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MASTER'S THESIS OF HISPANIC LINGUISTICS

COUNTERFACTUALITY AND EPISTEMIC  
UNCERTAINTY OF SPANISH AND KOREAN  
PERFECT IMPERATIVES

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# Counterfactuality and Epistemic Uncertainty of Spanish and Korean Perfect Imperatives

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## ABSTRACT

# Counterfactuality and Epistemic Uncertainty of Spanish and Korean Perfect Imperatives

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Imperative clauses are one of three primary clause types that are attested across different languages and deliver a variety of speech acts, such as order, advice, petition, invitation, or wish, to name a few. Some languages, including Castilian Spanish ('Spanish' for simplicity) and Korean, can construct imperative clauses with a counterfactual meaning, mostly indicating events that should have been carried out in the past. Spanish counterfactual imperatives consist of the infinitive *haber* verb and a past participle. Their Korean counterparts contain the past tense morpheme and the imperative clause type marker, additionally requiring the auxiliary verb *pota*. I will call these imperatives *counterfactual perfect imperatives* (CPIs). On the other hand, there are Korean imperatives with similar morphological features as CPIs but without counterfactuality. These *non-counterfactual perfect imperatives* (NCPIs) are also available in English and Spanish, the latter of which only allows negative NCPIs. Both CPIs and NCPIs can be categorized as *perfect imperatives* (PIs).

Considering the semantic and syntactic peculiarities of CPIs and NCPIs, the aim of this thesis is twofold. The first is to examine the existing theories of imperatives and suggest a revision of them so that it can explain the hindsight effect of CPIs and the counterfactuality feature of imperatives based on epistemic

uncertainty. The second is to propose an answer to cross-linguistic asymmetries attested in Spanish, Korean, and English with regard to CPIs: why only some languages allow them while others don't, and why Spanish and Korean past declaratives cannot be used as CPIs while non-past declaratives can be used as ordinary imperatives.

Chapter 2 compiles Spanish and Korean PI data. Even though some previous research has claimed CPIs to be antecedents of conditional sentences, they can be considered true imperatives due to their morphosyntactic and semantic features. Also, they are distinguished from ordinary imperatives due to the hindsight effect and the foresight effect. In case of NCPIs, while Korean only allows wish-type NCPIs, Spanish exclusively allows future perfect negative NCPIs.

In Chapter 3, I summarize the existing analyses and theories concerning CPIs and ordinary imperatives. I first outline the literature about Spanish and Korean CPIs, pointing out that a small number of research directly addresses Spanish and Korean CPIs. I also summarize formal semantic analyses of Dutch and Japanese CPIs, which have been proposed by authors like Mastop (2011), Kaufmann (Kaufmann, 2012; Schwager, 2011), and Saito (forthcoming). Moreover, there is research on imperatives, without accounting for CPIs, by authors like Portner (2004, 2007), Condoravdi & Lauer (2012), and Roberts (2018).

In Chapter 4, I propose a revision of the semantics of imperatives based on the theory of Kaufmann and Saito so that it can better explain the hindsight effect and the counterfactuality of imperatives. I suggest that CPI counterfactuality is not calculated by the relation between temporal indices, but according to the epistemic uncertainty about the prejacent. I suppress the temporality condition from the existing theories and add the epistemic counterfactuality condition to calculate CPIs. Also, a unified imperative modal operator is introduced to account for CPIs and ordinary imperatives altogether. A time machine example supports these modifications, extending the idea of epistemic uncertainty not only to counterfactual imperatives but also to the felicity of ordinary imperatives. After the theoretical description, different contexts of CPIs and NCPIs are revisited to prove the explanatory power and predictability of the semantics of imperatives I propose. Before concluding the chapter, I revisit Biezma's (2010) analysis of Spanish CPIs

in order to counterargue it, and delve into a more detailed discussion on the performativity feature of Spanish imperatives.

The aim of Chapter 5 is to figure out the syntactic structure of CPIs and NCPIs in order to explain two asymmetries: crosslinguistic asymmetry concerning the availability of CPIs in Spanish, Korean, and English, and another asymmetry between declaratives and imperatives in Spanish and Korean. I argue that counterfactuality is a crucial feature in explaining both asymmetries. Syntactically, a vacant TP-head and an occupied AspP-head play an essential role.

In Chapter 6, I summarize the discussions of the thesis and present further research questions.

Keywords: Counterfactual imperatives, hindsight, foresight, time machine,  
temporality condition, counterfactuality with regard to epistemic  
uncertainty, performativity, modality

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# Chapter 1. Introduction

Since Sadock & Zwicky (1985) claimed that languages around the world commonly have three different clause types —declaratives, interrogatives, and imperatives—, much research has been carried out to establish universal semantics for each of the clause types. Among them, imperatives have posed special challenges for being non-truth conditional, varying in speech acts, and presenting a paradoxical phenomenon in a disjunctive construction, to name a few. While some works focused more on the compositional semantics of imperatives (Condoravdi & Lauer, 2012; Kaufmann, 2012), others were more interested in figuring out what moves imperatives make to a context (Mastop, 2011; Portner, 2004, 2007; Roberts 2018).

Traditionally, imperatives have been considered to deliver performative speech acts that are related to events posterior to the utterance time. However, imperatives of some languages can indicate counterfactual event that mostly precede the utterance time as well. These imperatives do not seem to be a peculiarity limited to only a couple of languages since Van Olmen (2018) reports that several languages, such as Dutch, Spanish, Estonian, and Hungarian, have such counterfactual imperatives. One of the well-known reports of such imperatives of Spanish<sup>1</sup>, for instance, is the one given by Bosque (1980), as in (1).

