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The interaction of irrealis markers and blocking effects in counterfactual conditionals: theoretical implications

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Abstract: There are languages in which the irrealis domain is split up into situations that may potentially occur and counterfactual situations. In these languages, one marker is only used for expressing potential situations (weak irrealis) and another marker is only used for expressing counterfactual situations (strong irrealis). Moreover, there are languages that only have either weak or strong irrealis markers. For languages containing both weak and strong irrealis markers, it has been demonstrated that the use of weak irrealis markers in counterfactual conditionals is blocked by strong irrealis markers. Based on a sample of 51 languages, the present study lends support to this theoretical claim. However, it is also shown that there are other blocking effects. First, there are languages in which the use of strong irrealis markers in counterfactual conditionals is blocked by specialized clause-linking devices (e.g., devices only used for expressing counterfactual conditional relations). Second, for languages that only contain weak irrealis markers, it is shown that the use of weak irrealis markers in counterfactual conditionals is blocked by a specialized clause-linking device. The paper further investigates whether the results obtained for counterfactual conditionals can be generalized to other counterfactual constructions.

Keywords: counterfactual; irrealis; conditional; complex sentence; adverbial clause

1 Introduction

It has long been shown that when languages have a grammaticalized realis/irrealis distinction, counterfactual conditionals (e.g., *if I had known, I would have come*) will tend to appear with irrealis marking (Bugenhagen 1993; Elliott 2000: 70; Mithun 1995:

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384; Plungian 2005: 138). Counterfactual conditionals should qualify as irrealis contexts par excellence "since they are intentionally selected by speakers to depict situations that flatly contradict what is known to be real" (Sun 2007: 798). A number of areal studies (e.g., Luk 2023; McGregor and Wagner 2006: 60; Roberts 1990) and cross-linguistic studies (e.g., Olguín Martínez and Lester 2021) have provided further support for this theoretical claim. Given that counterfactual conditionals express situations that did not occur, the semantics of irrealis markers is appropriate to the counterfactual conditional context.

It has been proposed that the realis/irrealis distinction is based on a link between modality and tense (Condoravdi 2002; Iatridou 2000). While realis systems are usually described in terms of non-future time reference, irrealis systems are often described in terms of future time reference (Comrie 1985: 45). However, irrealis markers are not restricted to the future; they can also refer to situations that did not occur (Roberts 1990: 398; van Gijn and Gipper 2009; Van Linden and Verstraete 2008; von Prince 2019). In a recent investigation based on data from Oceanic languages, von Prince et al. (2022: 225) propose that the irrealis domain can be split into potential and counterfactual situations. Moreover, they propose that this two-way frame can be further divided into different fine-grained temporal divisions. This gives rise to the following bipartite branching-time framework: possible (future) and counterfactual (past, present, and future). They acknowledge that previous studies have considered branching time as a key factor to analyze irrealis (e.g., McGregor and Wagner 2006). However, "their accounts follow the traditional approach to branching time in allowing only a two-way distinction between the actual present and past, on the one hand, and possible futures, on the other, and do not afford exclusive access to counterfactual indices" (von Prince et al. 2022: 226). In their investigation, von Prince et al. (2022) demonstrate that in many Oceanic languages showing this division, one irrealis marker is reserved for expressing potential situations (WEAK IRREALIS MARKERS) and the other is only used for expressing counterfactual situations (STRONG IRREALIS MARKERS).[1] For Oceanic languages containing both weak and strong irrealis markers, counterfactual conditionals will always occur with strong irrealis markers. Von Prince et al. (2022: 236) mention that "when a marker A covers the entire range of irrealis meanings except one, and there is another marker B in the language that exclusively expresses this specific meaning, marker A may in fact be an irrealis marker, whose range of interpretations is restricted by blocking". As an example, consider Rukai, which has been described as having two irrealis markers: *amo-* and *ni-* (Zeitoun 2007: 412). While the irrealis marker *amo-* covers a wider range of contexts, including future situations, real and habitual conditional relations, and

1 The terms weak and strong are adopted in this paper based on suggestions given by an anonymous reviewer.

different types of epistemic and deontic meanings (Zeitoun 2007: 414), the irrealis marker *ni* is only used for expressing counterfactual relations, as in (1). I assume that, in these contexts, the use of the irrealis marker *amo-* in counterfactual conditionals is blocked by the availability of the more specific irrealis marker *ni-*.

(1) Rukai (Austronesian; ruka1240)
la-ni *ki-sialalr-iae*,
if-3SG.GEN NEG-DYN.NON.FIN.hear-1SG.OBL
'If he had not listened to me,
***ni**-kelrakelrange-lra-ine* *ana* *lalake-'o*.
CF-DYN.beat-1SG.NOM-3SG.OBL that child-2SG.GEN
I would have beaten your child.'
(Zeitoun 2007: 413)

On the other hand, Cristofaro (2012: 138–139) shows that there are languages with one single irrealis marker that may cover either potential situations (weak irrealis markers) or situations that failed to take place (strong irrealis markers). As for languages that only contain strong irrealis markers, if we follow the reasoning of von Prince et al. (2022: 236), it is not surprising that counterfactual conditionals always occur with these markers. In Gurr-goni, the strong irrealis marker *-nyaku* occurs in situations that did not happen, including counterfactual conditionals as in (2).

(2) Gurr-goni (Maningrida; gura1252)
yundu *kada-**nyaku***, *nganya* *nyaji-**nyaku***.
2SG.NOM come-IRR 1SG.ACC see-IRR
'If you had come, you would have seen me.'
(Green 1995: 157)

The fact that counterfactual conditionals will tend to appear with strong irrealis markers in languages containing both weak and strong irrealis markers has not been investigated beyond the Oceanic language family. The present study aims at filling this gap.

While a number of languages in the present study lend support to von Prince et al. (2022), here I show that there may be more to the story. Kakataibo contains both weak and strong irrealis markers. The weak irrealis marker *-isa* is only used for expressing potential situations (Zariquiey 2018: 329), while the strong irrealis marker *= ri* is only used for expressing counterfactual simple clause meanings (e.g., *I went to Lima. He should have asked me about it, but he did not*), but not counterfactual conditionals (see (3)).

(3) Kakataibo (Pano-Tacanan; cash1251)
'ë=x Lima=nu kwan=xun,
1SG=SBJ Lima=LOC go=CONJ
'If I had gone to Lima,
ka=na acushi casaca bits-kë 'i-tsin-a-n.
NARR=1SG one jacket buy-NMLZ be-COND-PFV-1/2
I would have bought a jacket.'
(Zariquiey 2018: 338)

As already mentioned, some languages only contain weak irrealis markers. In Balantak, the weak marker is used for expressing future situations, situations involving ability, purposive situations, adhortatives, and hypothetical situations (van den Berg and Busenitz 2012: 76–77). However, it does not occur in counterfactual conditional situations, as can be seen in (4).

(4) Balantak (Austronesian; bala1315)
koise sianta no'-usan, *ai kita sida-mo mulc'kon na laigan*.
CONJ NEG REAL-rain ART 1PL can-PFV return LOC house
'If it hadn't rained, we would have made it back to the house.'
(van den Berg and Busenitz 2012: 241)

The questions are: Why are weak and strong irrealis markers blocked in counterfactual conditionals? How are counterfactual conditional relations expressed in these languages? The present study explores these questions in a sample of 51 languages, and additionally discusses whether blocking effects identified for counterfactual conditionals can also be found in other counterfactual constructions, i.e., counterfactual manner constructions, e.g., *he talked as if he were sick (but he was not)*.

The remainder of this paper is organized as follows. In Section 2, I develop comparative concepts of irrealis markers and counterfactual conditionals. This section also discusses general matters related to the language sample adopted in the present investigation. Section 3 explores the interaction of irrealis markers and blocking effects in counterfactual conditionals. This section is divided into three parts: Section 3.1 analyzes languages containing both weak and strong irrealis distinctions and in which strong irrealis markers are used in counterfactual conditionals. Section 3.2 discusses languages in which counterfactual conditionals do not appear with strong irrealis markers. Instead, they occur with specialized clause-linking devices. Section 3.3 provides a detailed discussion of languages in which weak irrealis markers do not appear in counterfactual conditionals, but are encoded with specialized clause-linking devices. Section 4 explores whether the blocking effects attested for counterfactual conditionals can be generalized to one particular

construction: counterfactual manner constructions. Section 5 concludes the paper and mentions a number of areas that deserve close future attention.

2 Theoretical and methodological preliminaries

The goal of the present investigation is to explore the interaction of irrealis markers and blocking effects in counterfactual conditionals. However, before this domain is explored, some preliminary remarks concerning irrealis markers and counterfactual conditionals are provided. This section also characterizes some essential methodological procedures of the present study, such as the sources of information that have been tapped.

2.1 Comparative concepts

Comparative concepts are concepts created by linguists for the specific purpose of cross-linguistic comparison. They are based on universal conceptual-semantic concepts and universal formal concepts (Haspelmath 2010: 664). Accordingly, they abstract away from language-specific formal categories and also from language-specific semantic categories. The present study necessarily requires the adoption of a comparative concept for the definition of irrealis markers and counterfactual conditional constructions.

2.1.1 Irrealis markers

The terms REALIS and IRREALIS have been used by many linguists for just over a hundred years (Brooks 2018: 8). Mithun (1999: 173) mentions that "the realis portrays situations as actualized, as having occurred or actually occurring, knowable through direct perception. The irrealis portrays situations as purely within the realm of thought, knowable only through imagination". Realis/irrealis systems are attested in different parts of the world, such as Omotic languages of Ethiopia (Amha 2017: 826), North American native languages (Mithun 1999: 173–180), and many Australian and Oceanic languages (Elliott 2000), among others.

Despite their widespread use, the terms realis and irrealis do not have a well-defined semantic content. Languages make different choices with respect to which categories are subsumed under the heading of realis and irrealis (van Gijn and Gipper 2009: 155). For instance, languages with a grammaticalized realis/irrealis distinction may mark different sets of constructions as irrealis. In some languages irrealis encodes all or some conditional constructions, as well as questions, generic

or habitual propositions, future propositions, past propositions, wishes, positive imperatives, prohibitives (i.e., negative imperatives), and certain types of subordinate propositions (van der Auwera and Devos 2012: 172). For this reason, it is hard to come up with a language-independent characterization of irrealis. This has led a number of linguists to reject irrealis as a typologically relevant concept (e.g., Bybee et al. 1994: 236–240; Bybee 1998: 265; de Haan 2012).

