Engels wordt dit onderscheid veel al met woordvolgorde en intonatie aangegeven. In het Siona van Ecuador wordt dit onderscheid uitgedrukt door middel van het gebruik van verschillende werkwoordvervoegingen. De voorbeelden hieronder illustreren het verschil in werkwoordvervoegingen tussen beweringen en vragen:

(1)   Ocoji.   (Assertief).
        Ohko-hi.
        regenen-3S.M.PRS.ASS
        'Het regent.' (Ik weet het zeker). (20110325elicr001.205).

(2)   Ocoquë?   (Interrogatief).
        Ohko-kɨ?
        regenen-2/3S.M.PRS.N.ASS
        'Regent het?' (Ik vraag het). (20110325elicr001.204).

(3)   Ñamëijë'ë̈!
        Jã-mɨ-i-hɨ̃'ɨ̃!
        zien-naar.boven.gaan-IMPF-IMP
        'Ga naar boven en kijk!' (Ik beveel je). (20110226elicr001.169).

De voorbeelden in (1) en (2) laten zien dat de sprekers van het Siona van Ecuador de vervoeging *-hi* gebruiken voor derde persoon mannelijk in beweringen en *-kɨ* in vragen. De imperatief in (3) wordt gevormd met het suffix *-hɨ̃'ɨ̃*. Het verschil in persoonsvervoegingen duidt onder andere het zinstype aan.

Het uitzonderlijke van het Siona van Ecuador is dat het niet alleen de drie klassieke zinstypes uitdrukt, maar dat het ook een vierde zinstype uitdrukt, namelijk de gerapporteerde weergave van andermans uitspraken (*report*). Zinnen van dit zinstype zijn reportatieve zinnen. Gewoonlijk wordt de reportatief in de talen van de wereld gezien als een vorm die evidentialiteit uitdrukt en niet een zinstype. Evidentialiteit is de aanduiding van de manier waarop de spreker de uitgedrukte informatie verkregen heeft. Die spreker kan bijvoorbeeld de informatie zelf waargenomen hebben of het van iemand anders gehoord hebben. De reportatief in het Siona van Ecuador wordt net als de andere zinstypes door het gebruik van een speciale werkwoordvervoeging uitgedrukt, zoals geïllustreerd in voorbeeld (4):

(4)   Ocoquëña.   (Reportatief).
        Ohko-kɨ-jã.
        rain-2/3S.M.PRS.N.ASS-REP
        'Het regent.' (wordt er gezegd). (20110402elicr001.001).

De reportatief in voorbeeld (3) wordt aangeduid door een combinatie van de werkwoordvervoeging *-kɨ* en het reportatieve suffix *-jã*. De reportatief kan niet samen met de assertief of de interrogatief voorkomen; het gebruik van één van de zinstype-aanduidingen sluit de andere uit. Dit proefschrift biedt een uitvoerige beschrijving van dit system in het Siona van Ecuador. De belangrijkste aspecten van deze beschrijving zijn een analyse van het gebruik en de betekenissen van de verschillende zinstypen en een reconstructie van de herkomst van dit systeem.

In hoofdstuk 2 wordt een overzicht gegeven van wat er over evidentialiteit en zinstypes in de taalkundige literatuur geschreven is. Bij evidentialiteit gaat het erom hoe de spreker aan de informatie komt

die wordt uitgedrukt in een zin. Er wordt hier geargumenteerd dat evidentialiteit geen aparte taalkundige categorie is, maar dat evidentiële betekenissen in het tijdssysteem, in het modale systeem, of in het systeem dat zinstypes aanduidt worden gegenereerd.