- (1) Haber        venido ayer.  
haber-INF come yesterday  
'You should have come yesterday.'

Example (1) is an imperative clause with a counterfactual meaning, indicating that the addressee's coming yesterday did not happen, but it was the best option to have come. Its counterfactuality is uncancellable, implying that there is no possibility that the addressee's coming yesterday becomes the actual world, and any following utterance of such kind would be infelicitous. Its morphology is a combination of

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<sup>1</sup> I will use the term *Spanish* to refer to Castilian Spanish unless otherwise noted. Latin American Spanish is devoid of past-oriented imperatives and is beyond the research topic of this thesis. See Chapter 2.1 for details.

the infinitive form of the auxiliary verb *haber*, coinciding with English *have* in meaning perfect aspect, and the past participle of the main verb.

An English imperative clause can also have a similar structure, such as sentence (2). This is similar to Spanish (1) in its morphology, consisting of the imperative verb *have* and a past participle. The key difference in its meaning is that (2) does not deliver a counterfactual meaning. In a counterfactual context where the speaker knew that the subject's coming yesterday is already impossible, uttering (2) would result infelicitous.

(2) (Please) have come yesterday!

Korean also has imperatives that are morphologically similar to Spanish (1) and English (2). While Spanish (1) is exclusively counterfactual and English (2) is exclusively non-counterfactual, their Korean morphological counterparts can deliver both meanings. Both examples (3) and (4) have the explicit past tense marker and an explicit imperative clause marker. The former is counterfactual and the latter is not. The morphosyntactic difference between these two sentences is that counterfactual (3) requires the cooccurrence of the auxiliary verb *pota* 'to see, to try'.

(3) Ecey      wa-ss-e      pwa-la!  
 yesterday come-PAST-e pota-IMP  
 'You should have come yesterday!'

(4) (Cepal) ecey      wa-ss-ela!  
 (please) yesterday come-PAST-IMP  
 '(Please) have come yesterday!'

Based on these data, the current thesis pursues two primary aims. Firstly, I will argue that Spanish and Korean counterfactual imperatives like (1) and (3) are true imperatives, and I will establish their formal semantics. In the literature, little has been studied both about Spanish and Korean counterfactual imperatives. Since imperatives have been understood to be prospective to the utterance time and to

deliver performative speech acts, many works have not recognized them as true imperatives, analyzing them as conditional antecedents, for instance.

However, I will assume that sentences that share the same modal morphology can be categorized into a single clause type and each clause type makes coherent contributions to context. From this point of view, Spanish and Korean counterfactual imperatives are also imperatives thanks to their morphological features. What remains is to figure out what the semantics of counterfactual imperatives and canonical imperatives have in common and what their differences are.

Secondly, I will address asymmetries between (1)-(4). Two asymmetries are found: on the one hand, only Spanish and Korean allow counterfactual imperatives and English does not. On the other hand, in Spanish and Korean, the speech acts of ordinary imperatives can be delivered by non-past declaratives, while counterfactual imperatives do not correspond semantically or pragmatically to past declaratives. Semantic and syntactic explanations will be given with regard to these asymmetries.

In order to pursue these aims, Chapter 2 first illustrates in detail the semantic and morphosyntactic characteristics of Spanish and Korean perfect imperatives. In the case of counterfactual perfect imperatives, both languages coincide in producing strong counterfactual meaning. In the case of non-counterfactual perfect imperatives, Spanish only allows them in negative and future perfect contexts. Korean, on the other hand, only allows wish-type non-counterfactual perfect imperatives. Furthermore, hindsight and foresight contexts of counterfactual imperatives, which are not observable in non-counterfactual imperatives, are explained.

Chapter 3 compiles the literature about imperatives. Chapter 3.1 outlines a few discussions that specifically address Spanish and Korean perfect imperatives. Since there has been a small number of research in this regard, in Chapter 3.2 and Chapter 3.3, I summarize relevant theories of imperatives of other languages. The former chapter outlines semantic theories that have addressed counterfactual imperatives of Dutch and Japanese. The latter outlines other theories of imperatives that are designed for ordinary imperatives.

In Chapter 4, I propose my semantics of imperatives, mainly based on the theory of Kaufmann (Kaufmann, 2012; Schwager, 2011) and Saito (forthcoming). In order to build the proposal, I first describe the time machine example to claim that temporality is not a necessary condition to define counterfactual imperatives. In Chapter 4.2, I revise the existing theories and propose a revised semantics and presuppositions of imperatives. Chapter 4.3 sums up the contexts of perfect imperatives previously mentioned in Chapter 2 and some additional contexts of imperatives to prove that the semantics of this thesis can make successful predictions. The remainder of the chapter is a reply to Biezma (2010), who argued that counterfactual imperatives are not imperatives but the antecedents of conditionals, and a note on the performativity feature of Spanish imperatives, to give a special focus to why Spanish disallows some wish-type imperatives.

In Chapter 5, I focus on the asymmetries across the languages and clause types. The syntax structure of counterfactual imperatives explains the reason why only certain languages have counterfactual imperatives. Moreover, I briefly describe the semantic relation between past tense declaratives and counterfactual imperatives.

Lastly, I summarize the discussions of the thesis and conclude in Chapter 6.

