

Counterfactual conditional strategies in some Amazonian languages

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ABSTRACT: Studies on individual Amazonian languages have shown that these languages can contribute to informing and refining our theories of counterfactual conditional constructions. Still missing, however, is an attempt at exploring this complex sentence construction across different genetic units of the Amazonia in a single study. The paper explores counterfactual conditionals in a sample of 24 Amazonian languages. Special attention is paid to the range of TAM markers and clause-linking devices used in counterfactual conditionals in the Amazonian languages in the sample. As for TAM markers, it is shown that protases tend to be unmarked (they do not occur with any TAM values), and apodoses tend to occur with irrealis or frustrative marking. As for clause-linking devices, it is shown that most Amazonian languages in the sample contain counterfactual conditionals occurring with non-specialized clause-linking devices. This means that the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is not grammaticalized in clause-linking devices. Instead, the counterfactual conditional meaning resides in the combination of specific TAM markers. The paper also pays close attention to the distribution of TAM markers and clause-linking devices in counterfactual conditional constructions in the Vaupés. In particular, special attention is paid to how Tariana counterfactual conditional construction have been shaped by Tucanoan languages through language contact.

KEYWORDS: Counterfactual conditionals; Amazonian languages; Complex sentence; Tense-Aspect-Mood; Clause-linking devices

RESUMEN: Estudios de diversas lenguas amazónicas han demostrado que estas lenguas pueden contribuir a nuestro conocimiento teórico sobre las construcciones condicionales contrafactuales. Sin embargo, hasta el momento, no hay investigaciones que tomen en cuenta lenguas amazónicas de diferentes bloques genéticos en una sola investigación. El presente estudio explora las construcciones condicionales contrafactuales partiendo de una muestra de 24 lenguas amazónicas. Se presta especial atención a la variedad de marcadores TAM y dispositivos de vinculación de cláusulas utilizados en construcciones condicionales contrafactuales en las lenguas amazónicas de la muestra. En cuanto a los marcadores TAM, se demuestra que la prótasis tiende a no estar marcada (no ocurre con ningún valor de TAM) y la apódosis tiende a ocurrir con marcas irrealis o frustrativos. En cuanto a los dispositivos de vinculación de cláusulas, se demuestra que la mayoría de las lenguas amazónicas en la muestra contienen construcciones condicionales contrafactuales que ocurren con dispositivos de vinculación de cláusulas no especializados. Esto significa que la distinción entre condicionales contrafactuales y otros tipos de condicionales (real/genérico) no está gramaticalizada en los dispositivos de vinculación de cláusulas. Mas bien, el significado condicional contrafactual reside en la combinación de marcadores TAM específicos. El artículo también presta atención a la distribución de marcadores TAM y dispositivos de vinculación de cláusulas en construcciones condicionales contrafactuales en el Vaupés. En particular, se presta atención a cómo lenguas de la familia tucano han influido en la forma de la construcción condicional contrafactual de la lengua Tariana (Arawak) a través del contacto lingüístico.

PALABRAS CLAVE: Condicionales contrafactuales; Lenguas amazónicas; Cláusula compleja; Tiempo-Aspecto-Modo; Conectivos

1. Introduction

Various studies have explored conditionals crosslinguistically (e.g., Comrie 1986; Haiman & Kuteva 2001; Olguín Martínez & Lester 2021; Xrakovskij 2005). However, only a

few studies have analyzed conditionals in specific regions (but see Nicolle 2017). The present paper contributes to filling this gap by exploring conditionals in one specific region, that is, Amazonia.

There are a number of publications that explicitly recognize conditional constructions in particular Amazonian languages. They demonstrate that many languages of this region show exceptions to wider typological generalizations. For instance, crosslinguistically, there seems to be a strong correlation between counterfactual conditionals and irrealis marking because, as explained by Mithun (1995: 384), when languages have a grammaticalized realis/irrealis distinction, counterfactual conditionals tend to be encoded with irrealis markers. Interestingly, a number of Southern Arawakan languages show that the picture may be more complex. In many Southern Arawakan languages (e.g., Paunaka), irrealis is used in all types of conditionals (i.e., conditional and main clauses occur in the irrealis; Danielsen & Terhart 2016: 14). There are other Southern Arawakan languages (e.g., Terena) that also have a grammaticalized realis/irrealis distinction. However, they differ from other Southern Arawakan languages in that the conditional clause occurs with an irrealis marker and the main clause appears with a realis marker, regardless of the type of conditional (simple, hypothetical, and counterfactual; Danielsen & Terhart 2016: 14).

These studies indicate that Amazonian languages can contribute to inform and refine our theories of conditional constructions. Still missing, however, is an attempt at exploring this complex sentence construction across different genetic units of the Amazonia in a single study. This type of investigation would be valuable as a general overview of conditionals, and would be invaluable to those documenting and describing Amazonian languages, alerting them to details to watch for and chronicle.

To keep the scope of the paper manageable, we only focus on one specific type of conditional: counterfactual conditionals, as in (1). The reason behind this decision is that crosslinguistically, counterfactual conditionals show formal and discourse properties that other types of conditionals do not (Haiman & Kuteva 2001; Olguin Martínez & Lester 2021). This seems to indicate that, within the realm of conditional constructions, counterfactual conditionals have a special status.

Urarina (Isolate)

- (1) *baana itɛɛɛ-a=ne hananiane, raj kalau-i-ɛɛɛ mɪkɪ-akatɛ.*
 if be.near-3SG=SUB if POSS son-PL catch-1PL.SBJ
 ‘If its creatures had been near, we would have caught it (about a peccary).’ (Olawsky 2006: 255).

Counterfactual conditionals originate from the human cognitive ability to compare reality with what might have been (Olguin Martínez & Lester 2021). A counterfactual conditional is a construction in which a condition is interpreted as contrary to fact, i.e., as assumed to be true in a possible world that is incompatible with the real (actual) world (Declerck & Reed 2001: 13). Protasis and apodosis are the most common ways to refer to the counterfactual conditional clause and the main clause respectively. Counterfactual conditionals may have present time reference (2a) or past time reference (2b). Given that most sources contain information on past counterfactual conditionals, we focus on this pattern. This is a construction that expresses a conditional relationship between two situations that failed to be realized in the past (Dixon 2009: 16; Michael 2014).

- (2) a. *If she were here, she would help us.*
 b. *If I had known that, I wouldn't have appointed him.*

The analysis is based on a sample of 24 languages. The goals of this article are threefold. First, it has long been observed that, across a large number of unrelated languages around the world, past tense markers tend to appear in counterfactual conditional constructions (Comrie 1986). Different linguists have offered a possible explanation for the use of past tense markers in counterfactual conditional constructions (e.g., von Prince 2019; Steele 1975). The question is: what is the range of TAM markers that appear in the protasis and the apodosis of a counterfactual conditional construction in the languages in the sample?

Second, counterfactual conditionals are encoded with different types of clause-linkage patterns. These may be specialized in that they are only used for expressing a counterfactual conditional meaning. In this scenario, the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is grammaticalized in clause-linking devices. Clause-linkage patterns may also be non-specialized in that they appear in counterfactual conditional constructions, but also in other semantic types of conditionals (e.g., real, generic, and hypothetical). It has also been noted that there are languages with no segmental lexeme or morpheme that could translate as ‘if’ in counterfactual conditionals. These are paratactic constructions in that they do not appear with any clause-linking devices. The question is: what is the range of clause-linkage patterns by which counterfactual conditional constructions are encoded in the languages of the sample?

The third and last goal of the article is areal in that it pays close attention to the distribution of TAM markers and clause-linkage patterns in counterfactual conditional constructions in the Vaupés. In particular, special attention is paid to how Tariana counterfactual conditional construction have been shaped by Tucanoan languages through language contact.

The organization of this paper is as follows. Section 2 introduces the sample used for the present study. Section 3 documents the range of TAM values that tend to appear in both the protasis and apodosis in the languages in the database. Section 4 investigates the range of clause-linkage patterns by which counterfactual conditional constructions are encoded in the languages in the sample. Section 5 explores the areality of counterfactual conditionals in the Vaupés with special attention to Tariana and Tucanoan counterfactual conditional constructions. Section 6 reviews the conclusions and implications of this paper and provides a number of fruitful areas for future research.