Other authors, on the other hand, have argued for the usefulness of the irrealis as a cross-linguistic category. Mithun (1995: 386) mentions that irrealis is comparable across languages and claims that "the comparison of these seemingly disparate systems shows complete accord in the nature of the basic realis/irrealis distinction that underlies them". In a similar fashion, Givón (1994: 322) mentions that realis/irrealis systems show a great deal of cross-linguistic variation but argues that this does not necessarily point to the absence of a common core meaning. On the contrary, a closer study of irrealis reveals a "considerable measure of coherence and commonality". Other studies that have also maintained that the realis/irrealis distinction is a meaningful one include Elliott (2000), McGregor and Wagner (2006), van Gijn and Gipper (2009), Michael (2014), and von Prince et al. (2022).

The position taken in the present study is that irrealis is a cross-linguistically useful category. However, it must be acknowledged that it is multi-faceted. The following is the comparative concept of irrealis markers adopted here: irrealis is used for expressing non-actualized situations (i.e., potential situations and/or counterfactual situations) and may show joint or non-joint marking. I discuss in the following several issues that this definition raises.

First, irrealis markers may be used for expressing non-actualized situations that are possible (future) and counterfactual (past, present, and future) (von Prince et al. 2022: 225). We can distinguish four types. There are languages in which irrealis markers are only used for expressing counterfactual situations (strong irrealis). In Bininj Gun-Wok (Gunwinyguan; gunw1252), irrealis markers are only found in avertive constructions,[2] mistaken belief constructions, counterfactual wishes, and counterfactual conditionals (Evans 2003: 373).[3] There are also languages in which irrealis markers are only used for expressing potential situations (weak irrealis). In Lote (Austronesian; lote1237), the irrealis marker *lape* is only found in constructions expressing future situations and undesirable situations (Pearson 2008: 94). Note that the domain of possible situations can be subdivided into situations involving speaker commitment

2 In the literature, avertive constructions are parts of clauses that describe bounded situations which were on the verge of taking place in the past but did not. Accordingly, they involve a reversal of polarity, a key property of counterfactual constructions (Kuteva et al. 2019).

3 Besides counterfactual constructions, irrealis markers can also be found in negative contexts (Evans 2003: 373).

and situations involving a lack of speaker commitment (van Gijn and Gipper 2009: 173). However, this is a domain that has not been possible to explore here given that most sources taken into account do not provide information on this matter. There are languages which use one irrealis marker for expressing potential situations (weak irrealis) and another marker for indicating counterfactual situations (strong irrealis). In Oksapmin (Nuclear Trans New Guinea; oksa1245), the weak irrealis marker = *xən* only occurs in contexts involving a potential situation (Loughnane 2009: 391). On the other hand, the strong irrealis marker = *naŋ* is only attested in discourse contexts involving situations that did not occur, including counterfactual conditionals (Loughnane 2009: 397). Note that there are languages which use the same irrealis marker for expressing potential situations and situations that did not occur: GENERAL IRREALIS MARKERS. In Cupeño (Uto-Aztecan; cupe1243), the general irrealis marker = *pe* is used for expressing not only potential situations, but also counterfactual situations (Hill 2005: 88). Languages with general irrealis markers are not taken into account here.

Second, languages containing either weak or strong irrealis markers, as well as languages containing both weak and strong irrealis markers, may show joint or non-joint marking (in Palmer's 2001: 145ff. terms). An example illustrating non-joint marking can be found in Mosetén (Isolate; mose1249), where the irrealis marker alone is sufficient to encode different types of non-actualized situations, such as counterfactual conditionals (Sakel 2002: 441). A case of joint marking is found in Pisaflores Tepehua (Totonacan; pisa1237). In this language, the irrealis must obligatorily co-occur with other TAM markers (MacKay and Trechsel 2010: 280).

Third, weak and strong irrealis markers may come in various shapes, such as verbal markers, clitics, independent particles, suprasegmental modifications, and word order (see Mauri and Sansò 2016: 178 and Sansò 2020 for a more detailed discussion of the forms of weak and strong irrealis markers). The fact that the comparative concept adopted here does not put any constraint on the form of irrealis markers has enabled me to take into account irrealis markers with different forms.

2.1.2 Counterfactual conditionals

Counterfactual conditionals have been studied not only from a formal-semantic perspective (e.g., Baker 1970; Iatridou 2000; Karttunen 1971; Kratzer 1981a; Reinhart 1976; *inter alia*), but also from a functional perspective (Comrie 1986; Haiman and Kuteva 2002; Lazard 2006; Olguín Martínez and Lester 2021; Qian 2016; Van Linden and Verstraete 2008; *inter alia*).

A counterfactual conditional construction is a complex sentence construction whose probability is zero and both clauses involve a reversal of polarity. Several morphosyntactic, semantic, and pragmatic issues can be highlighted from this definition. In what follows, some comments on these issues are provided.

First, a COMPLEX SENTENCE is a construction containing two clauses that describe two situations (Longacre 1985: 255). Complex sentence constructions are thus sentences that contain more than one clause. A clause, in turn, can be defined as a unit minimally consisting of a predicate that may be accompanied by its arguments and modifiers (Gast and Diessel 2012: 4). Conceived of in this way, the notion of complex sentence construction is useful because it enables one to incorporate counterfactual conditional constructions realized with different types of clause-linkage patterns (e.g., asyndetic constructions).

Second, a number of studies have rejected attempts to distinguish discrete categories of conditionals, preferring instead to view different conditional constructions as falling along a continuum of probability (i.e., a speaker's judgement about the factual status of a proposition). While reality conditionals appear at the higher end of the continuum of probability (more likely to occur), counterfactual conditionals appear at the extreme lower end of the continuum (zero probability) (Comrie 1986: 88–93; van der Auwera 1983: 301). The zero probability of counterfactual conditional constructions may belong to three different modal domains: epistemic, deontic, or desiderative-intentional (see Kratzer 1981b: 42 for a more refined division of modal meanings using the notion of conversational background). Very often in counterfactual conditionals, the speaker states that a situation was possible or plausible based on inferences from observable evidence or inferences from what is generally known, but was not actualized (e.g., *if you had put the bag with ice there, it would have melted and drained into the sea*). In these cases, the modal element of meaning is epistemic (McGregor 1990: 548; Van Linden 2004: 48). Furthermore, there are counterfactual conditional constructions where the modal element belongs to the deontic domain. In these cases, the speaker judges that a situation was desirable, but did not eventuate (e.g., *if I hadn't had to study for the test, I would have gone to the zoo*). Finally, there are counterfactual conditionals expressing that a participant intending to realize a certain situation actually did not do so (Van Linden 2004: 49). In the example: *if I had had a tortilla, I would have given it to you*, the speaker wanted to or had the intention to give the hearer a tortilla, but did not do so because they did not have any. The action of giving a tortilla thus is intended, but not realized.

Third, REVERSAL OF POLARITY is an integral part of the definition of counterfactuals (Verstraete and Luk 2021: 288).[4] In the example: *if Charles had gone to the meeting, he would have seen Carol*, both clauses involve a positive polarity and imply that Charles

4 This term has also been used by formal semanticists in another sense. Positive polarity items, such as *already* and *still* cannot appear in the scope of negation in simple clauses, as in **he has not already arrived,* and as in **he is not still at home.* However, these positive polarity items can occur in the protases of negative counterfactual conditionals, as in *if he had not already arrived, we would have postponed the meeting* or in *if he were not still at home, we would have missed him.* It is in this context that formal semanticists have used the term "reversal of polarity" (Baker 1970; Karttunen 1971; Reinhart 1976).

did not go to the meeting and that he did not see Carol. On the other hand, in the example: *if Tom hadn't done it, he wouldn't have had any fun*, both clauses involve a negative polarity and imply that Tom did it and that he had fun.

Before we leave the present subsection, mention should be made of the following two strategic restrictions of this study. First, counterfactual conditionals can have past temporal reference in that they express a conditional relationship between two situations that failed to be realized (e.g., *if John had come yesterday, we would have had fun*; Declerck and Reed 2001: 177). Moreover, they can have present and future time reference. As for future counterfactual conditionals, Declerck and Reed (2001: 181) show that this is only possible if there is a presently valid situation "implying a post-present actualization. That situation may be a present intention, plan, programme, arrangement or agreement about the future or another proposition describing the actual world, like the expression of a permanent habit or other kind of state". The sources of the languages in the sample for the most part contain information regarding the encoding of past counterfactual conditionals rather than present and future counterfactual conditionals. Accordingly, the present study is based on this type of counterfactual conditional.

Second, cross-linguistically, it is well-known that the difference between a negative clause and a corresponding affirmative clause may give rise to a number of formal asymmetries. In particular, the TAM categories used in affirmative constructions may not be the same as those used in negative constructions (see Miestamo 2005 for a detailed discussion of various formal and functional asymmetries between affirmation and negation). For instance, in Toqabaqita, "even though in counterfactual conditionals the situation of the protasis does not obtain, and consequently that of the apodosis does not either, neither clause contains the irrealis marker *sa* to signal counterfactuality", as in (5) (Lichtenberk 2008: 1119). However, the irrealis marker *sa* can occur in counterfactual conditionals when they show negative polarity, as in (6).

(5) Toqabaqita (Austronesian; toab1237)
masa *qo* *qaa-qadomi* *na*,
CONJ 2SG.NON.FUT RDP-help 1SG
'If you had helped me,
doo *ku* *qadomi* *qoe*.
thing 1SG.NON.FUT help 2SG
I would have helped you.'
(Lichtenberk 2008: 1124)

(6) *manda* ***sa*** *kwasi* *kuqu* *meresina* *qi* *roqo*,
CONJ IRR 1SG.NEG drink medicine LOC yesterday
'If I hadn't drunk the medicine yesterday,
qoo, *ka* *taqaa* *qasia* *naqa* *qi* *a-ku.*
oh 3SG.SEQ be.bad INTENS INTENS LOC BEN-1SG
oh, that would have been very bad for me.'
(Lichtenberk 2008: 1124)

In the present study, I disregard languages showing a picture similar to that of Toqabaqita and only include languages which systematically use or do not use irrealis markers regardless of the polarity of clauses. For instance, in Huehuetla Tepehua, weak and strong irrealis markers occur neither in counterfactual conditionals showing positive polarity (7) nor in those showing negative polarity (8).