De verschillende zinstypes drukken de grammaticale functie van een zin uit. Bijvoorbeeld, als een assertieve vorm gebruikt wordt beweert de spreker dat de inhoud van de zin waar is. Wanneer een interrogatieve vorm gebruikt wordt stelt de spreker een vraag. Een spreker die een assertieve zin gebruikt geeft dus aan dat de informatie die uitgedrukt wordt in de zin deel is van haar / zijn kennis. De spreker kent zichzelf autoriteit over de informatie toe, dit noemen we de epistemische autoriteit. Als een spreker een interrogatieve zin gebruikt wordt de epistemische autoriteit bij de gesprekspartner gelegd. Dat wil zeggen dat de spreker meestal een vraag stelt als zij / hij verwacht dat de gesprekspartner het antwoord weet. De reportatief kan ook worden beschreven in termen van epistemische autoriteit. In zinnen met reportatieve markering neemt de spreker geen verantwoordelijkheid voor de informatie in de zin, maar presenteert deze alleen. De spreker legt de epistemische autoriteit bij een derde persoon die niet aan het gesprek deelneemt.

Hoofdstukken 3, 4 en 5 bieden een overzicht van verschillende aspecten van de grammatica van het Siona van Ecuador. In hoofdstuk 3 wordt het fonologische systeem van de taal besproken. Voor de consonanten wordt besproken hoe deze fonemen gerealiseerd worden in de verschillende posities van het woord. Voor de vocalen worden de fonologische processen besproken die deze fonemen ondergaan als ze in contact komen met andere vocalen. Een ander thema dat aan bod komt in dit hoofdstuk is nasalisatie. Nasalisatie is een fonologisch proces dat in veel Tukano talen voorkomt. In het Siona van Ecuador kunnen niet alleen sommige consonanten maar ook alle vocalen die aan nasale fonemen voorafgaan en erop volgen nasaal worden. Een ander belangrijk thema dat behandeld wordt in dit hoofdstuk is de bimoraïsche structuur van de stam in het Siona. De stam van een Siona woord moet verplicht twee morae bevatten. Een stam kan bestaan uit alleen een wortel, maar ook uit een wortel en een derivationeel suffix.

Hoofdstuk 4 leidt verschillende thema's in met betrekking tot de morfologie in het nominale domein. Het eerste thema dat besproken wordt is nominale classificatie. Naast verschillende suffixen die algemene waarden zoals mannelijk, vrouwelijk, neutraal, tijd en plaats aanduiden, zijn er ook suffixen die klassen met specifieke waarden

uitdrukken. Zo zijn er bijvoorbeeld suffixen die uitdrukken dat een object rond is of lang en dun, hol van binnen, of de vorm van een zak heeft. Slechts een gedeelte van de zelfstandige naamwoorden heeft verplicht een nominaal classificerend suffix.

Het tweede thema dat besproken wordt is de markering van meervoud. Bezielde zelfstandige naamwoorden worden onderscheiden van onbezielde. Bezielde zelfstandig naamwoorden krijgen de twee meervoudssuffixen *-wa'i* of *-dowɨ* en onbezielde zelfstandige naamwoorden krijgen *-ã* of *-jã*. De eerste van de twee onbezielde meervoudsvormen *-ã* wordt gebruikt in combinatie met een nominaal classificerend suffix en komt voor bij de groep zelfstandige naamwoorden die verplicht een nominaal classificerend suffix hebben. De andere groep zelfstandig naamwoorden heeft *-jã* als meervoudssuffix.

Het derde thema in dit hoofdstuk is de markering van naamvallen. De naamval van een argument kan door middel van naamvalssuffixen uitgedrukt worden, maar dat is niet in alle gevallen verplicht. Het onderwerp van de zin kan worden gemarkeerd met het suffix *-bi*. Dit suffix wordt alleen gebruikt om het onderwerp te markeren als er nadruk ligt op dit argument. Verder wordt het suffix *-bi* gebruikt om de instrumentalis en de ablatief (beweging ergens vandaan) uit te drukken. In deze gevallen is het suffix wel verplicht. Er zijn verder twee object suffixen: *-de* en *-ni*. Beide suffixen kunnen worden gebruikt om het lijdend voorwerp en het meewerkend voorwerp uit te drukken. Het suffix *-de* kan ook worden gebruikt om een locatie aan te geven. Het suffix *-ni* wordt over het algemeen alleen gebruikt om bezielde objecten aan te duiden. Beide suffixen kunnen weggelaten worden. De functies van de overige naamvalssuffixen worden ook kort besproken in dit hoofdstuk.