2. Sample

Since this is primarily an explorative study that seeks to characterize a type of construction traditionally neglected in the study of Amazonian languages, we tried to include languages from each of the families found in the Amazonia. Because existing materials differ tremendously in their delicacy and completeness with respect to the description of counterfactual constructions, the present study takes into account a sample of 24 languages belonging to 15 different language families listed in Table 1. Besides grammatical information on counterfactual conditionals, the source also had to contain a detailed description of TAM markers. In particular, how these markers are defined in the language of study. Moreover, the source also had to contain a description of other conditional clauses to determine whether a clause-linking device is specialized or non-specialized. Note that we take into account more than one Arawakan language in the sample because many sources of languages belonging to this family provide detailed information on counterfactual conditionals. In what follows, the structure and motivations behind the selection of the languages for the current sample are introduced.

A bottom-up method has been employed for building the sample of the present study. Constructing a sample of this type means, in its simplest form, picking one language from

every family found in the Amazonia. Based on this, an attempt was made to find one language from each family for which the available literature gives sufficient information on the grammar of counterfactual conditional constructions. It was possible to find sufficient information on 24 languages, as is shown in Table 1. Languages from almost all Amazonian language families and isolates are represented. Furthermore, it is important to mention that linguistic fieldworkers on many languages of the sample have also been consulted to confirm certain analyses of the data and/or discuss alternative analyses. By and large, this method of data collection has been described as the ‘grammar-cum-dictionary method’ (Kortmann 1997: 53), i.e., the basic information on counterfactual conditionals has been collected from available descriptive grammars and dictionaries, and corrected and/or modified by linguistic fieldworkers.

Table 1. Languages of the sample

Language family	Language(s)	Sum
Arawakan	Asheninka Perené (Mihás 2015), Baure (Danielsen 2007), Paresi (Brandão 2014), Resígaro (Allin 1976), Tariana (Aikhenvald 2003), Yine-Piro (Hanson 2010)	6
Arauan	Jarawara (Dixon 2004)	1
Boran	Bora (Thiesen & Weber 2012; Elvis Walter Panduro Ruiz, pers. comm.)	1
Cariban	Hixkaryana (Derbyshire 1979)	1
Chapacuran-Wanham	Wari (Everett & Kern 1997)	1
Chicham	Aguaruna (Overall 2017; Simon Overall, pers. comm.)	1
Huitotoan	Murui (Wojtylak 2020; Katarzyna Wojtylak, pers. comm.)	1
Isolates	Kwaza (van der Voort 2004), Mosetén, (Sakel 2002; Jeanette Sakel, pers. comm.), Puinave (Girón 2008), Urarina (Olawsky 2006)	4
Nadahup	Hup (Epps 2008; Patience Epps, pers. comm.)	1
Nambikuaran	Mamaíndé (Eberhard 2009)	1
Nuclear-Macro-Je	Krahô (Maxwell Gomes 2014)	1
Panoan	Kakataibo (Zariquiey 2018; Roberto Zariquiey, pers. comm.)	1
Takanan	Ese Ejja (Vuillermét 2012)	1
Tucanoan	Tucano (West 1980)	1
Tupi-Guarani	Paraguayan Guarani (Estigarribia 2020)	1
Zaparoan	Iquito (Michael 2009; Lev Michael, pers. comm.)	1
Total		24

Map 1 illustrates the geographical distribution of the languages of the present study. All languages are located within the Amazonia geographical limits. The Amazonia is the lowland region drained by the Amazon and Orinoco Rivers and extending to the northern and eastern littorals of the continent (Dixon & Aikhenvald 1999: 4). It is bordered by the Andes mountains to the west, the Caribbean and Atlantic oceans in the north and east, and the drier regions of the Gran Chaco to the south (Epps & Michael 2017: 935). Note that defining the area where Amazonian languages are spoken is not an easy task. This stems from the fact that some families have members inside and outside the Amazonia.

Map 1. Geographical distribution of the languages of the sample

Before we leave the present section, mention should be made of the following methodological issue. As will be shown in the remainder of the paper, there are counterfactual conditional examples that show positive or negative polarity. In many cases, the difference between a negative clause and a corresponding affirmative clause gives rise to a number of formal asymmetries. In particular, the TAM categories used in affirmative counterfactual conditionals may not be the same as those used in negative counterfactual conditionals (see Miestamo 2005 for a detailed discussion of various formal and functional asymmetries between affirmation and negation). Ideally, the language sample should only contain counterfactual conditionals showing positive polarity. However, a number of sources do not contain information on counterfactual conditionals showing positive polarity. We decided to include these languages and we are aware that this methodological decision is not without problems. Nonetheless, these problematic cases are rather few and do not detract from the validity of the overall conclusions.

3. TAM markers in counterfactual conditionals

It is a well-known fact that the semantics of TAM markers may harmonize with the semantics of different types of adverbial clauses (Cristofaro 2003: 111). For instance, Schmidtke-Bode (2009: 43) explains that since purpose clauses are future-oriented, they tend to take irrealis marking. As for ‘after’ clauses, Hetterle (2015: 76-77) shows that, crosslinguistically, temporally subsequent constructions tend to appear with past or perfective marking in the adverbial clause. This stems from the fact that ‘after’ clauses tend to be past-oriented and the proposition that they convey precedes the proposition of the main clause, and it is completed at the onset of the main clause situation. ‘Before’ clauses also show systematic patterns. ‘Before’ clauses express a situation that takes place posterior to the main clause situation. Put another way, the situation expressed by the ‘before’ clause is not yet realized at the time of the main clause situation. In many languages around the world, the semantics

translates directly into the coding properties of this adverbial relation in that ‘before’ clauses tend to occur with future tense markers (Hetterle 2015: 77). What this seems to indicate is that there are very systematic crosslinguistic correlations between TAM marking and the meaning of adverbial clauses.

Counterfactual conditional constructions also seem to show well-motivated correlations. Crosslinguistically, counterfactual conditionals tend to appear with TAM markers whose semantics is appropriate to the counterfactual conditional context, such as irrealis markers and counterfactual mood markers, among others (Mithun 1995: 384; Olguin Martinez & Lester 2021). For instance, Mithun (1999: 173) mentions that “the irrealis portrays situations as purely within the realm of thought, knowable only through imagination.” Given that counterfactual conditionals express non-actualized situations, the semantics of irrealis markers is appropriate to the counterfactual conditional context. However, it has long been observed that, across a large number of unrelated languages, past tense markers, and other TAM markers whose semantics does not harmonize with the counterfactual conditional meaning (e.g., perfective, completive), may appear in counterfactual conditional constructions (Comrie 1986; Karawani 2014; Olguin Martinez & Lester 2021). This is a clear mismatch for the reason that past tense and perfective marking tend to occur in situations that are actualized and counterfactual conditionals express non-actualized situations. To explain this mismatch, Steele (1975) and von Prince (2019) mention that past and counterfactuality share a semantic core of distance from the actual present. Put another way, in this scenario, the connection between past tense and counterfactual conditionals is that the past tense marker has as its basic meaning not past tense but something distant from present reality. Karawani (2014: 15) mentions that the connection between past tense and counterfactual conditionals stems from the fact that there is an inherent nature of the past as being closed and therefore the condition is impossible or false.

In what follows, we analyze the range of TAM markers that occur in the protasis and apodosis of counterfactual conditional constructions in the Amazonian languages in the sample.

3.1 TAM values of the protasis

In most languages in the database, counterfactual conditional protases are unmarked (13 languages). By unmarked is meant that they do not occur with any TAM values. This is not common crosslinguistically in that protases tend to be marked with irrealis in the languages of the world (Olguin Martinez & Lester 2021: 167). The Urarina counterfactual conditional construction in (3) contains an unmarked protasis in that it does not appear with any TAM values. In these languages, the counterfactual conditional meaning is achieved by the TAM values of the apodosis (commonly marked with TAM values that harmonized with the counterfactual context) and/or by a specialized clause-linking device. Crosslinguistically, in many languages, the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is grammaticalized in clause-linking devices (see Section 4).