(7) Huehuetla Tepehua (Totonacan; hueh1236)
nii *xa-k-maamaa* *juu* *tuumin*,
CONJ PST-1SG-have ART money
'If I had had the money,

kaa *laa-y* *xa-k-tamaw-li*.
BLV can-IPFV PST-1SG-buy-PFV
I think I would have bought it.'
(Kung 2007: 252)

(8) *nii* *jaantu* *xa-k-maamaa* *juu* *tuumin*,
CONJ NEG PST-1SG.SBJ-have ART money
'If I hadn't had the money,

naa *lhuu* *xa-nii-li* *juu* *làpanák*.
EMPH many PST-die-PFV ART people
many people would have died.'
(Uriel Martinez, pers. comm.)

2.2 Sample

To explore the interaction of irrealis markers and blocking effects in counterfactual conditionals, the present study draws on a sample of 51 languages that was built following the GENUS-MACROAREA METHOD proposed by Miestamo (2005). In particular, the bottom-up variant of the method is adopted here. In what follows, I provide a detailed discussion regarding how the sample of the present investigation was formed.

In the bottom-up variant, sample size is not predetermined. Instead, this variant tries to include languages from as many genera as possible. A genus is a maximal group of languages whose relatedness is fairly obvious without systematic comparative analysis (Dryer 1989). Macro-areas are continent-size linguistic areas independent of each other.

In the first stage, I attempted to find one language from each of Dryer's genera (543 genera) for which the available sources give information on irrealis markers. In this stage, special attention was paid to how authors of the sources used the label

"irrealis" in their descriptions. By following this process, it was possible to identify 162 languages that seem to contain irrealis markers that align with my comparative concept.

In the following stage, I explored the types of irrealis systems of the 162 languages. After an exhaustive analysis, it was possible to identify 72 languages containing general irrealis markers. As was mentioned in Section 2.1.1, these languages are not taken into account here.

In the third stage, I analyzed whether the sources of the remaining 90 languages had information on counterfactual conditionals. Of these languages, it was not possible to identify descriptions of counterfactual conditionals in 53 languages. This process gave rise to the sample shown in Table 1 (37 languages; bold typeface). The set of languages (one per genus) that one is able to include in the study in this way is called the CORE SAMPLE. Depending on the research question and the sources available, the size of the core sample may vary a lot. Miestamo et al. (2016: 250) mention that "topics that require one to delve deeper into the grammar of each language and that therefore require thick and thorough grammars or specialized studies on the topic to be used as sources do not allow core samples as large as topics for which sources are easier to find". Accordingly, the core sample of the present study is rather small given that we are interested in analyzing a complex interaction for which we need a detailed description (i.e., irrealis markers and blocking effects in counterfactual conditionals).

The fourth and last stage involved increasing the core sample of 37 languages by analyzing more carefully each of the genera to which the 37 languages belong. In the bottom-up approach, it is possible to take genus-internal variation into account and to select more than one language from a genus as long as the languages differ from one another with respect to the way they encode a particular construction (Miestamo et al. 2016: 249). For instance, in the Aztecan genus, there are Nahuatl language varieties that contain weak and strong irrealis markers (e.g., Huasteca Nahuatl) and Nahuatl language varieties that only contain strong irrealis markers (e.g., Tlaxcala Nahuatl). Accordingly, given that these languages have different irrealis systems, I decided to include them in the sample. Note that I also paid close attention to whether they show similar or different blocking effects. For instance, both Huasteca Nahuatl and Michoacan Nahuatl contain weak and strong irrealis markers. However, they have different blocking effects. While weak irrealis markers are blocked by strong irrealis markers in Huasteca Nahuatl counterfactual conditionals, weak irrealis markers are not blocked by strong irrealis markers in Michoacan Nahuatl counterfactual conditionals. The policy adopted here is the following: if two languages from the same genus have similar irrealis systems, but they show different blocking effects, I included them in the sample. Taking these procedures as my point of departure, I was able to increase the core sample from 37 languages to 51 languages,

Table 1: Language sample used for analyzing the interaction of irrealis markers and blocking effects in counterfactual conditionals.

Macro-area	Language	Genus and family	Irrealis type	Protasis TAM	Apodosis TAM	Clause-linkage pattern
Africa	**Jóola Eegimaa**	Jola/Atlantic-Congo	Strong	Strong irrealis (Bassene 2017: 113)	Unmarked (Bassene 2017: 113)	Non-specialized
	Lumun	Narrow Talodi/Narrow Talodi	Strong	Strong irrealis (Smits 2017: 435)	Strong irrealis (Smits 2017: 435)	Non-specialized
Australia	**Bininj Gun-Wok**	Marne/Gunwinyguan	Strong	Strong irrealis (Evans 2003: 375)	Strong irrealis (Evans 2003: 375)	Non-specialized
	Gaagudju	Isolate	Strong	Strong irrealis (Harvey 2002: 371)	Strong irrealis (Harvey 2002: 371)	Asyndesis
	Gurr-goni	Burarran/Maningrida	Weak and strong	Strong irrealis (Green 1995: 307)	Strong irrealis (Green 1995: 307)	Asyndesis
	Kayardild	Tangkic/Tangkic	Strong	Suppositional mood (Evans 1995: 373)	Suppositional mood (Evans 1995: 373)	Specialized
	Kuku-Yalanji	Northern Pama-Nyungan/Pama-Nyungan	Strong	Strong irrealis (Patz 2002: 157)	Strong irrealis (Patz 2002: 157)	Asyndesis
	Mangarrayi	Mangarrayi/Mangarrayi-Maran	Weak	Past tense (Merlan 1989: 23)	Past tense (Merlan 1989: 23)	Specialized
	Martuthunira	Western Pama-Nyungan/Pama-Nyungan	Strong	Past tense (Dench 1995: 236)	Future tense (Dench 1995: 236)	Specialized
	Ungarinjin	Worrorran/Worrorran	Strong	Strong irrealis (Rumsey 1982: 155)	Strong irrealis (Rumsey 1982: 155)	Non-specialized
	Wardaman	Yangmanic/Yangmanic	Strong	Strong irrealis (Merlan 1994: 188)	Strong irrealis (Merlan 1994: 188)	Asyndesis
	Warrongo	Northern Pama-Nyungan/Pama-Nyungan	Strong	Unmarked (Tsunoda 2011: 610)	Unmarked (Tsunoda 2011: 610)	Specialized
	Warrwa	Nyulnyulan/Nyulnyulan	Strong	Strong irrealis (McGregor and Wagner 2006: 360)	Strong irrealis (McGregor and Wagner 2006: 360)	Non-specialized
Eurasia	**Dhimal**	Dhimal/Sino-Tibetan	Strong	Unmarked (King 2009: 144)	Strong irrealis (King 2009: 144)	Non-specialized

Table 1: (continued)

Macro-area	Language	Genus and family	Irrealis type	Protasis TAM	Apodosis TAM	Clause-linkage pattern
	Kolyma Yukaghir	Yukaghir/Yukaghir	Strong	Unmarked (Maslova 2003: 503)	Strong irrealis (Maslova 2003: 503)	Non-specialized
	Skolt Saami	Saami/Uralic	Weak and strong	Strong irrealis (Feist 2010: 348)	Strong irrealis (Feist 2010: 348)	Non-specialized
North America	**Ayutla Mixe**	Mixe-Zoque/Mixe-Zoque	Weak and strong	Strong irrealis (Romero-Méndez 2008: 241)	Strong irrealis (Romero-Méndez 2008: 241)	Non-specialized
	Blackfoot	Algic/Algonquian	Weak and strong	Unmarked (Bar-el and Denzer-King 2008: 8)	Strong irrealis (Bar-el and Denzer-King 2008: 8)	Non-specialized
	Chalcatongo Mixtec	Mixtec/Oto-Manguean	Weak and strong	Strong irrealis (Macaulay 1996: 161)	Realis (Macaulay 1996: 161)	Non-specialized
	Chol	Mayan/Mayan	Strong	Strong irrealis (Vázquez-Álvarez 2011: 144)	Past tense (Vázquez-Álvarez 2011: 144)	Asyndesis
	Comaltepec Chinantec	Chinantecan/Oto-Manguean	Strong	Past tense (Anderson 1989: 48)	Past tense (Anderson 1989: 48)	Specialized
	Huehuetla Tepehua	Totonacan/Totonacan	Weak and strong	Past tense and perfective aspect (Kung 2007: 614)	Past tense and perfective aspect (Kung 2007: 614)	Specialized
	Huasteca Nahuatl	Aztecan/Uto-Aztecan	Weak and strong	Strong irrealis (Author's fieldwork)	Strong irrealis (Author's fieldwork)	Specialized
	Itzaj	Mayan/Mayan	Weak and strong	Strong irrealis and completive aspect (Hofling 2000: 464)	Strong irrealis and completive aspect (Hofling 2000: 464)	Asyndesis
	Lachirioag Zapotec	Zapotecan/Oto-Manguean	Weak and strong	Strong irrealis and perfective aspect (Solá-Llonch 2020: 392)	Strong irrealis and perfective aspect (Solá-Llonch 2020: 392)	Non-specialized
	Michoacan Nahuatl	Aztecan/Uto-Aztecan	Weak and strong	Perfective aspect (Author's fieldwork)	Perfective aspect (Author's fieldwork)	Specialized

Table 1: (continued)