In hoofdstuk 5 komt de werkwoordmorfologie aan bod. Een goed begrip van deze morfologie is belangrijk voor de historische reconstructie van het systeem dat zinstype aanduidt. De opbouw van de werkwoordvervoegingsparadigma's wordt uitgelegd. Dit is verschillend voor assertieve werkwoordvormen, niet-assertieve werkwoordvormen (interrogatieve, reportatieve, en speculatieve werkwoordvormen), en werkwoordvormen in bijzinnen. Verder wordt uitgelegd hoe tijd uitgedrukt wordt en worden de verschillende werkwoordklassen besproken. Het Siona van Ecuador kent drie verschillende werkwoordklassen: de *-i* werkwoorden, de niet *-i* werkwoorden en de gebonden werkwoorden. De *-i* werkwoorden hebben een suffix *-i* in de tegenwoordige tijd, infinitieven en nominalisaties. De niet *-i* werkwoorden en de gebonden werkwoorden hebben dit suffix niet. In

dit hoofdstuk wordt beargumenteerd dat het verschil tussen de werkwoordsklassen niet semantisch is, maar prosodisch. De *-i* werkwoorden hebben een monomoraïsche structuur en hebben extra morfologie, zoals het suffix *-i*, nodig om een bimoraïsche stam te vormen. De niet *-i* werkwoorden hebben een bimoraïsche structuur en hebben daarom geen extra morfologie nodig om een volledige prosodische stam te vormen. De gebonden werkwoorden staan niet op zichzelf en hoeven daarom geen bimoraïsche structuur te vormen.

In hoofdstuk 6 worden het gebruik en de semantiek van het zinstypesysteem in het Siona van Ecuador besproken. De assertief duidt aan dat de spreker de uitgedrukte informatie in de zin bevestigt. De spreker hoeft deze informatie niet gezien te hebben; het is ook mogelijk dat de spreker om welke reden dan ook zeker van zijn / haar zaak is. Omdat de assertief niet verbonden is aan een bepaalde bewijsvorm wordt deze werkwoordvorm niet als een evidentiële categorie geanalyseerd in dit proefschrift. De assertief in een zinstype waarin de spreker zelf de verantwoordelijkheid voor de informatie neemt; zij / hij is de epistemische autoriteit. De interrogatief wordt gebruikt in alle soorten vragen. De spreker kent de epistemische autoriteit toe aan de aangesprokene.

De reportatief wordt gebruikt als de spreker informatie weergeeft die iemand anders haar / hem verstrekt heeft. De spreker presenteert deze informatie alleen maar en neemt er niet de verantwoordelijkheid voor. Daarom ligt bij de reportatief de epistemische autoriteit niet bij één van de deelnemers van het gesprek. Bij een imperatief is er geen epistemische autoriteit omdat het daarbij niet gaat om het overdragen van informatie. Wel is er een andere autoriteit in imperatieve zinnen: de spreker neemt de autoriteit om bevelen te geven: hij kent zichzelf de deontische autoriteit toe in dit soort zinnen. Het systeem dat zinstypes aanduidt en de verschillende functies die het uitdrukt is samengevat in tabel 1:

Tabel 1: De zinstypes van het Siona van Ecuador, hun functie en type autoriteit.

Zinstype	Functie	Type autoriteit	Autoriteit
Assertief	Bewering	Epistemisch	Spreker
Interrogatief	Vraag	Epistemisch	Aangesprokene
Reportatief	Presenteren van andermans bewering	Epistemisch	Iemand die niet deelneemt aan het gesprek.
Imperatief	Bevel	Deontisch	Spreker

Het Siona van Ecuador heeft nog een functie die soms wordt uitgedrukt door een bepaald soort werkwoordsmorfologie, namelijk de *conjectural* of 'speculatief.' De speculatief drukt uit dat de spreker slechts speculeert over de informatie in de zin. Deze functie wordt uitgedrukt door een negatieve vraagzin: deze zinnen bevatten zowel een negatie als niet-assertieve werkwoordmorfologie en zijn dubbelzinnig. Dit soort zinnen kunnen een negatieve vraag of een speculatie uitdrukken. Aangezien de zinsmarkering bestaande uit een negatie en niet-assertieve werkwoordmorfologie niet altijd aanduidt dat de zin op speculatie berust, wordt deze vorm niet als een apart zinstype geanalyseerd in dit proefschrift. De 'speculatief' wordt dan ook geanalyseerd als een pragmatische functie van de negatieve vraag.