Urarina (Isolate)

- (3) *baana itɕɪɪɪ-a=ne hananiane, raj kalawi-tɕɪɪɪ mɪkɪ-akatɕe.*
 if be.near-3SG=SUB if POSS son-PL catch-1PL.SBJ
 ‘If its creatures had been near, we would have caught it (about a peccary).’ (Olawsky 2006: 255).

In four languages in our sample, protases are marked with irrealis, as is shown in the Mosestén example in (4). One remark on the irrealis category is in order here. A source of potential confusion in any discussion on irrealis is that it has been applied to different concepts

and constructions in languages from many areas of the world. It is therefore important to clarify what is meant when using this term. In the present paper, we consider irrealis as specific markers (rather than notional descriptions of non-encoded meanings of constructions) in the forms of verbal affixes and clausal enclitics (Brooks 2018: 4). There seems to be a strong correlation between counterfactual conditionals and irrealis marking because, as explained by Mithun (1995: 384), when languages have a grammaticalized realis/irrealis distinction, counterfactual conditionals tend to be encoded by irrealis marking. This study supports this theoretical claim in that most languages in the sample that have a grammaticalized realis/irrealis distinction tend to be marked with irrealis.

Mosetén (Isolate)

- (4) *mö-ya obra-in dejar-ye-'-nä-wi-rä'* *obra-in,*
 3PL-ADESS work-PL leave-VS-3SG.OBJ-FOC-CERT-IRR work-PL

mo-ya'-nä-wi-rä' *progreso.*
 F-ADESS-FOC-CERT-IRR progress

‘If they had left works, there would have been progress.’ (Sakel 2002: 441)

In three languages, protases are nominalized in that they appear with nominalizing morphology.¹ Note that although the protasis verb is nominalized in these languages, it may retain specific verbal categories. An example illustrating this pattern is found in Kwaza. In this language, the protasis of a counterfactual conditional construction is marked with the nominalizer *-hỹ* (5). The fact that counterfactual conditional protases may be nominalized seems not to be surprising in that “probably the most common subordination strategy in South-American languages is nominalization” (van Gijn et al. 2011: 10).

Kwaza (Isolate)

- (5) *ũce'nãi-daa-hỹ-kywy-'ta,* *dai-'he-da-rydy-ki.*
 know-1SG-NMLZ-if-COSUB take-NEG-1SG-IRR-DECL

‘If I had known (the bulb was so weak), I would not have bought it.’ (van der Voort 2004: 631)

In one language, frustrative markers occur in the protasis of a counterfactual conditional construction. The frustrative is a “grammatical marker that expresses the non-realization of some expected outcome implied by the proposition expressed in the marked clause” (Overall 2017: 479).

In Iquito, the protasis occurs with the frustrative marker *=ti* (6). Typologically, frustrative as a grammatically-marked category is not commonly found across languages; however, it does seem to be a category employed by a fair number of languages of the greater Amazon region (Overall 2017). This could be the result of a combination of areal diffusion and genetic inheritance (see Section 3.3 for a more detailed discussion of frustratives and counterfactual conditionals).

¹ As correctly pointed out by one reviewer, nominalized verb forms must be considered a subset of actualized and non-actualized patterns because nominalized verb forms can be used for both actualized and non-actualized situations.

Iquito (Zaparoan)

- (6) *ca=quias=ti=inica-rí,* *quia-cúhuaaja* *iti=quiao=átuu-quiána.*
 NEG=2SG=CF=wake-MOM 2SG-heart CF=2SG.IRR=tell-PFV.REP
 ‘Had you not awakened, your heart would have warned you.’ (Michael 2009: 157)

The use of past tense or perfective markers in counterfactual conditional protases is rare in the languages of the database. In Bora, *ca*-clauses occur in the past (7). Another example is found in Resígaro. In this language, the protasis of a counterfactual conditional construction occurs with the past tense marker *-mí* (8). Note that the Resigaro example in (8) differs from the Bora example in (7) in that the past tense marker *-mí* also appears with the irrealis marker *-ma*. These are two semantically conflicting verbal inflections: the past tense marker *-mí* (expected to occur in actualized situations) and the irrealis marker *-ma* (expected to occur in non-actualized situations). This type of mixed pattern in counterfactual conditional protases seems to be common in Eurasian languages (see Olguin Martinez & Lester 2021: 167).²

Bora (Boran)

- (7) *ú-pée* *u* *dsíjive-ca,* *muurá ávyétá* *idáátldso-í-yó* *teéne.*
 2SG-PST 2SG die-if CONF almost sad-FRUST-FUT DEM
 ‘It would have been sad if you had die.’ (Elvis Walter Panduro Ruiz, pers. comm.)

Resígaro (Arawakan)

- (8) *anepuu?* *aá?pe* *ee?phi* *kha-tshí-ma-mí,* *kašoo?* *va?mitú.*
 much father fish do-if-UNREAL-REC well we-eat
 ‘If my father had caught a lot of fish, we would have eaten well.’ (Allin 1976: 261)

3.2 TAM values in the apodosis

In most languages in the sample (10 languages), apodoses are marked with irrealis. In Jarawara, the counterfactual conditional apodosis appears with the irrealis marker *-ne* (9).

Jarawara (Arauan)

- (9) *faao* *tee* *ka-jawi* *jaa,* *faha* *mee*
 water(F) 1NSG.A APPL-be.jealous.over.NOM PER water(F) 2NSG.A

kii *re-ne.*
 look.at NEG-IRR

‘If you had protected (your) waters (lit. been jealous over your waters), they wouldn’t have fished the waters (lit. looked at the waters).’ (Dixon 2004: 215)

In six languages in the database, frustrative markers occur in the apodosis of a counterfactual conditional construction (10). Note that the frustrative may also appear in combination with other TAM markers, as in the Piro example in (11), where the frustrative marker *-maka* must also be accompanied with the completive marker *-na*.

² As correctly pointed out by one reviewer, this is also true of many Arawakan languages, especially those of the Kampan group.

Puinave (Isolate)

- (10) *a-padatá* *ka-dikú,* *a-kuk-nók* *brasit-á* *ôm.*
 1SG-money 3PL-DAT.EXIST 1SG-FRUST-go Brasil-ALL now
 ‘If I had been rich, I would have gone to Brazil.’ (Girón 2008: 416-417)

Piro (Arawakan)

- (11) *t-ma* *m-hasika-ni,* *n-nika-na-lo-na-pa-maka-ni.*
 3SG.F-NEG.do PRIV-run-ANTIC 1SG-eat-COMPL-3SG.F-COMPL-ELAT-FRUST-AFFCT
 ‘If she had not escaped, I would have eaten her.’ (Hanson 2010: 357)

In four languages in the sample, past tense or perfective markers occur in combination with irrealis markers or conditional mood markers, as in shown in the Barasano example in (12).

Barasano (Tucanoan)

- (12) *rio* *ho* *goro* *bũ* *goti-habã,* *bũ-re* *ha-beti-boo-ri-a-da* *yũ.*
 straight truly 2SBJ tell-if 2S-OBJ hit-NEG-IRR-PST-3-agree 1SBJ
 ‘If you had told the truth, I wouldn’t have hit you, right?’ (Jones & Jones 1991: 124)

Unlike unmarked counterfactual conditional protases (see Section 3.1), unmarked apodoses are scarce in the database. This pattern is only attested in three languages in the sample. In Murui, counterfactual conditional meanings are expressed with a construction in which the apodosis is unmarked (13).

Murui (Huitotoan)

- (13) *kue* *mare-di-kue-na,* *bi-ti-kue.*
 1SG good.ATT-LK-1SG-if come-LK-1SG
 ‘If I had been well, I would have come.’ (Wojtylak 2020: 504)

In one language, a counterfactual conditional apodosis is nominalized. In Baure, the apodosis is nominalized in that it appears with the nominalizing suffix *-no*, as in (14). Danielsen (2007: 418) mentions that this nominalizing suffix sometimes is used to refer to a situation completed in the past.