## 1.1. Defining terminology

Before moving on to the next chapter, I will define important terms for the thesis. I will use the term *imperative clause* or simply *imperative* to refer to one of the universal clause types that is distinct from declarative, interrogative, and presumptively exclamative. This should be treated differently from *imperative mood* of Spanish, which is marked via verb conjugations.

I will use the term *perfect imperative* (PI henceforth) to embrace the overall research topics of this thesis. PIs refer to imperatives that contain a perfect aspect or past tense morpheme, such as Spanish *haber*, English *have*, and Korean *ass/ess*. Spanish PIs are mostly counterfactual, English PIs are exclusively non-counterfactual, and Korean PIs can deliver both counterfactual and non-counterfactual meanings. Hence PIs can be divided into two categories:

*counterfactual PIs* (CPIs henceforth) and *non-counterfactual PIs* (NCPIs henceforth). Moreover, I will use the term *ordinary imperative* to cover all the imperatives that are not counterfactual, including NCPIs.

Especially regarding CPIs, various terms have been suggested. González Calvo (1980), on his earlier mention on Spanish CPIs, focuses on their morphological property and uses the term *imperativo compuesto* ‘compound imperative’. Others have been more inspired by their semantic property. Bosque (1980) coined the term *retrospective imperative* for Spanish CPIs. Mastop (2011) prefers the term *counterfactual imperative* for Dutch, while Saito (forthcoming) uses the term *past imperative* for Japanese. Some terms are more relevant to pragmatics. Kaufmann (Schwager, 2011) indicates that CPIs in Dutch are used to reproach, and uses the term *reproachative imperative*. Tagawa (2019) claims that Japanese CPIs mostly appear in a monologue where a speaker is talking to themselves and calls them *grumble imperatives*. Lastly, Lee (2016) names Korean CPIs as *coken myengryengmun* ‘conditional imperative’, as they usually appear in a hypothetical utterance to express regret, for instance.

However, I find that none of the existing terms is apt to cover both CPIs and NCPIs at the same time. The terms inspired by semantic and pragmatic properties of CPIs are not applicable to NCPIs. Also, concerning the term *compound imperative*, while it might explain the morphological property of Spanish and English PIs, it hardly fits Korean PIs, which do not possess any other morpheme that could make them compound predicates. Korean CPIs mostly require the auxiliary verb *pota*, but this is not a key to constituting their counterfactual meaning, which is discussed in following chapters.

In defining *counterfactuality*, I will refer to uncancellable, strong counterfactuality. This is not the case of an English subjunctive example of *If it were true, I would be happy*, but rather the one of *If it had been true, I would have been happy*.<sup>2</sup> In Spanish, a phrase with simple imperfect subjunctive verbs within a *si* ‘if’ clause sometimes expresses weak counterfactuality as well (RAE & ASALE, 2009: §47.81). Weak counterfactuality indicates that the prejacent may be still

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<sup>2</sup> See Anderson (1951) for a brief description of the counterfactuality expressed by English subjunctive conditionals.

consistent with the context and it may be cancellable. On the contrary, if a proposition denotes strong counterfactuality, the content of the proposition cannot be realized by no means and the counterfactuality cannot be cancelled. I will employ the term *counterfactuality* to refer to *strong counterfactuality*, which is the feature expressed by Spanish and Korean CPIs.

Temporal indices are important when analyzing PIs. I employ the term *event time* ( $t_e$ ) to refer to the temporal point when the content of an imperative is to take place or should have taken place. The term *index time* ( $t_i$ ) is used to refer to the temporal point where the modal necessity for an imperative arises and, subsequently, the relevant discourse participants recognize the salient decision problem of the context. The time when the relevant discourse participants are required to take actions to solve the salient decision problem is framed as *decision time* ( $t_d$ ).

## Chapter 2. Perfect imperatives (PIs) and their contexts

### 2.1 Spanish PIs

Spanish PIs are mostly counterfactual, but they can limitedly be non-counterfactual as well. Let me first focus on CPIs. One of the most remarkable components of Spanish CPIs is the presence of the infinitive auxiliary verb *haber*. They consist of *haber* and a past participle verb. They refer to counterfactual events and mostly deliver the speech act of reproaching the addressee.

- (5) Haberlos       traído   tú   en vez de       tanto  
haber-INF-CL brought you instead.of       that.much  
soltar       quejas, Carminina.  
let.go-INF complaints Carminina  
'You should have brought them instead of complaining that much,  
Carminina.'<sup>3</sup>
- (6) No haber       venido, hombre.  
not haber-INF come       man  
'You should not have come, man.'  
(RAE & ASALE, 2009: §42.3r)

One of the plausible contexts for (5) may be the one where Carminina kept complaining in a certain moment in the past and the speaker disapproves such a behavior, since the speaker believes the act of 'bringing them' should have been done instead of complaining. The context for (6) may also be the one where the speaker disapproves the addressee's coming, thereby reproaches them for doing so.

Bosque (1980) gave one of the most interesting reports about Spanish CPIs, which are labelled as *retrospective imperatives* in his own terminology. Retrospective imperatives, or RIs according to Bosque's acronym, differ from

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<sup>3</sup> I will gloss the auxiliary verb *haber* as *haber*, instead of its English counterpart *have*, to disambiguate it from *tener*, which is the lexical *have* verb of Spanish.

ordinary imperatives as they do not require the realization of any action in the future; they rather deliver a counterfactual meaning. Bosque recognizes that RIs share much similarity in their meaning with sentences including *debería*, such as (7). The composition of this sentence is identical to an English modalized declarative clause since *debería* expresses modal necessity.