Macro-area	Language	Genus and family	Irrealis type	Protasis TAM	Apodosis TAM	Clause-linkage pattern
	North Pueblo Nahuatl	Aztecan/Uto-Aztecan	Strong	Perfective aspect (Author's fieldwork)	Perfective aspect (Author's fieldwork)	Specialized
	Papantla Totonac	Totonacan/Totonacan	Weak and strong	Past tense and strong irrealis (Author's fieldwork)	Past tense and strong irrealis (Author's fieldwork)	Specialized
	San Gabriel Huastec	Mayan/Mayan	Weak and strong	Perfective aspect (Author's fieldwork)	Perfective aspect (Author's fieldwork)	Specialized
	San Mateo Chuj	Mayan/Mayan	Weak	Past tense (Buenrostro 2009: 227)	Past tense (Buenrostro 2009: 227)	Specialized
	San Pedro Amuzgo	Amuzgoan/Oto-Manguean	Strong	Past tense (Smith Stark and Tapia Garcia 2017: 159)	Past tense (Smith Stark and Tapia Garcia 2017: 159)	Specialized
	San Pedro Huamelula Chontal	Tequistlatecan/Tequistlatecan	Weak	Perfective aspect (O'Connor 2014: 167)	Perfective aspect (O'Connor 2014: 167)	Specialized
	Tlaxcala Nahuatl	Aztecan/Uto-Aztecan	Strong	Past tense and strong irrealis (Flores Najera 2019: 333)	Past tense and imperfective aspect (Flores Najera 2019: 333)	Asyndesis
	Yosondua Mixtec	Mixtec/Oto-Manguean	Weak and strong	Completive aspect (Farris 1992: 155)	Completive aspect and strong irrealis (Farris 1992: 155)	Non-specialized
Papunesia	**Aghu**	Awju/Nuclear Trans New Guinea	Weak and strong	Realis and strong irrealis (van den Heuvel 2016: 339)	Realis (van den Heuvel 2016: 339)	Asyndesis
	Balantak	Celebic/Austronesian	Weak	Realis (van den Berg and Busenitz 2012: 241)	Perfective (van den Berg and Busenitz 2012: 241)	Specialized
	Gumawana	Oceanic/Austronesian	Strong	Realis (Olson 1992: 360)	Realis (Olson 1992: 360)	Non-specialized
	Kamasau	Marienberg/Nuclear Torricelli	Weak	Realis (Sanders and Sanders 1994: 68)	Realis (Sanders and Sanders 1994: 68)	Specialized
	Kara	Oceanic/Austronesian	Weak and strong	Perfective aspect (Dryer 2013: 207)	Strong irrealis (Dryer 2013: 207)	Asyndesis

Table 1: (continued)

Macro-area	Language	Genus and family	Irrealis type	Protasis TAM	Apodosis TAM	Clause-linkage pattern
	Kewa	Enga_Kewa-Huli/Nu clear Trans New Guinea	Weak and strong	Strong irrealis (Mason-Yarapea 2006: 414)	Strong irrealis (Mason-Yarapea 2006: 414)	Asyndesis
	Lote	Oceanic/Austronesian	Weak	Realis (Pearson 2008: 135)	Realis (Pearson 2008: 135)	Specialized
	Nungon	Finisterre-Huon /Nuclear Trans New Guinea	Weak and strong	Past tense (Sarvasy 2017: 314)	Strong irrealis (Sarvasy 2017: 314)	Asyndesis
	Oksapmin	Oksapmin/Nuclear Trans New Guinea	Weak and strong	Imperfective aspect and strong irrealis (Loughnane 2009: 397)	Imperfective aspect and strong irrealis (Loughnane 2009: 397)	Asyndesis
	Rukai	Rukai/Austronesian	Weak and strong	Realis (Zeitoun 2007: 412)	Strong irrealis (Zeitoun 2007: 412)	Non-specialized
	Yimas	Lower Sepik/Ramu	Weak	Potential mood and perfective aspect (Foley 1991: 441–442)	Potential mood and perfective aspect (Foley 1991: 441–442)	Specialized
South America	**Awa Pit**	Barbacoan/Barbacoan	Weak and strong	Strong irrealis (Curnow 1997: 234)	Strong irrealis (Curnow 1997: 234)	Asyndesis
	Kakataibo	Pano-Tacanan/Pano-Tacanan	Weak and strong	Unmarked (Zariquiey 2018: 338)	Conditional mood and perfective aspect (Zariquiey 2018: 338)	Specialized
	Krahô	Nuclear-Macro-Je/Macro-Je	Weak	Realis (Miranda 2014: 290)	Realis (Miranda 2014: 290)	Specialized
	Kwaza	Isolate	Weak and strong	Unmarked (van der Voort 2004: 630)	Strong irrealis (van der Voort 2004: 630)	Non-specialized
	Shiwilu	Cahuapanan	Weak and strong	Unmarked (Pilar Valenzuela, pers. comm.)	Conditional mood (Pilar Valenzuela, pers. comm.)	Specialized
	Urarina	Isolate	Weak and strong	Unmarked (Olawsky 2006: 255)	Unmarked (Olawsky 2006: 255)	Specialized

as can be seen in Table 1. For a number of languages, it was possible to include data from my fieldwork (e.g., Huasteca Nahuatl, Michoacan Nahuatl, North Pueblo Nahuatl, Papantla Totonac, and San Gabriel Huastec).

Overall, the sample for the present study aims at broad genetic and geographical coverage of the world's languages. Two or more languages from the same genus may be taken into account as long as they contain different irrealis systems. As can be seen in Table 1, the sample is inevitably skewed towards Papunesian and Mesoamerican languages. This is due to what Bakker (2011: 106) calls a BIBLIOGRAPHICAL BIAS. It is well-known that some genera or families may offer detailed information on all the parameters in question. It is this uneven distribution of comprehensive descriptions that severely compromises the creation of an areally-balanced sample (cf. Cristofaro 2003: 92 on the same problem). However, as Cristofaro (2003: 94) notes, "one often has to do with whatever data are available". Future studies will have to show whether the results of the present study hold in an areally-balance sample.

3 Interaction of irrealis markers and blocking effects in counterfactual conditionals

The notion of BLOCKING has been used for explaining how certain elements within the same morphosyntactic paradigm may compete with one another and how the non-occurrence of one form is due to the simple existence of another. I refer to this as STANDARD BLOCKING. Instances of this type of blocking discussed since Aronoff (1976) have been discussed in derivational morphology where, for example, "it has been argued that the existence of *glory* renders **gloriosity* ungrammatical; and in inflectional morphology, where the same type of reasoning is extended to *sang* in relation to ungrammatical **singed*" (Embick et al. 2023: 271).

Outside of the domains of derivational and inflectional morphology, a number of attempts have been made to extend the scope of blocking effects. For instance, Poser (1992: 125) argues that blocking needs to be extended out of elements in paradigmatic opposition in the same slot, in a way that allows for (certain) other elements to compete. I refer to this as NON-STANDARD BLOCKING. For instance, if one synthetic form and one periphrastic form are used for expressing the same function, the periphrastic form may block the synthetic form or vice versa. Moreover, there are cases in which two periphrastic forms may have the same function, but one of them blocks the other.

For languages discussed in Section 3.1, the use of weak irrealis markers in counterfactual conditionals is blocked by strong irrealis markers (standard blocking). For languages in which weak and strong irrealis markers do not appear in counterfactual conditionals (Sections 3.2 and 3.3), it will be demonstrated that the use

Table 2: Languages in which counterfactual conditional constructions occur with strong irrealis markers.

Type of irrealis system	Languages
Languages with weak and strong irrealis markers and in which counterfactual conditionals appear with strong irrealis markers	Aghu, Awa Pit, Ayutla Mixe, Blackfoot, Chalcatongo Mixtec, Gurr-goni, Huasteca Nahuatl, Itzaj, Kara, Kewa, Kwaza, Lachirioag Zapotec, Nungon, Oksapmin, Papantla Totonac, Rukai, Skolt Saami, Yosondua Mixtec
Languages with strong irrealis markers and in which counterfactual conditionals appear with strong irrealis markers	Bininj Gun-Wok, Chol, Dhimal, Gaagudju, Jóola Eegimaa, Kolyma Yukaghir, Kuku-Yalanji, Lumun, Tlaxcala Nahuatl, Ungarinjin

of these irrealis markers in this complex sentence construction is blocked by specialized clause-linking devices (non-standard blocking).[5] It should be noted that all instances of non-standard blocking involve morphological expressions of irrealis.

3.1 Languages which use strong irrealis markers in counterfactual conditionals

As can be seen in Table 2, in languages containing both weak and strong irrealis markers, the use of weak irrealis markers in counterfactual conditionals is blocked by the availability of a more specific TAM marker.

In Aghu, weak irrealis markers are used for expressing adhortative, optative, and real conditional meanings, etc. (van den Heuvel 2016: 44). Counterfactual conditional constructions do not occur with weak irrealis markers in this language. Instead, the protasis must appear with the strong irrealis marker *fini* and the realis marker *-òxo* and the apodosis must occur in the realis, as can be seen in the example in (9).

(9) Aghu (Nuclear Trans New Guinea; aghu1255)

xofe	*fe*	*neto*	*ato-sum-**òxo***	***fini***	*oxo*,
3SG	NOM	1.POSS.father	nurse-ITER-REAL	CF	COP

'If he had treated my father,

xaxide	*bà-**xen***	*oxo*.
alive	sit-REAL	COP

he would have been alive.'
(van den Heuvel 2016: 340)

5 The gold standard of blocking has been the analysis of markers that are in paradigmatic opposition in the same slot in the morphological template of the verb. However, as pointed out by a reviewer, a functional account to blocking effects should look at other possible factors involved in blocking.

In the languages shown in Table 2, counterfactual conditional constructions are realized with a non-specialized clause-linking device (i.e., clause-linking devices used in the expression of counterfactual conditionals and other semantic types of conditionals) or with an asyndetic pattern (i.e., two clauses without any structural element linking them). Given that in these languages, strong irrealis markers are only used for expressing situations that did not take place, there is no need to have other morphosyntactic properties aiding in the counterfactual interpretation of a construction, i.e., specialized clause-linking devices (clause-linking devices only used for encoding counterfactual conditional constructions).

As for languages with non-specialized clause-linking devices and strong irrealis markers, there are cases in which the clause-linking devices may be optional and can be omitted. The optionality of overt marking of adverbial clause constructions has not gone unnoticed. Hetterle (2015: 108) shows that in some languages, adverbial clause constructions can dispense with any constructional property (e.g., clause-linking devices) as long as the semantic relation holding between clauses is sufficiently cued by other morphosyntactic make-up (e.g., TAM). In the recent typological and psycholinguistic literature, such patterns have attracted increasing attention under the label of REDUNDANCY MANAGEMENT IN GRAMMAR (Schmidtke-Bode and Diessel to appear: 15).