Baure (Arawakan)

- (14) *išer,* *vi=kač-ša-po-no,* *ver* *vi=poto~poto-he-no.*
 INTERJ 1PL=go-IRR-PFV.REFL-NMLZ CONJ 1PL=be.wet~INTENS-DISTR-NMLZ
 ‘Phew, if we had gone (home), we would have got completely wet.’ (Danielsen 2007: 418)

3.3 Discussion

The previous subsections have shown that protases tend to be unmarked and apodoses tend to occur with irrealis marking in the Amazonian languages in the sample. Furthermore, it has been shown that in a number of such languages, counterfactual conditional constructions may be encoded with frustrative markers.

As for frustrative markers, it has been claimed that if an Amazonian language contains a frustrative marker, it will tend to appear in counterfactual conditional contexts (Muller 2013: 159; Overall 2017). This is attested in Alto Perene, Bora, Hixkariana, Hup, Iquito, Paresi, Puinave, and Yine Piro in the database. The fact that counterfactual conditionals occur with frustrative markers is not surprising. Given that the frustrative is used for indicating the non-realization of a situation, this harmonizes with the counterfactual meaning of counterfactual

conditional constructions. The question is: are there any languages in the sample that have a frustrative marker that is not used in the expression of counterfactual conditional meanings? If so, how are counterfactual conditional constructions encoded in these languages?

Table 2. Amazonian languages in the sample with a frustrative marker not used in the expression of counterfactual conditional meanings

Languages	Frustrative marker	Protasis TAM	Apodosis TAM
Aguaruna	<i>-takama</i>	Perfective marking	Potential mood marker <i>-mai</i>
Barasano	<i>-boa</i>	Unmarked	Irrealis marker <i>-boo</i> and past tense marker <i>-ri</i>
Ese Ejja	<i>-'axa</i>	Unmarked	Potential mood marker <i>-me</i> or potential mood marker <i>-kyae</i>
Kakataibo	<i>-kēan</i>	Unmarked	Conditional mood marker <i>-tsin</i> and perfective marker <i>-a</i>
Kwaza	<i>-le</i>	Nominalizer <i>-hỹ</i>	Irrealis marker <i>-rydy</i>
Mosetén	<i>-tsa'</i>	Irrealis marker <i>-ri</i>	Irrealis marker <i>-ri</i>
Paresi	<i>zaore</i>	Irrealis marker = <i>iya</i>	Irrealismarker = <i>iya</i> (optional)
Tariana	<i>-tha</i>	Unmarked	Past conditional marker <i>-buhtaka</i>

As is shown in Table 2, there are a number of Amazonian languages in the sample in which frustrative markers are not used for expressing counterfactual conditional meanings. An example is found in Paresi. In this language, the frustrative *zaore* indicates that the goal of an action was not achieved (15). Counterfactual conditionals are not encoded with this marker. Instead, protases and apodoses occur with the irrealis marker =*iya* (16).

Paresi (Arawakan)

- (15) *ka-kikitsa-ke-heta* **zaore** *w=aika-hena* *acordo* *tyoma* *wi=kakoa*
 ATT-separate-TH-PFV FRUST 1PL=say-TRS agreement tyoma 1PL=COM

nikare-hare-ta *wa=sofre-hitiya* *hoka*.

like.this-M-IPFV 1PL=suffer-ITER then

‘We wanted to kick him out, but he made an agreement with us, and we are suffering.’ (Brandão 2014: 307)

- (16) *no=tyoma-re=iya* *hoka* *no=waini=iya*.
 1SG=do-NMLZ=IRR then 1SG=die=IRR
 ‘If I had done this, I would have died.’ (Brandão 2014: 398)

Another example is attested in Mosetén. In this language, the marker *-tsa'* indicates that something did not turn out as expected or did not happen in relation to the context (Sakel 2002: 410). Usually, this marker appears in combinations of clauses, but can also mark a contrast in a single clause, as in the example in (17). Counterfactual conditionals are not formed with the frustrative marker *-tsa'*. Instead, they occur with the irrealis marker *-rã'*, as is shown in the example in (18).

Mosetén (Isolate)

- (17) *khin'-tsa'-wi'-ra'* *tsin* *achae-i* *kaechh-ae-n'-ki* *añe-'*.
 now-FRUST-NEC-IRR 1PL dog-VI go.on-VI-PROG-CON rain-VI.F.S
 'We should have gone hunting with dogs now, but it goes on raining.' (Sakel 2002: 410)

- (18) *mö-ya* *obra-in* *dejar-ye- 'nä-wi-rü'* *obra-in*
 3PL-ADESS work-PL leave-VS-3SG.OBJ-FOC-CERT-IRR work-PL

mo-ya 'nä-wi-rü' *progreso*.
 F-ADESS-FOC-NEC-IRR progress
 'If they had left works, there would have been progress.' (Sakel 2002: 441)

As can be seen in Table 2, the Amazonian languages in the sample, in which frustrative markers are not used in the expression of counterfactual conditional meanings, tend to use other TAM markers. In particular, they tend to use TAM markers that harmonize with the counterfactual meaning of this type of conditional construction, such as irrealis markers.

4. Clause-linkage patterns

In many languages around the world, clause-linking devices are among the most important means to establish subordinative and coordinative relations (Hetterle 2015: 106). These markers may sometimes shed light on the type of semantic relation holding between clauses in that they serve as elements for labeling complex sentence relations like causal, conditional or temporal relations (Verstraete 2014: 195). Harder (1996: 94) mentions that of all grammatical elements in an adverbial clause construction, clause-linking devices are the most necessary element to get the message across; "you can do fairly well without articles and tense and auxiliaries, but if you mess up the clause-linkers you really leave your listener in the dark." Counterfactual conditionals show an interesting picture. While in a number of languages, clause-linking devices played an important role in the expression of a counterfactual conditional meaning, in other languages, TAM markers seem to play a more important role than clause-linking markers. Besides clause-linking devices, there are other languages in which counterfactual conditionals are realized with a paratactic pattern. In the present study, we use the term 'clause-linkage patterns' as a cover term to refer to both clause-linking devices and paratactic patterns. For this study, we classify clause-linkage patterns in the following way.

First, specialized clause-linking devices refer to items that are only used for expressing counterfactual conditional meanings. This indicates that the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is grammaticalized in clause-linking devices. In Bora, the clause-linking device *-ca* is only used for encoding counterfactual conditional constructions (19). Note that other types of conditionals appear with another marker (20). Accordingly, *-ca* is a specialized clause-linking device. In four languages in the sample, counterfactual conditionals are encoded with specialized clause-linking devices.

Bora (Boran)

- (19) *ú-pée* *u* *pée-ca muurá,* *teene ímí-iyá-hi*.
 2SG-PST 2SG go-if CONF DEM good-FUT-FRUST
 'It would have been good if you had gone.' (Elvis Walter Panduro Ruiz, pers. comm.)

- (20) *ù imítʃé-ʔàʔʃí: ú:-mà ó pʰé-é-ʔì.*
 you want-if you-with I go-FUT-<t>
 ‘If you wish, I will go with you.’ (Thiesen & Weber 2012: 371)

Second, non-specialized clause-linking devices refer to items that appear in counterfactual conditionals and other semantic types of conditionals (e.g., real, generic, and hypothetical). In Aguaruna, all semantic types of conditionals occur with *-ka*, as can be observed in (21) and (22). On these grounds, *-ka* is non-specialized. Most languages in the sample contain counterfactual conditionals occurring with non-specialized clause-linking devices (18 languages). This means that in these languages, the counterfactual conditional meaning resides in the combination of specific TAM markers.