- (7) No deberías haber venido, hombre.  
 not debería-2ND-SING haber-INF come man  
 ‘You should not have come, man.’  
 (Compare it to (6).)

However, Bosque argues that RIs differ from modalized declaratives with *debería* and are considered imperatives due to their syntactic and semantic properties akin to ordinary imperatives: unlike *debería*-inclusive sentences, (i) RIs do not have a truth value; (ii) they cannot be imbedded like any other Spanish imperative clauses; (iii) they can address (a) 2<sup>nd</sup> person addressee(s) only and (iv) cannot be used to make a statement about oneself; (v) they allow subject pro-drop as the most unmarked form; and (vi) they share the same morphology with ordinary infinitive imperatives.<sup>4</sup>

RAE & ASALE (2009: §42.3r-s) also provide a similar description about CPIs. While this grammar of authority avoids giving its own name to CPIs or proposing a solid linguistic explanation, they agree with Bosque in describing the

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<sup>4</sup> Regarding their morphological characteristics, Bosque reports that RIs with canonical second person plural imperative mood *habed* are considered to be more correct, the form which González Calvo (1983) also mentions, with example (i).

- (i) ¡Hacedlo hecho y no os hubiéramos castigado!  
 haber-IMP-PL-CL done and not you-CL haber-SUJB-IMPF-1ST-PL punished  
 Intended meaning: ‘You should have done that, and we wouldn’t have punished you!’

While the PI of (i) has the same morphology as *antefuturo* imperatives that are explained in this chapter, it still conveys a counterfactual meaning. However, it is doubtful that such a counterfactual PI with finite *haber* is—or even was—accepted by the speakers since CNDHE corpus does not give a single record about it. I explain this issue in more details at the end of this subchapter.



syntactic and semantic properties of CPIs.<sup>5</sup> One additional description accounts for geographic distribution of CPIs. While they commonly appear in colloquial and informal registers among Castilian Spanish speakers, they are not attested in Latin American Spanish-speaking countries, where declarative clauses with the pluperfect subjunctive prevail to deliver the counterfactual meaning.

Both Bosque and RAE & ASALE mention that some of the properties CPIs do not share with typical ordinary imperatives. They still carry an illocutionary force, even though it is unable to constitute command or suggestion at the present moment. A speaker cannot start a conversation with a CPI because it is used exclusively to reproach the addressee once their faults or wrongdoings become obvious to the discourse participants. This feature can be interpreted as that PIs require a stronger contextual information than their ordinary counterparts.

There are interesting data in the earlier Spanish literature. According to Bello (1843 [2002]: §310), who wrote a grammar of 19<sup>th</sup> century Spanish spoken in Latin America, there were two types of imperatives: *futuro* and *antefuturo*. While *futuro* imperatives are modern ordinary imperatives, *antefuturo* imperatives were NCPIs, thereby being devoid of the counterfactual meaning, as in (8).

- (8) En amaneciendo, id                    al            mercado, y    para cuando yo  
       in get.light-GER go-IMP-PL to.the market    and for    when I  
       vuelva,                                    habedme                    aderezado la comida.  
       come back-SUBJ-PRES-1ST-SING haber-IMP-PL-me prepared    the meal  
       ‘When the sun rises, (you plural) go to the market, and when I come back,  
       have my meal prepared.’  
       (Bello, 1843 [2002]: §310)

According to Bello, there was no second person singular form of *antefuturo* imperative, thereby a sentence such as (9) was not allowed. Even for a second

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<sup>5</sup> It seems like that these Spanish language institutions have not determined a coherent name for CPIs. In their first mention to CPIs, they avoid calling CPIs as imperatives even though they are placed in the same section as imperatives (RAE & ASALE, 2009: §42.3r-s). However, they affirm in another section of the grammar that CPIs are *exclamaciones* ‘exclamations’ (RAE & ASALE, 2009: §47.8h).

person plural subject such as (8), since its use had almost fallen in disuse by the era of Bello, it was mostly replaced by a simple *futuro* imperative clause with *tener* verb, such as (10).

- (9) \*Hame                      aderezado la comida.  
 haber-IMP-SING-me prepared the meal  
 Intended meaning: ‘(You singular) have my meal prepared.’
- (10) Tenme/Tenedme        aderezada        la comida.  
 have-IMP-SING/PL-me prepared-FEM the meal  
 ‘(You singular/You plural) have my meal prepared.’

Just as Bello indicated, a sentence such as (10) is a combination of a *futuro* imperative of *tener* and a past participle, hence can hardly be considered as a true PI.<sup>6</sup> While *antefuturo* imperatives with *haber* are followed by the invariable past participle of a verb, the past participle in (10) —*participio adjetivo* ‘adjectival participle’ in Bello’s terminology— agrees in number and gender with the internal NP argument of *tener*.

Moliner (1984: 8) made another interesting report. She reports that Spanish infinitive CPIs such as (5) or (6) generally assume (a) second person addressee(s), but in a familiar and popular language, any other person such as the first or the third person may be the subject. Such use is mostly found in a spoken language and they replaced old-fashioned and rural use of subjunctive counterfactual imperatives such as (11). Sentence (11) is different from declarative clause (12) in that the verb in (11) requires an enclitic just as an imperative mood verb or an infinitive verb

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<sup>6</sup> “No hay segunda persona de singular en el antefuturo imperativo; y aun la del plural es de ninguno o poquísimo uso. Súplese esta falta por el imperativo de *tener*, construido con el participio adjetivo cuando verdaderamente lo hay (§208): «Tenme preparado el desayuno»; «Tenedme barrida la alcoba»” (There is no second person singular of *antefuturo* imperative, and even second person plural is never or hardly used. The lack of the form is supplemented with the imperative of *tener*, together with an adjectival participle when it truly exists: “Have my breakfast prepared”; “Have my bedroom swept.”) (Bello, 1843 [2002]: §310)

(11) Hubiéraslo                      dicho.

haber-SUBJ-IMPF-2ND-PL-CL said

(12) Lo hubieras                                  dicho.