In hoofdstuk 7 wordt het ontstaan van het zinstypesysteem in het Siona van Ecuador besproken. De assertieve werkwoordvervoegings-paradigma's zijn waarschijnlijk de oorspronkelijke paradigma's. De interrogatieve en reportatieve paradigma's zijn waarschijnlijk later ontstaan. De reportatief is ontstaan uit een constructie die gebruikt werd om de indirecte rede uit te drukken. De interrogatief heeft waarschijnlijk een copulaconstructie als oorsprong. De niet-assertieve werkwoord-vervoegingsparadigma's komen waarschijnlijk van nominalisaties die gebruikt werden om ondergeschikte zinnen mee aan te geven. Dezelfde nominalisatievormen zijn ook terug te vinden in het vervoegingsparadigma's van de bijzinnen en in de tegenwoordige nominalisaties.

De werkwoordvervoegingen in het Siona van Ecuador zijn suffixen die niet alleen het onderwerp maar ook de tijd aangeven waarin de beschreven gebeurtenis plaatsvond. In een eerder stadium van het Siona werden de categorieën onderwerp en tijd waarschijnlijk niet door één en hetzelfde suffix uitgedrukt. Tijd werd waarschijnlijk uitgedrukt

door een morfofonologisch proces dat plaatsvond bij de medeklinker. Het gebruik van een fortis of lenis consonant drukte tijd uit, en de werkwoordklasse bepaalde welke consonant gebruikt werd. Door verschillende klankveranderingen in de taal is het onmogelijk geworden om dit morfofonologische proces nog te observeren.

Één van de belangrijkste bevindingen van dit proefschrift is dat een evidentiële betekenis als een zinstype uitgedrukt kan worden. Deze bevinding heeft implicaties voor ons begrip van de semantische structuur van evidentialiteit en van zinstypes. Evidentialiteit wordt vaak door een andere categorie in de taal uitgedrukt. Eerder onderzoek heeft al aangetoond hoe tijdsaanduidingssystemen en modale systemen evidentialiteit kunnen uitdrukken. Dit proefschrift voegt daar nog een extra categorie aan toe, namelijk zinstype.

Dit proefschrift bevordert ook het taalkundige begrip van de notie zinstype. Een zinstype wordt vaak alleen maar gezien als de grammaticale functie van een zin. Dit proefschrift laat zien dat het zinvol is om een gedetailleerde beschrijving van de semantische structuur te geven waarbij de notie autoriteit centraal staat. Elk zinstype heeft een specifieke epistemische of deontische autoriteit die de functie van de zin bepaalt.

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Curriculum Vitae

Martine Bruil was born on the 31st of August 1982 in Doetinchem. After attending the Ulenhof College in Doetinchem from 1994 to 2000, she spent a year in Ibarra, Ecuador, studying at the Colegio Sagrado Corazón de Jesús as an exchange student. In 2001, she began studying 'Languages and Cultures of Latin America' at Leiden University. She was awarded her *doctorandus* degree in 2006. In the same year, she started the research master program 'Linguistics: Structure and Variation in the Languages of the World' at the same university and one year later, in 2007, she began the master program 'Languages and Cultures of Indigenous America.' She wrote her master thesis on converbs in Ecuadorian Spanish and Quichua. She obtained both master's degrees in 2008 and she became a PhD student at the Leiden University Centre for Linguistics in the framework of the research programme 'The Nature of Evidentiality' funded by the Netherlands Organisation for Scientific Research and headed by Prof.dr. J.E.C.V. Rooryck and Prof.dr. W.F.H. Adelaar. During her PhD study, she obtained a small grant from the Hans Rausing Endangered Languages Programme (SG0067) in order to document Ecuadorian Siona. This dissertation is the result of Martine Bruil's PhD research on Ecuadorian Siona.