Aguaruna (Chicham)

- (21) *wi kafini wi-a-ku-nu-ka,*
 1SG.SBJ tomorrow go-IPFV-SIM-1SG.SS-COND

taka-sa-tʃa-tata-ha-i.

work-ATT-NEG-FUT-1SG.SBJ-DECL

‘If I go tomorrow, I won’t work.’ (Overall 2017: 391)

- (22) *nu=na washi=na dushiki-a-cha-ku-un=ka,*
 ana=ACC spider.monkey=ACC laugh.at-IPFV-NEG-SIM-1SG.SS=COND
 ‘If I hadn’t laughed at that monkey,

tuku-mai-inu awaki-ka-ha-i.

shoot-POT-NMLZ overcome-PFV-1SG-DECL

I would have been able to shoot it.’ (Overall 2017: 495)

Given that in these languages, the clause-linking marker is non-specialized and does not contribute to the counterfactual interpretation of the construction, there are Amazonian languages in which the clause-linking device is optional and can be omitted. In Baure, counterfactual conditionals appear with the non-specialized clause-linking device *ver* (23). This marker can be omitted without affecting the counterfactual meaning between clauses (24). In this regard, Danielsen (2007: 418) mentions that the clause-linking device *ver* “is used as a neutral connector, which separates the two subsequent predicates from another and makes clear that we are dealing with two clauses.” The optionality of constructional properties from adverbial clause constructions has not gone unnoticed. In the context of adverbial clauses, Hetterle (2015: 108) shows that in many languages, adverbial clause constructions can dispense with any constructional property (e.g., TAM markers, clause-linking devices) as long as the semantic relation holding between clauses is sufficiently cued by the remaining constructional properties of the construction (Schmidtke-Bode 2009: 33). In the recent typological and psycholinguistic literature, such patterns have attracted increasing attention under the label of ‘redundancy management in grammar.’

Baure (Arawakan)

- (23) *išer, vi=kač-ša-po-no, ver vi=poto~poto-he-no.*
 INTERJ 1PL=go-IRR-PFV.REFL-NMLZ CONJ 1PL=be.wet~INTENS-DISTR-NMLZ
 ‘Phew, if we had gone (home), we would have got completely wet.’ (Danielsen 2007: 418)

- (24) *nka pi=pa-ša=ri-no yiti nka ri=kačo-wo-no.*
 NEG 2SG=give-IRR=3SGF-NMLZ chili NEG 3SGF=go-COP-NMLZ
 ‘If you had not given her chili, she would not have gone.’ (Danielsen 2007: 418)

Third, parataxis refers to those instances in which counterfactual conditionals do not appear with any clause-linking device, as can be observed in the Iquito example in (25). Two languages in the sample contain paratactic counterfactual conditionals. In these languages, counterfactual conditionals are formed with irrealis markers, counterfactual mood markers, or frustrative markers. This indicates that in this type of counterfactual conditional, TAM markers serve as triggers of the counterfactual conditional interpretation. Put another way, if we add up the meanings contributed by each of the TAM markers in the combinations, this leads to an interpretation that includes the feature of reversal of polarity, i.e., it yields the feature of non-occurrence (but it did not happen) (Van Linden & Verstraete 2008). This is in line with Mauri & van der Auwera (2012: 396), who mention that in paratactic counterfactual conditionals not all is left to inferential processes. Rather, if a language expresses counterfactual conditionals with paratactic constructions, the clauses must be marked as irrealis (by means of irrealis, dubitative, or hypothetical elements) in order for the counterfactual conditional relation to be inferable.

Iquito (Zaparoan)

- (25) *ca=quias=ti=inica-rí, quia-cúhuaaja ití=quiao=átuu-quiána.*
 NEG=2SG=CF=wake-MOM 2SG-heart CF=2SG.IRR=tell-PFV.REP
 ‘Had you not awakened, your heart would have warned you.’ (Michael 2009: 157)

5. Areality

This section pays close attention to the distribution of TAM markers and clause-linking devices in counterfactual conditional constructions in the Vaupés area. In particular, special attention is paid to how Tariana counterfactual conditional construction may have been shaped by Tucanoan languages through language contact. Exploring the internal diversity of Tucanoan and North Arawak languages is important to conduct this task. This type of analysis is known as the ‘intra-genetic typological approach’ (see Comrie 1993: 10; Kibrik 1998: 61). Bickel (2008) mentions that for many typological research questions, it has become crucial to study intra-genetic variance.³ This is essential, for example, if one wants to estimate historical stability, transition probabilities, and direction of spread of a pattern.

5.1 The Vaupés

The Vaupés region of the Brazilian and Colombian Amazon is relatively well established as a linguistic area, characterized by considerable indirect diffusion of grammatical categories and patterns but little direct borrowing of forms (see Aikhenvald 1996, 2002: ch. 10; Epps 2007: 267). Languages from four different families (Tucanoan, North Arawak languages, Naduhup, and Kakua-Níkak) form the Vaupés linguistic area (Epps & Michael 2017: 938). The area of the Vaupés River basin is an intensive contact area within the Upper Rio Negro basin, and it has received the most in-depth attention of any South-American contact area. Some of the linguistic characteristics that the languages of this zone share are the

³ Kibrik (1998: 61) notes that the extragenetic typological approach must be enriched by the intragenetic approach since this will enable us to make more fine-grained typological generalizations. Typologists should not blind themselves to the fact that important insights into crosslinguistic variation can also be gleaned from the examination of variation among languages genetically related (Comrie 1993: 10).

following: (i) a remarkably low number of lexical borrowings in basic vocabulary, (ii) a pervasive calquing of the local lexicon (such as names and ethnonyms, flora and fauna, and items of material and ritual culture), (iii) a significant degree of morpheme-to-morpheme and word-to-word intertranslatability caused by areal diffusion, (iv) many similarities in serial verb constructions, and (v) similarities on the expression of spatial relations, among others (Epps & Michael 2017: 938).

The Vaupés area is distinct from many of the world's other linguistic areas in that it has apparently been shaped largely through unilateral, rather than multilateral language contact (Epps 2007: 270). This socio-cultural context seems to be a case of asymmetric bilingualism, defined as a "situation whereby a community speaking language A tends to become bilingual in another language B, while the reverse is not true. Because speakers of B tend not to learn language A, this increases the social pressure upon A speakers to eventually shift to language B" (François 2012: 99).

As for clause-combining, it has been proposed that different types of complex sentence constructions and discourse patterns have diffused through language contact in this area. For instance, Tariana, Hup, and many Tucanoan languages, express precautioning situations in similar ways (e.g., *Don't climb that tree lest you fall and break your arm*). In a precautioning construction, the main clause typically has directive illocutionary force, with the aim of preventing the probable and undesirable situation from happening (e.g., *Take your umbrella so that you won't get wet*). While in many languages around the world, precautioning situations are signaled with a purpose clause in combination with a negative marker (e.g., *Put the food there so that the ants do not eat it*), the Amazonian languages mentioned before display a special morphology for expressing negative purpose, as is the case of avertive 'lest' markers (Olguín Martínez & Vásquez-Aguilar 2022: 12).

Another example is the following. Tariana contains recapitulative and summary tail-head linkage construction that show different discourse functions.⁴ Aikhenvald (2019: 488) notes that these patterns are the result of relatively recent areal diffusion from East Tucanoan languages into Tariana. She supports this hypothesis by explaining that Tariana and East Tucanoan languages are spoken in the same region and are not genetically related. The transfer of discourse patterns through contact is not uncommon (Mithun 2008: 208). Discourse preferences are particularly prone to diffuse much more quickly and easily than grammatical features (Beier et al. 2002: 123). Hup also contains similar tail-head linkage constructions and is also involved in the Vaupés's contact situation (Epps 2007: 285). Given that Hup has undergone contact-induced restructuring of its discourse organization under the influence of East Tucanoan languages (Epps 2007: 268), it seems reasonable to assume that tail-head linkage constructions are the result of contact with Tucanoan languages. Furthermore, other Naduhup languages seem not to have tail-head linkage constructions (e.g., Dâw; Martins 2004; Yuhup; Ospina Bozzi 2002).⁵

⁴ Tail-head linkage refers to a construction which contributes to discourse cohesion and structuring in that it "links sentences or paragraphs together, usually by repetition of at least part of the previous clause" (Thurman 1975: 342). Two types have been traditionally recognized: recapitulating and summary constructions (see de Vries 2005: 364; Olguín Martínez 2023). First, recapitulative constructions involve the repetition of the predicate of one clause (the tail clause) in the following clause (the head clause) (de Vries 2005: 364). Second, summary tail-head linkage constructions involve the replacement of the lexical verb of the tail clause by a generic or light verb (de Vries 2005; Guérin 2015; Guérin & Aiton 2019).