From a usage-based perspective, strong irrealis markers are PRIMARY GESTALT FEATURES (i.e., a main feature in the clause that helps to evoke the counterfactual conditional semantics of the construction) and non-specialized clause-linking devices/asyndetic patterns are SECONDARY GESTALT FEATURES in that they do not help evoke the counterfactual conditional semantics of the construction (see Schmidtke-Bode 2009: 71 for a similar line of reasoning with respect to other complex sentence constructions).[6] Given that non-specialized clause-linking devices are secondary gestalt features, this may provide an explanation as to why they become optional.

3.2 Languages in which strong irrealis markers do not appear in counterfactual conditionals

As was shown in the previous section, the fact that counterfactual conditionals appear with strong irrealis markers in languages containing both weak and strong irrealis distinctions or only strong distinctions is reasonable from a semantic perspective. The questions are: Are there any languages in the sample in which strong irrealis markers do not appear in counterfactual conditionals? If so, why are these markers blocked in counterfactual conditionals?

6 The idea that counterfactual constructions can be analyzed by paying close attention to gestalt features has also been proposed by Qian (2016: 314–319).

Table 3: Languages in which counterfactual conditionals do not occur with strong irrealis markers.

Type of irrealis system	Languages
Languages with weak and strong irrealis markers and in which counterfactual conditionals do not appear with strong irrealis markers	Huehuetla Tepehua, Kakataibo, Michoacan Nahuatl, San Gabriel Huastec, Shiwilu, Urarina
Languages with strong irrealis markers and in which counterfactual conditionals do not appear with strong irrealis markers	Comaltepec Chinantec, Kayardild, Martuthunira, North Pueblo Nahuatl, San Pedro Amuzgo, Warrongo

As was discussed in Section 1, Kakataibo is a language that contains strong irrealis markers that do not appear in counterfactual conditionals. Other languages like Kakataibo are listed in Table 3. I propose that the use of strong irrealis markers in counterfactual conditionals is blocked by specialized clause-linking devices in these languages.

As was mentioned in Section 3.1, specialized clause-linking devices are devices only used for encoding counterfactual conditional constructions. In this scenario, the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is grammaticalized in clause-linking devices.

Shiwilu counterfactual conditionals are not encoded with a strong irrealis marker. In this language, the weak irrealis marker *-ter* is only used for indicating future situations (van Schie 2018: 13). On the other hand, the strong irrealis marker *-wi* is only found in constructions expressing counterfactual situations (e.g., *they almost walked, but they didn't*; van Schie 2018: 13).

As is shown in example (10), counterfactual conditionals are not marked with the strong irrealis *-wi*. The protasis does not occur with any TAM and the apodosis appears in the conditional mood. This is a paradigm that is used in different types of conditional constructions (including counterfactual conditionals). The most likely explanation as to why the strong irrealis marker *-wi* does not appear in Shiwilu counterfactual conditionals is that it is blocked by the specialized clause-linking device = *a'kasu'*.

(10) Shiwilu (Cahuapanan; jebe1250)
kwa *Shiwilu* *la'la'* *ñinchi-t=**a'kasu'*** *ñi-lli*,
1SG Shiwilu language know-VM=CONJ exist-3SG
'If I had known Shiwilu,
*a'-lek-dek-**nanseku*** *wila=wek=lusa'*.
CAUS-ask-3PL-COND.1SG>3SG child=1SG.POSS=PL
I would have taught it to my children.'
(Pilar Valenzuela, pers. comm.)

Table 4: Languages in which counterfactual conditionals do not occur with weak irrealis markers.

Type of irrealis system	Languages
Languages with weak irrealis markers and in which counterfactual conditionals appear with a specialized clause-linking device	Balantak, Kamasau, Krahô, Lote, Mangarrayi, San Mateo Chuj, San Pedro Huamelula Chontal, Yimas

3.3 Languages which do not use weak irrealis markers in counterfactual conditionals

There are also languages containing weak irrealis markers that are not used in counterfactual conditionals. The questions are: Why are weak irrealis markers blocked in counterfactual conditionals in these languages? How are counterfactual conditional relations expressed in these languages? I propose that the use of weak irrealis markers in counterfactual conditional contexts is again blocked by specialized clause-linking devices (Table 4).

In San Mateo Chuj, the weak irrealis marker *-ok* is attested in different discourse contexts, such as future constructions (Buenrostro 2009: 66), deontic constructions (Buenrostro 2009: 159), and real conditional constructions (Buenrostro 2009: 227). However, *-ok* does not appear in counterfactual conditional constructions, as can be seen in example (11). Instead, both the protasis and apodosis must appear with the past tense marker *ix-*. The absence of the weak irrealis marker *-ok* in counterfactual conditional constructions is due to the fact that this complex sentence construction is encoded with the specialized clause-linking device *ichok*.[7]

(11) San Mateo Chuj (Mayan; chuj1250)

ichok	*chi'*	***ix****-Ø-w-il-a*,				
CONJ	DEM	PST-3SG.ABS-1SG.ERG-see-TRANS				
'If I had seen him,						
tekan	***ix****-Ø-in-k'an-ek'*		*k'en*	*machit*	*chi'*	*t'ay*.
maybe	PST-3SG.ABS-1SG.ERG-ask-PASS		metal	machete	DEM	PREP

I would have asked him for his machete.'

(Buenrostro 2009: 227)

7 The weak irrealis marker *-ok* does not appear in the protasis and apodosis of counterfactual conditionals in San Mateo Chuj. However, as correctly pointed out by an anonymous reviewer, *-ok* seems to be part of the building blocks of the specialized conjunction *ichok*. It is well known that, from a diachronic perspective, frequently recurring sequences of lexical items can come to be routinized, processed as single chunks. Over time, their individual components can gradually lose their individuality.

3.4 Counterexamples and unclear cases

There are only two languages in the sample (e.g., Huasteca Nahuatl and Papantla Totonac) in which counterfactual conditionals must appear with both strong irrealis markers and specialized clause-linking devices. These constitute counterexamples, given that the use of strong irrealis markers in counterfactual conditionals is otherwise blocked by specialized clause-linking devices (see Section 3.2).

In Huasteca Nahuatl, weak irrealis markers are found in various discourse contexts, such as imperative, future, and real conditional constructions. However, they are not found in counterfactual conditionals, as in (12). Instead, counterfactual conditional protases and apodoses must occur with the strong irrealis *-toskia*. Moreover, the distinction between counterfactual conditionals and other types of conditionals (e.g., real/generic) is grammaticalized in clause-linking devices: the clause-linking device *de* is only used for expressing counterfactual conditional relations.

(12) Huasteca Nahuatl (Uto-Aztecan; east2538)
de *ach-ki-mah-**toskia***, *miki-**toskia***.
CONJ NEG-3SG.OBJ-know-CF die-CF
'If he hadn't known (what to do), he would have died.'
(Author's fieldwork)

The question is: Why do strong irrealis markers appear in counterfactual conditional constructions although counterfactuality is already encoded by specialized clause-linking devices, i.e., why do Huasteca Nahuatl and Papantla Totonac over-express counterfactuality with both strong irrealis markers and a specialized clause-linking device? A closer look reveals that in these languages, strong irrealis markers are optional and can be omitted without affecting the counterfactual interpretation of the construction. It is likely that at some historical stage, these languages indicated counterfactual conditionals with an asyndetic pattern that appeared with strong irrealis markers. When speakers of these languages borrowed the conjunction *de* from Spanish, strong irrealis markers may gradually have become optional because counterfactuality is grammaticalized in clause-linking devices. This may explain the synchronic stage of these languages.

In two languages in the sample, it is not clear why strong and weak irrealis markers do not appear in counterfactual conditionals, given that they are not encoded with specialized clause-linking devices. Accordingly, blocking of strong irrealis markers is not due to the presence of specialized clause-linking devices. In Wala, the weak irrealis marker *-e* can be found in various discourse contexts (e.g., future constructions), but not in counterfactual conditional constructions (Lovegren

et al. 2015: 98), as in (13). This construction occurs with actualized TAM values and with a non-specialized clause-linking device. In this regard, the conjunction *ala* is found not only in counterfactual conditional constructions, but also in other types of conditional constructions (Lovegren et al. 2015: 98).

(13) Wala (Austronesian; wala1266)
ala *ko* *io* ***mola*** *'amua* *'i* *lifi-'e* *li*,
CONJ 2SG.SEQ be.at CONTR.FOC 2SG.BEN LOC place-DEM DEF
'If you had been here,
'urilali *a-i* *walefae* *lau* *ikoso* *mae* ***mola***.
? at-INDEF brother 1SG NEG die CONTR.FOC
my brother would not have died.'
(Lovegren et al. 2015: 98)

For this language, it is not clear how counterfactual conditional relations arise. One possible hypothesis is that the contrastive focus particle *mola* may play an important role here. As can be seen in example (13), counterfactual conditional protases and apodoses in Wala occur with the contrastive focus particle *mola*. One of the functions of this particle is to emphasize a contrast not with an adjacent clause but with an implied situation (Lovegren et al. 2015: 166), as in (14). As was discussed in Section 2.1.2, reversal of polarity is an integral feature of counterfactual conditionals. Given that one of the functions of *mola* is that of emphasizing a contrast with an implied situation: *you should have worn a hat (but you wore a cap)*, it is likely that this particle plays an important role in the reversal of polarity of counterfactual conditional relations in Wala.

(14) Wala (Austronesian; wala1266)
ka *lesi-a* *te* *wale* *iko* *'ali* *'e* *toro* ***mola***
SEQ see-3SG INDEF man NEG COMP 3SG dress CONTR.FOC
'ali-a *toro* *a-la* *araaraina* *li…*
INSTR-3SG cloth at-3SG wedding DEF
'He saw a man who was not dressed in wedding clothing (but as…).'
(Lovegren et al. 2015: 166)

Another unclear case is found in Gumawana. In this language, the clause-linking device *neta* is non-specialized in that it is attested in counterfactual conditionals, as in (15), and other types of conditionals (Olson 1992: 360). This language has a strong irrealis marker that does not appear in counterfactual conditionals, but only in constructions indicating a frustrated action (e.g., *he tried to do, but couldn't do it*; Olson 1992: 368).