Just as Bosque does with sentences including *debería*, González Calvo (1980) compares CPIs with two different structures: (13), which is a counterfactual conditional with a finite verb, and (14), which also is a counterfactual conditional but with preposition *de* and an infinitive verb. According to González Calvo, other than the nuance and the speaker's attitude, they mainly differ in that (13) and (14) allow a first person or third person subject while (15) does not. This report is inconsistent with the report made by Moliner.

(13) Si lo       hubierais                         dicho, os         lo  
if it-CL haber-SUBJ-IMPF-2ND-PL said you-CL it-CL  
hubiéramos                     traído.  
haber-SUBJ-IMPF-1ST-PL brought

<sup>7</sup> Medieval Spanish, or Old Spanish (OSp), allows enclitics for non-imperative finite verbs as well (Cano Aguilar, 2015: 150). Nonetheless, corpus data show that (11) is not such a case.

(i) A lo menos hubiéraslo contado / A tu dichosa madre, no te creas / De quien en contra desto te ha informado.

‘At least you should have told that / to your fortunate mother, don’t you believe / the one who has talked to you against this.’

[Mejía, Diego (1608). *Primera parte del Parnaso Antártico de las obras amatorias* [Perú]]  
(Real Academia Española, 2013)

There are several enclitics in the sentence, but they are more like a convention of literary use of the 17<sup>th</sup> century rather than the evidence of the OSp clitic rule. OSp requires a proclitic if a non-imperative verb is preceded either by an adverbial phrase, negation, or a complementizer. While the two *te* of (i) follow this rule, *lo* of *hubiéraslo* overrides it. This implies that *hubieras* should be interpreted as an imperative verb, rather than a subjunctive verb. The same can be applied to (11).

‘If you had said that, we would have brought it to you.’

- (14) De haberlo dicho, os lo hubiéramos traído  
of haber-CL told you-CL it-CL haber-SUBJ-IMPF-1ST-PL brought

‘If you had said that, we would have brought it to you.’

- (15) Haberlo dicho y os lo hubiéramos traído.  
haber-CL told and you-CL it-CL haber-SUBJ-IMPF-1ST-PL brought

‘If you had said that, we would have brought it to you.’

Another difference that is worth mentioning with regard to these examples is that only the PI example (15) requires the conjunction *y* ‘and’ when followed by a phrase denoting the consequent. This is similar to the structure of an endorsing imperative and declarative clause (e-IaD)<sup>8</sup> such as (16) and implies that CPIs are matrix clause imperatives, rather than being subordinate phrases denoting the antecedents of conditional sentences.

- (16) Dilo y os lo traeremos.  
say-IMP-SING-CL and you-CL it-CL bring-IND-FUT-1ST-PL  
‘Say it and we will bring it to you.’

So far, Spanish seems to have three different types of CPIs: (i) *haberlo dicho*, (ii) *hubiéraslo dicho*, and (iii) *habedlo dicho*. While the first two types are always counterfactual, the last type is claimed to bear two possible interpretations, either counterfactual or future perfect.

Nonetheless, corpus data from CDHLE<sup>9</sup> tell that neither of these interpretations for the last type may have been accepted by speakers. Firstly, the corpus does not report any record about counterfactual *habedlo dicho*. The only examples available are from Bosque and Calvo, as mentioned in the Footnote 4 of this thesis. Secondly, there is only one record that carries the future perfect sense

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<sup>8</sup> See von Stechow & Iatridou (2017) for the details about e-IaDs.

<sup>9</sup> CDHLE (*Corpus del Diccionario histórico de la lengua española* ‘Corpus of Historical Dictionary of Spanish Language’) arranges three mass corpora of Spanish: *CDH nuclear* with more than 62 million texts from Middle Ages to 2005, *CORDE* with diachronic texts from 12<sup>th</sup> century to 1974, and *CREA* with contemporary Spanish texts from 1975 and 2000.

with *habed* verb, exemplified in (17). However, this example is more like sentence (10) than a CPI, as it co-occurs with an adjectival participle. Also note that (17) is from 15<sup>th</sup> century, when *haber* still preserved traits of a possessive verb just as modern *tener* does (Lapesa, 1981: §97.1).

(17) «Señores, habed recomendados mis hijos tanto cuanto lo merecieren y no más».

‘My lords, have my sons recommended as much as they deserve and [I wish] nothing more.’

[Córdoba, Fray Martín de (1468). *Jardín de nobles doncellas* [España]]

(Real Academia Española, 2013)

Therefore, I will exclude this third type from my analysis. Also, since the second type is an outdated form of CPIs, I will focus only on the first type, henceforth referring solely this type as *Spanish CPIs*.

On the other hand, even though *hacedlo dicho* fails to be an NCPI, NCPIs are still felicitous in Spanish when used with a finite *haber* verb, such as in (18). However, as reported by Biezma (2008), Spanish NCPIs are limited to negative imperatives and always require a negation marker before *haber*. Moreover, they are always future perfect imperatives uttered directly to addressee and cannot be addressee-less wish type imperatives. These features are unique to Spanish compared to English, in which both positive and negative NCPIs and future perfect and wish type readings of NCPIs are felicitous.