⁵ Obert (2019: 5) mentions that Dâw has a specific type of tail-head linkage construction in which locative adverbial clauses in sentence initial position can be exact replicas of a clause at the beginning of the following sentence: 'After this, we arrived (at the place) where there is the pupunha tree. Where there is the pupunha tree, we lived close to our late uncle who moved.' She mentions that tail-head linkage in Dâw only manifests itself in the repetition of locative adverbial clauses.

The goal of the present section is to analyze in more detail how counterfactual conditional constructions are encoded in this contact area. Given that it was not possible to obtain detailed descriptions of Naduhup and Kakua-Nikak counterfactual conditionals, the discussion will only be based on Tucanoan and North Arawak languages.

5.2 Tucanoan

The Tucanoan family includes some 29 languages. They are found in a large area extending from the northern part of the Brazilian-Colombian border region in the northern and eastern extreme of their distribution to the Ecuadorean-Colombian upper Putumayo River basin in their western extreme and to the Peruvian Napo River Basin in their southern extreme (Chacon & Michael 2018: 63). Two major branches of the family are recognized: Eastern and Western Tucanoan (Barnes 1994: 325). Of these, Eastern Tucanoan languages (e.g., Tucano, Wanano, Desano, Tuyuca, Barasano, and Siriano) are spoken on the Colombian and the Brazilian sides of the Vaupés area.

A closer look reveals that counterfactual conditional constructions in Eastern Tucanoan languages show striking formal and functional similarities. They tend to have unmarked protases and apodoses that appear with irrealis markers and past tense markers.⁶ They also tend to occur with non-specialized clause-linking devices.

In Tucano, counterfactual conditionals are expressed with the non-specialized clause-linking device *-cã* (26). The protasis is unmarked, and the apodosis occurs with the irrealis marker *-bo* and the past tense marker *-a*.

Tucano (Tucanoan)

- (26) *ñamica'a acó pejáti-cã, musá yá wi'i ǎjǎboapu.*
 yesterday rain fall.NEG-if POSS.3S house ? would.have.burned
 'If it had not rained yesterday, your house would have burned down.' (West 1980: 45)

A similar counterfactual conditional construction is also found in Barasano (27). In this language, counterfactual conditional protases are realized with the non-specialized clause-linking device *-habã*, protases are unmarked and apodoses occur with the irrealis marker *-boo* and the past tense marker *-ri*.

Barasano (Tucanoan)

- (27) *rioho goro bǎ goti-habã, bǎ-re ha-beti-boo-ri-a-da yu.*
 straight truly 2SBJ tell-COND 2SBJ-OBJ hit-NEG-IRR-PST-3-agree 1SBJ
 'If you had told the truth, I wouldn't have hit you, right?' (Jones & Jones 1991: 124)

In Tatuyo, the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is not grammaticalized in clause-linking markers. This language indicates counterfactual conditional meanings with the non-specialized clause-linking marker *-ata* (28) (Whisler 1977: 235). Note that the *-ata* 'if' clause does not appear with any TAM values, and the apodosis occurs with the irrealis marker *-bo* and the past tense marker *-ricu*.

⁶ Other terms that have been used to refer to irrealis markers in Tucanoan languages are conditional mood markers, potential mood markers, and subjunctive mood markers (Ramirez 1997: 191).

Tatuyo (Tucanoan)

- (28) *cɨ yɨ catɨjɨata, aáqueja! cɨ̃ yɨ ɨboricɨ.*
 him I see.if go.NEG him I said.would.have
 ‘If I’d have seen him, I’d have said to him, “don’t go!” (Whisler 1977: 236)

The non-specialized clause-linking marker *-ta* not only occurs in Carapana counterfactual conditionals, but also in other types of conditionals (Metzger 1981: 203). As can be seen in (29), the protasis is unmarked, and the apodosis appears with the irrealis marker *-bujio* and the past tense marker *-ro*.

Carapana (Tucanoan)

- (29) *to caña-ta, peti-coa-bujio-rica-ro.*
 it burn-if waste-completely-IRR-probably-PST
 ‘If it had burned, it probably would have been completely lost.’ (Metzger 1981: 48)

Tuyuca counterfactual conditionals and other types of conditionals (e.g., real/generic) are formed with the unspecialized clause-linking marker *-atã* (30) (Barnes 1999: 216). The protasis is unmarked and the apodosis occurs with the irrealis marker *-bo* and the past tense marker *-ahĩju*.

Tuyuca (Tucanoan)

- (30) *jãbíka okó peá-ri-atã bíà-ja-wii.*
 yesterday water fall-NEG-DEP 2PL-POSS-CLF.building

hĩ-bo-ahĩju.

burn-IRR-REC-PST

‘If it had not rained yesterday, your house probably would have burned.’ (Barnes 1999: 216)

The examples discussed above indicate that apodoses in Eastern Tucanoan counterfactual conditional constructions play an important role in the expression of counterfactuality. This stems from fact that protases are unmarked, and the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is not grammaticalized in clause-linking devices.

Western Tucanoan languages seem to show a similar picture to Eastern Tucanoan languages. An example is attested in Koreguaje. In this language, counterfactual conditionals apodoses are formed with the irrealis marker *-raʔ* and the perfective marker *-siʔ* (31). Note that protases do not occur with any TAM values but only with the non-specialized clause-linking marker *-tʰo* (Cook & Criswell 1993: 98).

Koreguaje (Tucanoan)

- (31) *ape-rimĩ jĩʔĩ-nĩ iʔkʰa-tʰo tʰeana rĩa*
 before-time 1SG-PAT to.talk-if.DS same.time a.lot

sēe-raʔ-siʔ-kʰi-aʔmĩ.

to.ask-almost-PFV-M.SG-VBLZ-M.SG

‘If he had asked me first, right then and there I would have asked him for a lot (money).’ (Cook & Criswell 1993: 98)

A similar exposition can be given for Siona counterfactual conditionals. In this language, apodoses appear with the irrealis marker *-daʹ* and the past tense marker *-wi* (32).

Protases are deprived of TAM values and occur with the non-specialized clause-linking device *-to* (Bruil 2014: 218)

Siona (Tucanoan)

- (32) *de'o-to*, *trabaha-da'-wi*.
 be.good-if work-IRR-PST.ASS
 'If they had been healthy, they would have worked.' (Bruil 2014: 218)

There are a number of Western Tucanoan languages that slightly differ from the Tucanoan counterfactual conditional constructions discussed before. In Secoya, counterfactual conditionals are formed with the non-specialized clause-linking marker *-ni* (Johnson & Levinson 1990: 62) and apodoses are realized with the irrealis marker *-ra* and the past tense marker *-huë* (33). Note that Secoya differs from other Tucanoan languages in that the perfective marker *-ci* appears in the protasis of a counterfactual conditional construction.

Secoya (Tucanoan)

- (33) *sai-ci* *hua'l pa-ni*, *yëquë* *ti'a-ra'-huë*.
 to.go-PFV PL to.be-CONN 1PL.EXCL to.arrive-IRR-PST
 'If we were walking, we would have arrived.' (Johnson & Levinson 1990: 62)

Máihĩkì counterfactual conditionals bear formal and functional resemblance to counterfactual conditionals in other Tucanoan languages in that this complex sentence construction is realized with a non-specialized clause-linking device (i.e., the marker *-tu*; Farmer 2015: 77) and protases are unmarked, as in (34). Note that apodoses in Máihĩkì appear with the frustrative marker *-ra* and the past tense marker *-bi*. Most Tucanoan languages contain frustrative markers (Aikhenvald 2012: 185), and can appear in different communicative scenarios (see Ramírez 1997: 151). However, they tend not to be used to express counterfactual conditional meanings, as has been shown in the present section. Accordingly, the fact that Máihĩkì counterfactual conditional apodoses are realized with a frustrative marker differs from other Tucanoan apodoses.

Máihĩkì (Tucanoan)

- (34) *yì* *ká-huna* *kíá-ma-tu*,
 1SG DIST.ANAPH.DEM-CLF tell.story-NEG-if

yété-ma-ra-bi *yì*.
 learn-NEG-FRUST-1SG.PST.DECL 1SG
 'If they hadn't taught me, I wouldn't have learned.' (Farmer 2015: 77)

5.3 North Arawak languages

The Arawakan family constitutes one of the largest linguistic families of the Americas, with more than 40 languages still spoken by around 500,000 speakers (Aikhenvald 1999: 72). The Arawakan language family is usually divided into Northern and Southern Arawakan, and then further into subgroups that cluster according to their grammatical similarities.