(15) Gumawana (Austronesian; guma1254)

neta	*boile*	*komu*	*ku-ma,*	*e*	*ta-paisewa.*
CONJ	yesterday	2SG	2SG-come	DEV	1PL.INCL-work

'If you had come yesterday, then we would have worked.'
(Olson 1992: 360)

Olson (1992: 360) mentions that although counterfactual conditionals appear with the same morphosyntactic make-up as other types of conditionals, "there must be an indication that the clause refers to a non-occurring event in the past. This may take the form of the context provided by a previous clause or of a temporal adverb in the protasis (e.g., yesterday)". At the current stage of the present study, it is not clear to me what blocks the use of strong irrealis markers in counterfactual conditional constructions in Gumawana.

3.5 Beyond the label "irrealis"

As was mentioned in Section 2.2, the sample of the present study was built based on whether a given source contains the label "irrealis". However, as correctly pointed out by an anonymous reviewer, this means that I *a priori* excluded languages whose grammatical descriptions do not feature the term "irrealis", but that may have markers that fulfil functions in the irrealis domain. I therefore built another sample that only includes language sources for which the label "irrealis" is not used, but the descriptions of specific forms provided by the authors of these sources fit the comparative concept of irrealis adopted here. To carry out this task, special attention was paid to the following labels: "potential", "conditional", "contrary-to-fact", "apprehensive", "non-realized", "optative", "dubitative", and "hypothetical".

In the first stage, an attempt was made to find one language from each of Dryer's genera (543 genera) for which the authors of sources used the labels mentioned above. By following this process, it was possible to identify 216 grammatical sources that use these terms.

In the second stage, I excluded languages in which the markers are used for expressing potential and counterfactual situations (i.e., general irrealis; see Section 2.1.1 for a more detailed discussion of these markers). By following this procedure, it was possible to identify 68 languages with markers that align with my comparative concept of irrealis.

In the third stage, I analyzed whether the sources of the 68 languages had information on counterfactual conditionals. Of these, it was only possible to identify descriptions of this complex sentence construction in 28 languages.

In the last stage, I decided to increase the sample of 28 languages by analyzing each of the genera to which the 28 languages belong to. I followed a similar procedure to the one sketched in Section 2.2. Unfortunately, it was only possible to include three more languages, which gives rise to a sample of 31 languages (Table 5).

Table 5: Language sample in which the label irrealis is not used in grammatical sources.

Macro-area	Language	Genus and family	Label in source	Irrealis type	Position in complex sentence	Clause-linkage pattern
Africa	Babungo	Bantu/Atlantic-Congo	Non-realized	Strong	Absent (Schaub 1985: 41)	Specialized
	Bena	Bantu/Atlantic-Congo	Conditional	Strong	Apodosis (Morrison 2011: 491)	Non-specialized
	Beng	Eastern Mande/Mande	Contrary-to-fact	Strong	Apodosis (Paperno 2014: 65)	Non-specialized
	Kol	Bantu/Atlantic-Congo	Conditional	Strong	Both clauses (Henson 2007: 260)	Non-specialized
	Mbuk	Bantu/Atlantic-Congo	Optative	Strong	Apodosis (Tschonghongei 2018: 312)	Asyndesis
	Ngiti	Lendu/Central Sudanic	Conditional	Strong	Both clauses (Kutsch Lojenga 1994: 263)	Non-specialized
	Supyire	Senufo/Atlantic Congo	Contrary-to-fact	Strong	Protasis (Carlson 1994: 573)	Asyndesis
Australia	Ndjebbana	Maningrida/Maningrida	Contrary-to-fact	Strong	Protasis (McKay 2000: 312)	Asyndesis
	Ngandi	Eastern Gunwinyan/ Gunwinyguan	Potential	Strong	Both clauses (Heath 1978: 125)	Asyndesis
	Rembarnga	Eastern Gunwinyan/ Gunwinyguan	Contrary-to-fact	Strong	Both clauses (McKay 2011: 331)	Non-specialized
Eurasia	–					
North America	Chimariko	Isolate	Conditional	Strong	Protasis (Jany 2009: 195)	Asyndesis
	Cora	Corachol/Uto-Aztecan	Conditional	Strong	Both clauses (Casad 1984: 362)	Non-specialized
	Jamul Tiipay	Yuman/Yuman	Conditional	Strong	Apodosis (Miller 2001: 262)	Non-specialized
	Southeastern Tepehuan	Tepiman/Uto-Aztecan	Conditional	Strong	Protasis (García-Salido 2014: 248)	Non-specialized
	Wappo	Wappo/Wappo-Yukian	Hypothetical	Strong	Apodosis (Thompson et al. 2006: 162)	Non-specialized
Papunesia	Amele	Mabuso/Nuclear Trans New Guinea	Contrary-to-fact	Strong	Protasis (Roberts 2016: 116)	Specialized
	Awtuw	Ram/Sepik	Conditional	Strong	Both clauses (Feldman 1986: 168)	Asyndesis
	Daga	Dagan/Dagan	Contrary-to-fact	Strong	Both clauses (Murane 1974: 255)	Asyndesis
	Dani	Dani/Nuclear Trans New Guinea	Hypothetical	Strong	Both clauses (Bromley 1981: 247)	Asyndesis

Table 5: (continued)

Macro-area	Language	Genus and family	Label in source	Irrealis type	Position in complex sentence	Clause-linkage pattern
	Duna	Duna/Duna-Bogaya	Contrary-to-fact	Strong	Both clauses (San Roque 2008: 398)	Asyndesis
	Inanwatan	Inanwatan/South Bird's Head	Hypothetical	Strong	Both clauses (de Vries 2004: 39)	Asyndesis
	Kaluli	Bosavi/Nuclear Trans New Guinea	Contrary-to-fact	Strong	Apodosis (Grosh and Grosh 2004: 76)	Asyndesis
	Manobo	Greater Central Philippine/ Austronesian	Optative	Strong	Apodosis (Wang et al. 2006: 138)	Non-specialized
	Rotokas	North Bougainville/North Bougainville	Contrary-to-fact	Strong	Both clauses (Firchow 1974: 41)	Asyndesis
South America	Bora	Boran/Boran	Contrary-to-fact	Strong	Apodosis (Elvis Walter Panduro Ruiz, pers. comm.)	Specialized
	Hup	Nadahup/Nadahup	Contrary-to-fact	Strong	Apodosis (Epps 2008: 609)	Non-specialized
	Mapudungun	Araucanian/Araucanian	Non-realized	Strong	Apodosis (Smeets 2008: 184)	Asyndesis
	Movima	Isolate	Contrary-to-fact	Strong	Both clauses (Haude 2006: 532)	Asyndesis
	Muylaq' Aymara	Aymaran/Aymaran	Contrary-to-fact	Strong	Both clauses (Coler 2014: 437)	Asyndesis
	Puinave	Isolate	Contrary-to-fact	Strong	Apodosis (Girón 2008: 417)	Asyndesis
	Tiriyó	Cariban/Cariban	Hypothetical	Strong	Apodosis (Meira 1999: 316)	Non-specialized

As is shown in Table 5, in almost all languages in the sample in which the labels "conditional", "contrary-to-fact", "potential", "hypothetical", and "optative" are used for describing a specific marker, the form must be characterized as a strong irrealis marker and these markers are involved in standard blocking (see Section 3.1 for more examples of this blocking effect). For instance, in Cora (Uto-Aztecan; elna1235), *-ce'e* is glossed as a conditional mood marker. A closer look at the data reveals that the range of communicative scenarios in which it occurs are only counterfactual. In some cases, it contributes the meaning to be on the point of X (e.g., *he very nearly died, but he didn't*; Casad 1984: 362). The marker *-ce'e* can also be used for expressing unfulfilled intent, e.g., *I was going to do X, but I didn't* and counterfactual conditional relations (Casad 1984: 362–363). The language also contains a weak irrealis marker that is only used for expressing potential situations (Casad 1984: 180). Accordingly, the use of weak irrealis markers in counterfactual conditionals is blocked by the strong irrealis marker *-ce'e*.

In one language in the sample, i.e., Babungo (Bantu/Atlantic-Congo; bamu1253), a strong irrealis marker (labeled as debitative non-realized; Schaub 1985: 213) does not appear in counterfactual conditionals. Note that the use of the strong irrealis marker in this complex sentence construction is blocked by the specialized clause-linking device *tô'*. Accordingly, this scenario must be characterized as non-standard blocking.

There are only two languages in which counterfactual conditionals appear with both specialized clause-linking devices and strong irrealis markers (i.e., Bora and Garifuna). For example, in Bora (Boran/Boran; bora1263), counterfactual conditional constructions appear with the specialized clause-linking device *-ca* and the strong irrealis marker *-hi* (Elvis Walter Panduro Ruiz, pers. comm.). As was discussed in Section 3.4., languages showing this scenario must be treated as counterexamples.

If we compare the results of Table 1 (see Section 2.2) with the results of Table 5, one striking observation is that non-standard blocking is almost non-existent in Table 5: the only language that shows non-standard blocking is Babungo.

4 Theoretical implications: beyond counterfactual conditionals?

The picture of blocking effects and counterfactual conditionals that the findings presented in Section 3 lead us to is one where: (i) the use of weak irrealis markers in counterfactual conditionals may be blocked by strong irrealis markers (standard blocking) and (ii) the use of weak or strong irrealis markers in counterfactual conditionals may be blocked by specialized clause-linking devices (non-standard

blocking). When languages show standard blocking, counterfactual conditionals are formed with a non-specialized clause-linking device or with an asyndetic pattern. In this scenario, strong irrealis markers are primary gestalt features that help evoke the counterfactual conditional semantics. When languages show non-standard blocking, counterfactual conditionals are formed with a specialized clause-linking device. Given that these devices are only used for expressing situations that did not take place, they are primary gestalt features. These finding may provide important implications for theories and hypotheses of redundancy management of grammar.