(18) ¡No hayas lavado los platos cuando

not haber-2ND-SING-IND-PRES washed the dishes when

vuelva!

come.back-1ST-SING-SUBJ-PRES

‘(directly to addressee) Don’t have washed the dishes when I come back!’

#('talking to oneself) (Please) don't have washed the dishes when I come back!'

## 2.2 Korean PIs

Korean PIs can also deliver two different types of meanings: counterfactual meaning and non-counterfactual meaning. Let us first discuss CPIs. Korean CPIs differ from Spanish CPIs since they explicitly include the past tense marker and the imperative clause marker as in (19). They also require the auxiliary verb *pota*. The verb *pota* ‘to see’ can stand alone in an independent main clause, but when used as an auxiliary verb, it adds a sense of experience, attempt, or hypothesis to the main verb (Lee, 2016; Jung, 2017). Some native speakers allow CPIs without *pota* like (20) as well, even though the presence of *pota* makes CPIs sound much more natural than its absence. The past tense marker co-occurs with the main verb, rather than with the auxiliary verb, as the one in (21). Just as Spanish CPIs, Korean CPIs are used to reproach the addressee’s faults.<sup>10</sup>

- (19) Ilccik wa-ss-e            pwa-la!  
      early come-PAST-e/a pota-IMP  
      ‘You should have come earlier!’

- (20) Ilccik wa-ss-ela!  
      early come-PAST-IMP

- (21) \*Ilccik wa        pwa-ss-ela!  
      early come pota-PAST-IMP

One might doubt whether  $-(e/a)la$  used in (19)-(20) is an imperative clause type

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<sup>10</sup> Korean declarative sentences with the counterfactual meaning that are equivalent to English *should have* sentences are as (i). They comprise of the past tense marker and the sentence final particle *-eyaci*, which allows a deontic reading.

- (i) Ilcik wa-ss-eyaci.  
    early come-PAST-SFP  
    ‘You should have come earlier.’

Although the declarative counterparts such as (i) have a similar meaning with CPIs, they differ especially in that sentences such as (i) are not imperatives and they are pragmatically less aggressive than CPIs. While CPIs tend to appear in familiar and informal contexts due to their aggressiveness, counterfactual declaratives are more commonly used. Since the present thesis takes imperatives as its topic, counterfactual declaratives are not put into consideration.

marker given that exclamative clauses also employ the same morphology as in (22).

(22) Ahyu, coyonghay-la!

oh quiet-EXCL

‘Oh, it’s quiet!’

(Retrieved from Pak (2008))

Setting aside the discussion about whether there exists the exclamative clause type in Korean, there is morphological evidence which proves that (19) is an imperative. In Korean, there are two negations: *an-* negation and *mal-* negation. One of the core differences between these two negations is that only *mal-* negation can cooccur with imperatives. Lim (2011), who claims that there are four clause types in Korean, namely declaratives, interrogatives, imperatives, and propositives<sup>11</sup>, reports that Korean imperatives exclusively address (a) second person addressee(s) and negative imperatives only allow long *mal-*negation.<sup>12</sup> He classifies exclamatives as one of the subtypes of declaratives, which do not allow *mal-*negation. Pak, Portner & Zanuttini (2004) and Pak (2006) group imperatives, exhortatives, and promissives into a single sentence type and name them as *jussives*. They agree with Lim in that imperatives are directed to second person and they are negated with *mal-* negation. For this reason, (23) appears to be felicitous, while the exclamative sentence with *mal-* negation in (24) is infelicitous.

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<sup>11</sup> Lim defines that propositives express the directive speech act so that (an) addressee(s) carry out the given direction and the speaker take part in its realization. They are mostly equivalent to *Let’s...* phrases in English. The unmarked ending for this clause type is *-ca*.

<sup>12</sup> In the case of *an-*negation, there are two subtypes: short negation and long negation. Short negation requires a monosyllabic negation marker which precedes a predicate like (i), while long negation follows a predicate and carries tense, aspect, and clause type markers like (ii), all of which would be carried by the predicate were it short negation. *Mal-*negation lacks short negation.

(i) Miguel-i cip-ey an tolawa-ss-e.

Miguel-NOM home-LOC NEG come back-PAST-DEC

‘Miguel didn’t come back home.’

(ii) Miguel-i cip-ey tolao-ci an-ass-e.

Miguel-NOM home-LOC come.back-ci NEG-PAST-DEC

(23) Nuc-ci mal-ass-e pwa-la!  
 be.late-ci NEG-PAST-e/a pota-IMP  
 ‘You should not have been late!’

(24) \*Ahyu, sikkulep-ci mal-ala!  
 oh noisy-ci NEG-EXCL  
 Intended meaning: ‘Oh, it isn’t noisy!’<sup>13</sup>

There are two more traits of negated CPIs. First, the negation marker *mal-* should be conjoined with the main verb and should not follow the auxiliary verb *pota*. Sentence (25), with the same intended meaning as (23), is infelicitous for this reason. This implies that the auxiliary verb of CPIs cannot have either explicit tense markers or explicit negations. All these features should be given to the main verb. Second, *an-* negation is also compatible with CPIs, just as in (26), still conserving the same meaning as it would with *mal-* negation. The alternation between *mal-* negation and *an-* negation does not cause any difference in their meaning. Han & Lee (2007) have pointed out the negation alternation in Korean, and indicated that this dual optionality appears in deontic clauses and the alternation does not change the meaning since the volitional matrix verb and the complementizer constitute the deontic modal meaning.