North Arawak is a group of languages consisting of Tariana, Baniwa of Içana/Kurripako, Piapoco, Warekena, Achagua, Yucuna, and Resigaró (Aikhenvald 2019: 460). Of these, Tariana is the only language within the multilingual Vaupés Basin linguistic area. This language contains a counterfactual conditional construction similar to the Tucanoan construction discussed in Section 5.2. The traditional Vaupés River Basin linguistic area is

characterized by language-based exogamy between speakers of Tariana and those belonging to the East Tucanoan subgroup (Aikhenvald 1999). In the example in (35), the protasis does not appear with any TAM values. It only appears with the clause-linking marker *-ka*. This marker is non-specialized in that it can be used in counterfactual conditionals and other types of conditional constructions. The apodosis occurs with *-buhtaka*. This marker conflates conditional mood and recent past tense. The apodosis can also appear with *-buhtana* (36). Unlike *-buhtaka*, *-buhtana* conflates conditional mood and remote past tense.

Tariana (Arawakan)

- (35) *heku iya di-wha-ka, amaku putʃa-buhtaka.*
 yesterday rain 3SG.N.F-fall-SUB hammock be.wet-COND.REC.PST
 ‘If rain had fallen yesterday, the hammock would have been wet.’ (Aikhenvald 2003: 391)

- (36) *palipa-nipe sede-ka, iya wa-na putʃa-buhtana.*
 IMP.cover-NMLZ NEG.EXIST-SUB rain 1PL-OBJ be.wet-COND.REM.PST
 ‘If we had not had the cover, rain would have made us wet (a week or so ago).’
 (Aikhenvald 2003: 391)

It is instructive to compare the Tariana counterfactual conditional construction with its equivalent in other North Arawak languages. Baniwa of Içana/Kurripako is closely related to Tariana, but it is spoken outside the Vaupés area. The Baniwa of Içana/Kurripako dialect continuum is spoken in the Içana river basin and along its tributaries, bordering on the Vaupés and extending further to the north into Venezuela and north-east into Colombia. In Baniwa of Içana, counterfactual conditionals occur with the non-specialized clause-linking marker *-ka* (37). This pattern is similar to the Tariana clause-linking marker. However, unlike Tariana, TAM values appear in both clauses. In this regard, the irrealis marker *-mitha* occurs in the protasis and the apodosis of a counterfactual conditional construction.

Baniwa of Içana (Arawakan)

- (37) *pi-kapa-mitha pi-kaite-ka, no-lhio wheekodza no-aa-mitha pi-lho.*
 2SG-see-IRR 2SG-tell-SUB 1SG-to yesterday 2SG-give-IRR 2SG-to
 ‘If you had told me yesterday, I would have given you.’ (Ramirez 2001: 255)

As for Kurripako, it has not been possible to find a source providing a detailed description of counterfactual conditionals. Granadillo (2006: 82) briefly describes counterfactual conditionals in this language. However, she does not give any examples appearing with apodoses, but only with protases (38). Interestingly, the Kurripako counterfactual conditional protasis seems to differ from the Tariana protasis in that it appears with the conditional mood marker *-apa* and the frustrative marker *-ya*.

Kurripako (Arawakan)

- (38) *un-sru-ka-dan-tha apa-ya carro.*
 1SG-have-TA-COND-FRUST one-CLF car
 ‘If only I had a car.’ (Granadillo 2006: 82)

Another North Arawak language closely related to Tariana is Piapoco. This language is spoken to the west of the Upper Rio Negro area in Colombia. The counterfactual conditional pattern is somewhat similar to the Tariana pattern in that it also occurs with a non-specialized clause-linking device (i.e., the verbal form *-caali*). However, unlike Tariana, Piapoco contains a counterfactual conditional construction in which both clauses occur with TAM values.

Protases are realized with the remote past tense marker *-té* in combination with the counterfactual mood marker *-cá*, and apodoses are formed with the remote past tense marker *-té* (39).

Piapoco (Arawakan)

- (39) *ca-úláica-caalí-té* *pi-atúa-cá,* *né-íse* *càmi-ta-té* *u-wènià*
 ATT-disease-if- REM.PST 2-mother-CF there-from not-EMPH-REM.PST 3F-buy

wáluma-tá.

cloth-CLF

‘If you mother had been sick, then she would not have bought cloth.’ (Klumpp 2019: 326)

There are other North Arawak languages that also differ from the Tariana counterfactual conditional pattern. In Achagua and Resígaro, counterfactual conditional protases appear with specific TAM values. While the Achagua counterfactual conditional protasis is realized with the irrealis marker *-kta* (40), the Resígaro counterfactual conditional protasis occurs with the irrealis marker *-ma* in combination with the recent past tense marker *-mi* (41).

Achagua (Arawakan)

- (40) *páablu ínu-kta-ta-i,* *hó-ka-ta* *wa-třáwahaá.*
 Pablo come-IRR-CONTR-SIG NEG-AFF-CONTR 1PL-work
 ‘If Pablo had come, we would not have worked.’ (Wilson 1992: 164)

Resígaro (Arawakan)

- (41) *anepuu? aá?pe ee?phi kha-tshí-ma-mí,* *kašoo? va?mitú.*
 much father fish do-if-UNREAL-REC well we-eat
 ‘If my father had caught a lot of fish, we would have eaten well.’ (Allin 1976: 261)

The grammatical differences between counterfactual conditionals in Tariana and other North Arawak languages spoken outside the Vaupés area seem to reflect the Tucanoan impact on Tariana.

5.4 Discussion

It has been shown in the previous subsections that Tucanoan languages and Tariana contain similar counterfactual conditional constructions. This seems to be the result of language contact. Long-term interaction among the languages spoken in the Vaupés has resulted in extensive diffusion of many grammatical and other linguistic features (Epps 2006, 2016).

The traditional Vaupés River Basin linguistic area is characterized by language-based exogamy between speakers of Tariana and those belonging to the East Tucanoan subgroup (Aikhenvald 2012: 75). East Tucanoan languages within this traditional marriage network include Tucano, Wanano, Desano, Piratapuya, and Tuyuca, among others. This ensures obligatory multilingualism. Note that Tucano is the major language of the Brazilian Vaupés, and most Tariana use this language on a day-to-day basis (Aikhenvald 2019: 470). This has increased Tucano’s impact, especially in syntax and discourse Tariana patterns. Accordingly, it is likely that the Tariana counterfactual conditional pattern developed under the influence of this Tucanoan language.

Further evidence that the counterfactual conditional pattern diffused through language contact in this area is the following. Most Tucanoan languages contain frustrative markers that are not used in the expression of counterfactual conditional meanings (see Section 3.3 for other languages that show the same pattern). Interestingly, Tariana (Aikhenvald 2003: 380) also have frustrative markers that are not used in the expression of counterfactual conditional meanings.

It is also very likely that Tariana copied other counterfactual constructions from Tucanoan languages. Crosslinguistically, it has been shown that a counterfactual simple clause construction (e.g., *I would have gone*) may be structurally similar to the apodosis of a conditional counterfactual construction (Van Linden & Verstraete 2008: 1888). In Ik, counterfactual simple clause constructions are encoded with the realis marker *-a*, the hypothetical marker *ka*, and the past tense marker *=naa*, as in (42). In a similar fashion, the apodosis of a counterfactual conditional construction is marked with the same TAM values, as in (43). However, there are also many languages in which simple counterfactuals cannot be equated with conditional counterfactuals with an elided protasis (Van Linden & Verstraete 2008: 1889).