It has been noted that one of the most important elements in an adverbial clause construction is clause-linking devices. Harder (1996: 93) 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". Although clause-linking devices seem to play an important role in the encoding of adverbial clauses in many languages around the world, there are languages in which clause-linking devices are optional. This optionality could be dismissed as random and arbitrary. However, it has been argued that various factors play a role in the optionality of adverbial clause-linking devices. For instance, discourse relations which are predictable given general cognitive biases in interpretation, such as causality, are more likely to be expressed without a clause-linking device, while unpredictable (adversative/concessive) relations tend to be marked with a clause-linking device. Accordingly, whether a discourse relation is expected or unexpected seems to be an important factor in the optionality of clause-linking devices (Asr and Demberg 2012). Blocking effects represent another factor that may lead to the optionality of clause-linking devices. In particular, non-specialized clause-linking devices may be optional in cases of standard blocking. Given that counterfactuality is already signaled by a strong irrealis marker, this may provide an explanation as to why other constructional properties of counterfactual conditionals become optional.

As for non-standard blocking, Poser (1992) presents three case studies in which synthetic forms block analytical forms. He proposes that characterizing certain analytical forms as instantiating morphological categories in spite of their non-lexical status is important to explore this type non-standard blocking effect. Besides this proposal, other attempts have been made towards exploring non-standard blocking. For instance, McCawley (1977) adopts a pragmatic approach and explains that synthetic forms block analytical forms given that synthetic forms tend to contain less phonological material than analytical forms. Accordingly, blocking occurs due to minimization of effort (see Poser 1992 for counterexamples). The findings of non-standard blocking attested in the present study are problematic for these traditional accounts. As was shown in Sections 3.2 and 3.3, there are languages in which the use

of strong or weak irrealis markers (e.g., synthetic forms) in counterfactual conditionals may be blocked by specialized clause-linking devices (analytical forms) and not the other way around. This may be the result of EXTRA TRANSPARENCY. It has been proposed that analyticity (coding strategies where grammatical information is conveyed by free grammatical markers or function words; Siegel et al. 2014) may lead to an increase in clarity in the expression of a communicative function (Haspelmath and Michaelis 2017). This may provide an explanation as to why the use of strong and weak irrealis markers is blocked in counterfactual conditionals by specialized clause-linking devices and not the other way around.

In the traditional context where the term standard blocking has been used (i.e., derivational morphology), blocking is "the inevitable onomasiological pressure to choose between alternative candidate constructions in expressing a certain function" (Leclercq and Morin 2023: 11–12). The findings of the present study suggest that analyzing blocking effects beyond the word-formation component can lead us to uncover new ways in which competition shapes grammatical systems.

To broaden the empirical basis of the present study, I explore another type of counterfactual construction, i.e., counterfactual manner construction (e.g., *he ate as if he had not eaten in years*). The question is: Can the analysis of Section 3 be generalized beyond counterfactual conditional constructions?

Counterfactual manner constructions express a non-actualized situation. Darmon (2017: 372–373) mentions that this complex sentence construction portrays a counterfactual situation (*do X as if Y were true*). In particular, the 'as if' clause involves a reversal of polarity (Olguín Martínez 2021). To explore the question formulated above, it would be important to use the same samples I used for analyzing counterfactual conditionals (see Sections 2.2 and 3.5). However, this was not possible because counterfactual manner constructions are not described in most of these sources (in particular, counterfactual manner constructions are absent from most of the sources introduced in Section 3.5). Accordingly, to build my sample of counterfactual manner constructions, I observed the following steps. I started with the 90 languages for which I had found information on their weak and strong irrealis markers. I was able to find information on counterfactual manner constructions in 31 of these 90 languages. I then increased this number by analyzing more carefully each of the genera to which the 31 languages belong. I followed the same procedure sketched in Section 2.2: if two languages from the same genus have similar irrealis systems, but they show different blocking effects, I included them in the sample. I was able to increase the sample from 31 to 33 languages, as shown in Table 6.

As can be seen in Table 7, there are significant differences between the sample used for the analysis of counterfactual conditionals and the sample used for exploring counterfactual manner constructions. Only 12 languages included in the sample of counterfactual manner constructions overlap with the languages included

Table 6: Counterfactual manner constructions sample.

Macro-area	Language	Genus and family	Irrealis type	'As if' TAM	Clause-linkage pattern
Africa	Goemai	West Chadic/Afro-Asiatic	Weak and strong	Unmarked (Hellwig 2011: 354)	Specialized
	Kusaal	Gur/Atlantic-Congo	Strong	Completive (Eddyshaw 2017: 234)	Specialized
	Lumun	Narrow Talodi/Narrow Talodi	Strong	Incompletive (Smits 2017: 668)	Specialized
	Tuwuli	Kwa/Atlantic-Congo	Strong	Imperfective (Harley 2005: 417)	Specialized
Australia	Arabana	Central Pama-Nyungan/Pama-Nyungan	Weak	Unmarked (Hercus 1994: 254)	Specialized
	Kayardild	Tangkic/Tangkic	Strong	Strong irrealis (Evans 1995: 373)	Asyndesis
	Kurrama	Western Pama-Nyungan/Pama-Nyungan	Weak and strong	Unmarked (Hill 2011: 81)	Specialized
	Martuthunira	Western Pama-Nyungan/Pama-Nyungan	Strong	Unmarked (Dench 1995: 134)	Specialized
	Warrongo	Northern Pama-Nyungan/Pama-Nyungan	Strong	Strong irrealis (Tsunoda 2011)	Non-specialized
	Worrorra	Worrorran/Worrorran	Weak and strong	Unmarked (Clendon 2014: 247)	Specialized
Eurasia	Karbi	Kuki-Chin-Naga/Sino-Tibetan	Weak and strong	Strong irrealis (Konnerth 2020: 291)	Non-specialized
	Milang	Tani/Sino-Tibetan	Weak	Unmarked (Modi 2017: 221)	Specialized
North America	Ayutla Mixe	Mixe-Zoque/Mixe-Zoque	Weak and strong	Strong irrealis (Romero-Méndez 2008: 241)	Non-specialized
	Coatzospan Mixtec	Mixtec/Oto-Manguean	Weak and strong	Unmarked (Small 1990: 434)	Specialized
	Comaltepec Chinantec	Chinantecan/Oto-Manguean	Strong	Unmarked (Anderson 1989: 48)	Specialized
	Crow	Siouan/Siouan	Strong	Unmarked (Graczyk 2007: 350)	Specialized
	Huasteca Nahuatl	Aztecan/Uto-Aztecan	Weak and strong	Unmarked (Author's fieldwork)	Specialized
	Papantla Totonac	Totonacan/Totonacan	Weak and strong	Unmarked (Author's fieldwork)	Specialized
	San Cristóbal Zapotec	Zapotecan/Oto-Manguean	Weak and Strong	Perfective (Michael Galant, pers. comm.)	Specialized
	San Gabriel Huastec	Mayan/Mayan	Weak and strong	Perfective (Author's fieldwork)	Specialized
	Warihio	Tarahumaran/Uto-Aztecan	Strong	Strong (Manuel Peregrina, pers. comm.)	Non-specialized
	Yaqui	Cahita/Uto-Aztecan	Strong	Perfective (Dedrick and Casad 1999: 370)	Specialized

Table 6: (continued)

Macro-area	Language	Genus and family	Irrealis type	'As if' TAM	Clause-linkage pattern
Papunesia	Balantak	Celebic/Austronesian	Weak	Unmarked (van den Berg and Busenitz 2012: 160)	Specialized
	Mali	Baining/Baining	Weak	Unmarked (Stebbins 2011: 143)	Specialized
	Manam	Oceanic/Austronesian	Weak and strong	Strong irrealis (Lichtenberk 1983: 374)	Non-specialized
	Maskelynes	Oceanic/Austronesian	Weak and strong	Realis (Healey 2013: 151)	Specialized
	Nese	Oceanic/Austronesian	Weak	Realis (Takau 2016: 318)	Specialized
	Tetun	Central Malayo-Polynesian/Austronesian	Weak	Unmarked (van Klinken 1999: 165)	Specialized
	Urim	Urim/Nuclear Torricelli	Weak and strong	Strong irrealis (Hemmilä and Luoma 1987: 237)	Non-specialized
South America	Iquito	Zaparoan/Zaparoan	Weak and strong	Imperfective (Michael 2009: 164)	Specialized
	Piapoco	Japura-Colombia/Arawakan	Strong	Unmarked (Klumpp 2019: 332)	Specialized
	Shiwilu	Cahuapanan	Weak and strong	Unmarked (Pilar Valenzuela, pers. comm.)	Specialized
	Urarina	Isolate	Weak and strong	Unmarked (Olawsky 2006: 597)	Specialized

Table 7: Comparison of counterfactual conditionals and counterfactual manner constructions for those languages included in both samples.

Macro-area	Languages	Irrealis type	Counterfactual conditional marking	Type of clause-linkage pattern	Counterfactual manner marking	Type of clause-linkage pattern
Africa	Lumun	Strong	Strong irrealis in both clauses	Non-specialized	Incompletive aspect	Specialized
Australia	Kayardild	Strong	Suppositional mood in both clauses	Specialized	Strong irrealis	Asyndesis
	Martuthunira	Strong	Past tense (protasis) and future tense (apodosis)	Specialized	Unmarked	Specialized
	Warrongo	Strong	Both clauses are unmarked	Specialized	Strong irrealis	Non-specialized
North America	Ayutla Mixe	Weak and strong	Strong irrealis in both clauses	Non-specialized	Strong irrealis	Non-specialized
	Comaltepec Chinantec	Strong	Past tense in both clauses	Specialized	Unmarked	Specialized
	Huasteca Nahuatl	Weak and strong	Strong irrealis in both clauses	Specialized	Unmarked	Specialized
	Papantla Totonac	Weak and strong	Past tense and strong irrealis in both clauses	Specialized	Unmarked	Specialized
	San Gabriel Huastec	Weak and strong	Perfective aspect in both clauses	Specialized	Perfective	Specialized
Papunesia	Balantak	Weak	Realis (protasis) and perfective (apodosis)	Specialized	Unmarked	Specialized
South America	Shiwilu	Weak and strong	Unmarked (protasis) and conditional mood (apodosis)	Specialized	Unmarked	Specialized
	Urarina	Weak and strong	Both clauses are unmarked	Specialized	Unmarked	Specialized

Table 8: Languages in which counterfactual manner constructions occur with strong irrealis markers.