(25) \*Nuc-ess-e po-ci mal-ala!  
 be.late-PAST-e/a pota-ci NEG-IMP

(26) Nuc-ci an-ass-e pwa-la!  
 be.late-ci NEG-PAST-e/a pota-IMP

NCPIs, on the other hand, are fully felicitous without the auxiliary verb *pota*, as in (27). They also have the explicit past tense marker and an imperative clause marker. A speaker uttering NCPIs delivers a wish that an agent who is absent in their sight have carried out a certain action. Even though such an action may already have been carried out, uttering NCPIs does not result infelicitous if the speaker is

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<sup>13</sup> It becomes felicitous with *an-* negation.



uncertain about it. Korean NCPIs are exclusively wish-type imperatives and cannot deliver a future perfect order to an addressee in sight; this is different from Spanish CPIs, which are future perfect only. English NCPIs can deliver a similar meaning, as shown in the translation. NCPIs have the same negation pattern as CPIs, so they allow both *mal*- negation and *an*- negation, as in (28).

- (27) Context: Miguel bought a bag of twisted doughnuts and put the bag on the table in the kitchen. After taking a shower, he fell asleep in his bedroom, without tasting a single string of twisted doughnut. When he woke up, he was worried his brother have eaten them all. Now wishing his brother have not eaten them all, he talked to himself:

Cepal com namkyenwa-ss-ela!

please some leave-PAST-IMP

‘Please have left some for me!’

- (28) Cepal ta mek-ci {mal/an}-ass-ela!

please all eat-ci {mal/an}-PAST-IMP

‘Please don’t have eaten them all!’

NCPIs differ from CPIs in two points. Firstly, NCPIs should be uttered under the absence of the addressee. It results infelicitous if NCPIs are directly uttered to an addressee and provide them an order. Secondly, NCPIs may also be followed by the auxiliary verb *pota*, but in this case, NCPIs deliver an additional speech act of threatening, as in (29). Still, they cannot be directly uttered to an addressee.<sup>14</sup> It is

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<sup>14</sup> Korean allows subjects other than 2<sup>nd</sup> person for imperatives, as shown in (i).

- (i) Context: Workers in a protest require the government to intervene in a massive layoff case.

Cengpwu-ka ilcali-lul pocangha-la!

government-NOM employment-ACC guarantee-IMP

‘The government should guarantee the employment!’

Korean CPIs behave in the same way. Sentence (ii) below exemplifies a CPI with a 3<sup>rd</sup> person subject.

- (ii) Chelswu-ka ttokpalo hay-ss-e pwa-la, wuli-ka cikum i kosayng an ha-ci.

Chelswu-NOM correctly do-PAST-e/a pota-IMP, we-NOM now this trouble NEG do-SFP  
 ‘Chelsu should have done the things correctly, and we wouldn’t have this trouble now.’

noteworthy that non-NCPI ordinary imperatives can deliver the same speech act when accompanied by *pota*, as in (30). Since (30) is an ordinary imperative, it can be directly delivered to an addressee.

(29) Context: In addition to the context given in (27), Paul was angry because his brother had already eaten his twisted doughnuts several times in the past. Then he talked to himself:

Eti ta mek-ess-e pwa-la!

oh all eat- PAST-e/a pota-IMP

‘Oh, I swear, if he ate my doughnuts!’

(30) Context: Paul bought a bag of twisted doughnuts and put the bag on the table in the kitchen. After he took a shower, he saw that his brother was eating the last piece of the doughnuts. Paul got angry and told his brother:

Eti hana-man te mek-e pwa-la!

oh one-only more eat-e/a pota-IMP

‘Oh, go ahead, eat one more doughnut!’

To sum up, Korean has two types of PIs: CPIs and NCPIs. Both of them require tense and clause type markers and allow *mal-* negation. However, while CPIs, accompanied by the auxiliary verb *pota*, are counterfactual and may appear in a dialogue, NCPIs may appear free of *pota* in a non-counterfactual context and are unable to address (a) second person discourse participant(s).

## 2.3 Some features of counterfactual PIs (CPIs)

A canonical context for CPIs might be that of (31). For a CPI to be uttered, addressee must have carried out the opposite of the content expressed by the CPI at some point in the past time. Also, after that point, there should be no possibility for the content to be realized. In (31), Paul, despite his goal, chose—or had no choice but—not to study and this decision gave rise to his failing the exam.

(31) Context: In March, Paul applied for DELE exam scheduled for May. He

tried to study hard in April since he wanted to pass the exam, but could not study enough due to other affairs. The result he got in June was desperate.

Miguel, a friend of his, knows all this context and utters:

Miguel:

(In Spanish) ¡Haber estudiado más en abril!

haber-INF studied more in April

(In Korean) Sawol-ey kongpu te hay-sse pwa-la!

April-in study more do-PAST pota-IMP

‘You should have studied more in April!’

CPIs are still felicitous if such a necessity is exclusive to speaker, as in (32).

(32) Context: In March, Paul applied for DELE exam scheduled for May because his mom told him to do so. He has been totally indifferent to the exam, and the result he got in June was desperate. However, his mother thinks that her son should have studied harder and passed the exam so that he can have more opportunities in the job market. Now his mother, after knowing the exam result, utters:

Paul’s mother: (utters the same as in (31))

Other than this canonical context, CPIs allow different contextual configurations. Unlike NCPIs, which are understood as a subcategory of ordinary imperatives, CPI counterfactuality gives rise to two unique semantic features: hindsight and foresight.