Ik (Kuliak)

- (42) *ats-í-a* *ka=naa* *barats-o=nák^a.*
 come-1SG-REAL HYP=PST morning-INS=DEM.SG.PST
 ‘I would have come this morning.’ (Schrock 2014: 516)

- (43) *na=ká=naa* *járém-a* *bira-ó-k²,*
 CONJ=HYP=PST insecurity-NOM not.be-3SG-SEQ
 ‘If insecurity had not been there,

ka-í-ísin-a *ka=nak^a.*
 go-PL-1PL.INCL-REAL HYP=PST
 we would have gone regularly.’ (Schrock 2014: 517)

Most Tucanoan languages encode counterfactual simple clause constructions and counterfactual conditional apodoses in the same way. As was shown in Section 5.1, counterfactual conditional apodoses in Tucano are realized with the irrealis marker *-bo* and the past tense marker *-a*. Counterfactual simple clause constructions are also marked in the same way in that they appear with the irrealis marker *-bo* and the past tense marker *-a*, as is shown in the example in (44).

Tucano (Tucanoan)

- (44) *ní-bo-a-pu.*
 be-IRR-PST-1SG.SBJ
 ‘I would have been there.’ (West 1980: 45)

Similarly, Tariana contains counterfactual simple clause constructions and counterfactual conditional apodoses occurring with the same TAM values. Counterfactual conditional apodoses in Tariana are formed with *-buhtaka* or *-buhtana* (see Section 5.3). Counterfactual simple clause constructions also occur with the same markers in this language, as seen in the example in (45).

Tariana (Arawakan)

(45) *ikasu-bothaka* *pi-ñare* *phia,* *di-a-pidana* *di-na*
 now-COND.REC.PST 2SG-dissappear you 3SG.NF-say-REM.PST.REP 3SG.NF-OBJ

ne:ri-ne.

deer-FOC

‘Now you would have disappeared, said the deer.’ (Aikhenvald 2003: 142)

6. Final remarks

The present study has shown that counterfactual conditional protases in Amazonian languages tend to be unmarked (they do not occur with any TAM values), and apodoses tend to occur with irrealis or frustrative marking. It has also been shown that most Amazonian languages in the sample contain counterfactual conditionals occurring with non-specialized clause-linking devices. This means that the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is not grammaticalized in clause-linking devices in the Amazonian languages in the sample. Instead, the counterfactual conditional meaning resides in the combination of specific TAM markers.

The present research has shown that Tariana counterfactual conditional construction have been shaped by Tucanoan languages though language contact. It remains to be explored whether other languages spoken in the Vaupés area (i.e., Naduhup and Kakua-Níkak languages) express counterfactual conditional meanings in the same way and the role of language contact. This will enable us to determine whether counterfactual conditionals can be used as a diagnostic feature of this contact area.

As a sobering note, this study barely scratches the surface. There are a number of aspects relevant to the study of Amazonian counterfactual conditional clauses that this study could not address. Accordingly, they remain to be investigated by future studies, and in what follows some potentially fruitful areas are mentioned.

First, as was shown in this paper, in a number of Amazonian languages, a counterfactual simple clause construction (e.g., *I would have gone*) is structurally similar to the apodosis of a conditional counterfactual construction. Whether this is pervasive in Amazonian languages can only be answered by future work with natural discourse data from diverse languages. Moreover, although counterfactuals are typically associated with the kind of grammatical construction discussed in this paper, they may also show up in other guises. For instance, hypothetical manner constructions (e.g., *she treats me as if I were a stranger*) portray a counterfactual situation (see Olguín Martínez 2021) and seem to be found in a number of Amazonian languages (e.g., Asheninka Perené; Mihas 2015: 285; Piapoco; Klumpp 2019: 332). Crosslinguistically there are languages that have a construction that could be regarded as a counterfactual conditional construction with an elided apodosis (e.g., *if only Hans had come*). These instances are known in the literature as ‘counterfactual wishes’ and seem to be the result of insubordination, defined as the “recruitment of main clause structures from subordinate structures, or synchronically as the independent use of constructions exhibiting prima facie characteristics of subordinate clauses (like English *If you could fill this out, please* or *That he could say such a thing!*)” (Evans & Watanabe 2016: 2). Counterfactual concessive conditionals may also express a counterfactual meaning: *Even if he hadn’t done anything, he would still have been paid the same wages as the others*. These counterfactual patterns form a ‘family (of constructions).’ In recent years, the notion of family has established itself in Construction Grammar as a label for sets of constructions with a similar meaning or function, often despite striking differences in form (Diessel 2019: 199-200; Leuschner 2020; Ruiz de Mendoza Ibáñez et al. 2017). In the usage-based approach, grammar consists of constructions interconnected by

various links that reflect the language users' experience with particular grammatical patterns (Croft 2001; Diessel 2015, 2017, 2019). It remains to be explored how counterfactuals are encoded in Amazonian languages in a single study. This will enable us to explore connections among these constructions and provide hypotheses regarding their directionality of historical development. Shared morphosyntactic properties can be explained by analogical connections between constructions in the grammar network. Family resemblances should be considered a synchronic reflection of the ongoing diachronic emergence of the constructions in question (Croft & Cruse 2004: 318).

Second, as was discussed in the present research, a number of Amazonian languages contain counterfactual conditionals with optional clause-linking devices. This goes against Harder (1996: 93), who mentions that of all grammatical elements in an adverbial clause construction, clause-linking devices are the most necessary element to get the message across. Intriguingly, there are other Amazonian languages in which TAM values (e.g., irrealis markers) are optional and can be omitted without affecting the adverbial meaning holding between clauses. The question is: what are the factors that may lead speakers to omit TAM values from a counterfactual conditional construction? The optionality of clause-linking markers and TAM values in counterfactual conditionals is unexplored territory and open to future research.

Third, the diachronic sources of counterfactual conditional clause-linking devices in Amazonian languages seems like another interesting area for future research. From a crosslinguistic perspective, it has been proposed that conditional clause-linking devices tend to be derived from: adverb(ial)s meaning 'then', verbs meaning 'to say', words for modality (especially epistemic and optative), copular constructions, interrogatives, words that mark something as known or given (including topic markers and demonstratives), and words temporal in origin (Martowicz 2011: 188; Olguin Martínez & Lester 2021; Traugott 1985: 292). The question is: do Amazonian languages show a similar picture?

We hope that this study will be valuable as a general overview of counterfactual conditional constructions in Amazonian languages and that it will help linguistic researchers come up with more accurate descriptions in the future.

Abbreviations

1=first person, 2=second person, 3=third person, A=agent, ADESS=adessive, aff=affirmative, AFFCT=affected argument, ALL=allative, ANAPH=anaphoric, ANTIC=anticipatory, APPL=applicative, ART=article, ass=assertive, ATT=attributive, AUX=auxiliar, CERT=modal marker of certainty, CLF=classifier, CMP=complement, CF=counterfactual mood, COM=comitative, COMPL=completive, CON=contrastive, COND=conditional, CONJ=conjunction, conn=connective, CONT=continuous, contr=contrast, COSUB=cosubordination, DAT=dative, DECL=declarative, DEM=demonstrative, DEP=dependent marker, DES=desiderative, DIST=distal, DISTR=distributive, DR=bivalent direct, DS=different subject, DYNM=dynamic, ELAT=elative, EMPH.TAG=emphatic tag, EV=evidential, EXCL=exclusive, EXIST=existential, F=feminine, FRUST=frustrative, FUT=future, HYP=hypothetical, IMP=impersonal, INC=inclusive, INF=inferential evidential, INTENS=intensifier, INTERJ=interjection, INS=instrumental, IPFV=imperfective, IRR=irrealis, ITER=iterative aspect, LK=linker, M=male, N=non, NEC=modal marker of necessity, NEG=negative, NMLZ=nominalizer, NOM=nominative, NR=subject nominalizer, OBJ=object, OBL=oblique, PASS=passive, pat=patient PER=peripheral element, PERF=perfect, PFV=perfective, PL=plural, POSS=possessive, POT=potential, PR=general participial, PRIV=privative, PROG=progressive aspect, pron=pronominal, PRX.CNTR=proximate contrast, PRS=present, PST=past, REAL=realis, REC=recent, REF=referential, REL=relativizer, REM=remote, REP=reportative, SBJ=subject,

SEQ=sequential, SG=singular, sig=significant, SIM=simultaneous, S=single argument, SS=same subject, SUB=subordinator, ta=tense, aspect TH=thematic suffix, TOP=topic, TRS=transitivizer, unreal=unrealized, vblz=verbalizer, VI=sixth class, VS=verbal stem marker, VT=verb terminating classifier.

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