Type of irrealis system	Languages
Languages with weak and strong irrealis markers and in which counterfactual manner constructions appear with strong irrealis markers	Ayutla Mixe, Karbi, Manam
Languages with strong irrealis markers and in which counterfactual manner constructions appear with strong irrealis markers	Kayardild, Urim, Warihio, Warrongo

in the counterfactual conditionals sample. Table 7 compares counterfactual conditionals and counterfactual manner constructions for those languages included in both samples. Given that only 12 languages occur in both samples, any generalization should be taken with a grain of salt. But, as I now show, the interactions of irrealis markers and blocking effects found for counterfactual conditionals are also found in counterfactual manner constructions: the use of weak irrealis markers in counterfactual manner constructions is blocked by strong irrealis markers (standard blocking) and the use of weak or strong markers is blocked by specialized clause-linking devices (non-standard blocking).

4.1 Languages which use strong irrealis markers in counterfactual manner constructions

The use of weak irrealis in counterfactual manner constructions is blocked by strong irrealis markers (Table 8). In this scenario, this complex sentence construction is realized with non-specialized clause-linking devices or asyndetic patterns. This is similar to the picture discussed in Section 3.1 for counterfactual conditionals. Given that in these languages, strong irrealis markers are only used for expressing situations that did not occur, there is no need to have other morphosyntactic properties aiding in the counterfactual interpretation of a construction.

In Ayutla Mixe, weak irrealis markers are found in various discourse contexts, such as constructions expressing requests and future situations (Romero-Méndez 2008: 241). As for the strong irrealis marker *jëkeexy*, this is only attested in simple clause counterfactual constructions (16), counterfactual conditional constructions (17), and counterfactual manner constructions (18). Accordingly, the use of weak irrealis markers in Ayutla Mixe counterfactual manner constructions is blocked by the strong irrealis marker *jëkeexy*. Note that this complex sentence construction is realized with the non-specialized clause-linking device *tam*.

(16) Ayutla Mixe (Mixe-Zoque; tlah1239)
te'n ***jëkeexy*** *ojts* *x-tun-y*.
DEM CF PST 2A-do-DEP
'You should have done it in that way (but you didn't).'
(Romero-Méndez 2008: 241)

(17) *kuu* *keexy* *ojts* *m-men-y,* *ojts* ***jëkeexy*** *n-kay-ë'n.*
CONJ HYP PST 2SG-come-DEP PST CF 1SG-eat-INCL
'If you had come, we could have eaten.'
(Romero-Méndez 2008: 241)

(18) *te'n=ëjts* *n-jäw* ***tam*** *ëjts* ***jëkeexy*** *n-ak-jëpep-nax-y= ë'n.*
DEM=1SG 1SG-feel CONJ 1SG CF 1SG-CAUS-push-pass-DEP=ADJ
'I felt as if I had been pushed.'
(Romero-Méndez 2008: 241)

4.2 Languages in which strong irrealis markers do not appear in counterfactual manner constructions

There are languages containing both weak and strong irrealis distinctions or only strong distinctions, but where counterfactual manner constructions do not appear with strong irrealis markers (Table 9). A closer look reveals that the use of strong irrealis markers in counterfactual manner constructions is blocked by specialized clause-linking devices (see Section 3.2 for a similar claim regarding counterfactual conditionals).

In Kusaal, the strong irrealis marker *ná* can only be used for encoding simple clause counterfactual conditionals (19) and counterfactual conditionals (20). However, this marker cannot appear in counterfactual manner constructions (21). The

Table 9: Languages in which counterfactual manner constructions do not occur with strong irrealis markers.

Type of irrealis system	Languages
Languages with weak and strong irrealis markers and in which counterfactual manner constructions do not appear with strong irrealis markers	Coatzospan Mixtec, Goemai, Huasteca Nahuatl, Iquito, Kurrama, Maskelynes, Papantla Totonac, San Cristóbal Zapotec, San Gabriel Huastec, Shiwilu, Urarina, Worrorra
Languages with strong irrealis markers and in which counterfactual manner constructions do not appear with strong irrealis markers	Comaltepec Chinantec, Crow, Kusaal, Lumun, Martuthunira, Piapoco, Tuwuli, Yaqui

use of the strong irrealis marker *ná* in counterfactual manner constructions is blocked by the specialized clause-linking device *wūv*.

(19) Kusaal (Atlantic-Congo; kusa1250)
ò dāa ***ná*** *zāb náʔàb lā.*
3SG TEN IRR fight.PFV chief.SG ART
'You would have fought the chief (but you didn't).'
(Eddyshaw 2017: 501)

(20) *yà yáʔ mīʔin zīná dìni Ø* ***nà*** *tīsi yá láafi.*
2PL CONJ know.REM today DEM COMP IRR give.PFV 2PL health
'If you had known this day would have brought your health,
lì nāan áān sʋ́m.
3SG then COP.REM good
that would have been good.'
(Eddyshaw 2017: 501)

(21) *m̀ piáňʔadī yá* ***wūv*** *yà á né m̀ bīīs.*
1SG speak.IPFV 2PL CONJ 2PL COP FOC 1SG child.PL
'I talked to you as if you were my children.'
(Eddyshaw 2017: 366)

4.3 Languages which do not use weak irrealis markers in counterfactual manner constructions

There are languages in the sample in which the use of weak irrealis markers in counterfactual manner constructions is blocked by a specialized clause-linking device, as can be seen in Table 10 (see Section 3.3 for similar observations regarding counterfactual conditionals).

In Nese, weak irrealis markers are only found in contexts where speakers deem a situation has the potential of occurring, such as constructions expressing a future situation (22) and conditionals constructions expressing a likely situation (23) (Takau 2016: 192–195). The weak irrealis marker *se-* does not appear in counterfactual

Table 10: Languages in which counterfactual manner constructions do not occur with weak irrealis markers.

Type of irrealis system	Languages
Languages with weak irrealis markers and in which counterfactual manner constructions do not appear with weak irrealis markers	Arabana, Balantak, Mali, Milang, Moskona, Nese, Tetun

constructions, such as counterfactual manner constructions as in (24). The use of this marker is blocked in this complex sentence construction by the specialized clause-linking device *belek*.

(22) Nese (Austronesian; nese1235)
khai ***Ø-se**-ma*.
3SG 3SG-IRR-come
'She will come.'
(Takau 2016: 192)

(23) *ale seve re-bet nanalokh, khai **Ø-se**-num-u*.
CONJ COND 3PL.REAL-make kava 3SG 3SG-IRR-drink-3SG.OBJ
'And if they make kava, he'll drink it.'
(Takau 2016: 192)

(24) *kirr-sungun-i **belek** te mam'ata-mi Ø-ti-vonvon*.
2PL.REAL-fill-3SG CONJ SUB eye-2PL.POSS 3SG.REAL-ASP-blind
'You fill it up as if you were blind.'
(Takau 2016: 318)

5 What does it all mean?

The questions and goals of the present study should be seen as an attempt at broadening the main point put forward by von Prince et al. (2022: 236): for those languages containing both weak and strong irrealis markers, the use of weak irrealis markers in counterfactual conditionals is blocked by strong irrealis markers. While I showed that there are languages that support their observation, I demonstrated that there are other blocking effects, i.e., the use of strong or weak irrealis markers in counterfactual conditionals may be blocked by specialized clause-linking devices. I have also demonstrated that other counterfactual constructions (i.e., counterfactual manner constructions) show similar blocking effects as counterfactual conditionals.

There are several issues the present research could not address and that must be investigated in future studies. First, as was mentioned in Section 1, von Prince et al. (2022: 225) propose that the irrealis domain can be split into the possible (future) and the counterfactual (past, present, and future). For my study, it was only possible to take into account counterfactual conditionals with past temporal reference. At the current stage of my work, it is not clear whether counterfactual conditional and counterfactual manner constructions with other temporal references (e.g., present) will display similar blocking effects.

Second, the areality of irrealis markers and blocking effects in counterfactual constructions is another promising area. How these patterns spread and the mechanisms involved in their diffusion remain to be analyzed. The more we learn about individual languages and what is common and rare cross-linguistically, the more adept we should become at recognizing areal patterns and the mechanisms which create them.

Third, besides counterfactual manner constructions, it is not clear whether the blocking effects attested in the present study can also be generalized to other counterfactual constructions, such as *if not for NP* constructions (e.g., *if not for him, I would have died*), evaluative constructions (e.g., *it would have been good if you had gone*), and counteridentical constructions (e.g., *if I were you, I would do it*). The question is: If counterfactual conditionals show a specific type of blocking effect in a given language, do other types of counterfactual constructions show similar blocking effects? This remains to be investigated in future studies.

Finally, as a sobering note, this study barely scratches the surface. Future studies will have to determine whether there are other blocking effects in counterfactual constructions.

Abbreviations

?	unknown
1	first person
2	second person
3	third person
A	actor
ABS	absolutive
ACC	accusative
ADJ	adjective
ART	article
ASP	aspect
BEN	benefactive
BLV	marker indicating belief
CAUS	causative
CF	counterfactual
COMP	complementizer
COND	conditional
CONJ	conjunction
CONTR	contrastive
COP	copula
DEF	definite
DEM	demonstrative
DEP	dependent

DEV	new development
DYN	dynamic
EMPH	emphatic
ERG	ergative
FIN	finite
FOC	focus
FUT	future
GEN	genitive
HYP	hypothetical
INCL	inclusive
INDEF	indefinite
INSTR	instrumental
INTENS	intensifier
IPFV	imperfective
IRR	irrealis
ITER	iterative
LOC	locative
NARR	narrative
NEG	negative
NMLZ	nominalizing
NOM	nominative
OBJ	object
OBL	oblique
PASS	passive
PFV	perfective
PL	plural
POSS	possessive
PREP	preposition
PST	past
RDP	reduplication
REAL	realis
REM	remote
SBJ	subject
SEQ	sequential
SG	singular
SUB	subordinator
TEN	tense
TRANS	transitive
VM	valency marker

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