### 2.3.1 Hindsight

In an alternative context to (31), we can assume another Paul who has been completely indifferent to the exam until June. In this context, he did not feel any necessity to study for the exam, therefore studying more in April was not even a choice to consider. However, if Paul admits that he actually had to study for the exam after the temporal point when he can no longer make any relevant choice, a

CPI such as the one in (32) is still felicitous.

- (33) Context: In March, Paul applied for DELE exam scheduled for May because his mom told him to do so. He was totally indifferent to the exam, and did not study even a single Spanish word. The result he got in June was desperate. But he soon saw that a good company suddenly posted a job opening, requiring all applicants to submit a valid DELE certificate. As he has been looking for a decent job, now he regrets not having studied harder in April. Miguel, a friend of his, knows all this context and utters:  
Miguel: (utters the same as in (31))

Paul's own necessity to study arose in June, the time when studying hard cannot contribute to accomplishing his goal, which is passing the DELE exam. Still, a CPI is felicitous. This hindsight effect is unique to CPIs compared to ordinary future-oriented imperatives.

Meanwhile, complete ignorance of the modal necessity is not the only possible context of hindsight. One might acknowledge the goal in the past moment but might not be able to make the right decision, and might recognize their mistake after the wrong decision was made. For instance, this would be the case if in (33) Paul knew that he had to do something to apply for a job but did not know that studying hard was the right decision for his goal.

### **2.3.2 Foresight**

Another feature to note about CPIs concerns future events. If speaker is assured that a certain event will not happen by no means in the future, they can utter a CPI to express regret as in (34). From Miguel's perspective in (34), and possibly from Paul's as well, Paul's selling the stocks next week is an impossible event and the goal of his earning money cannot be accomplished by that mean. His stocks were already sold a few days ago, and there is no possibility that Paul can take economic advantage in the stock market. Hence, even though the content of the CPI indicates

a future event, the decision should still have been made in a past moment.<sup>15</sup>

(34) Context: A few days ago, Paul sold stocks of Samsung he had because there seemed to be no chance that Samsung's shares would rise. Having sold them all, now he is wondering how to make money. But today, Miguel, a friend of his who knows this context, saw in a stock market news that such advance in the share price is expected to happen in a few days as the company is launching a new product. Now Miguel says to Paul:

Miguel:

(In Spanish) ¡Haberlas vendido la semana siguiente!

haber-INF-CL sold the week next

(In Korean) Taum cu-ey pal-ass-e pwa-la!

next week-in sell-PAST-e/a pota-IMP

'You should have sold them next week!'

The existence of foresight contrasts with the reports in the literature that CPIs of Spanish and Korean are about past events only (Bosque, 1980; RAE & ASALE, 2009: §42.2.1g; Kim & Kim, 2012; Lee, 2016). However, it is important to point out that the event time of CPIs is not limited to a past time and what mainly differentiates CPIs from ordinary imperatives is counterfactuality. This issue will be treated in more details in Chapter 4.1.

One might argue that a future event is not defined and assume an alternative context where one day the share price plummets, Paul buys stocks, the price recovers, and Paul sells the rebought stocks. However, the object in (34), which is expressed with a clitic in Spanish and appears covert in Korean, refers to the stocks that were sold a few days ago. Hence they cannot be replaced with the newly bought stocks.

Lastly, it is noteworthy that hindsight and foresight are not exclusive to each other. CPIs may have hindsight and foresight at the same time, such as in (35).

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<sup>15</sup> See Saito (forthcoming) for the characteristics of foresight contexts of counterfactual imperatives.

(35) Context: A few days ago, Paul sold stocks of Samsung he had simply because his mom told him to do so. After having sold them all, he recognizes that he would have had a chance to earn a lot of money if he had not sold them. Today, Miguel, a friend of his who knows this context, saw in a stock market news that such advance in the share price is expected to happen in a few days as the company is launching a new product. Now Miguel says to Paul:

Miguel: (utters that same as in (34))

## Chapter 3. Literature of theories of imperatives

The peculiarities of CPIs have drawn attention from various authors. In this chapter, I will first recapitulate some of the Spanish and Korean works concerning each of their CPIs. Little has been studied about this topic in Spanish and Korean. After them, formal semantic accounts of Dutch and Japanese counterfactual imperatives will follow. Lastly, formal semantic accounts of overall imperatives except CPIs will be summarized.

### 3.1 Previous analyses of Spanish and Korean CPIs

#### 3.1.1 Literature of Spanish CPIs

Some authors such as Bosque (1980) or Vicente (2010; unpublished manuscript) have reported Spanish CPIs, but they did not proceed to a detailed analysis. Biezma (2010) is the first one who gives a brief interpretation of Spanish CPIs. She claims that a CPI is not an imperative, but rather a hidden counterfactual conditional (*haber and a participle* clause, or HPC, in her own acronym). She considers CPIs to be the antecedents of conditionals, with the elision of the conditional complementizer head *si*.

In her counterargument against Bosque (1980), she first argues that CPIs do not have an imperative morphology and thereby cannot be considered to be true imperatives. While infinitival imperatives are interchangeable with imperatives with a morphological imperative mood verb, CPIs do not allow such alternation. She argues that the imperative-like meaning of CPIs is the result of an inference. She also argues that while CPIs allow third person subjects and stative predicates, ordinary imperatives do not. Moreover, CPIs may make weird orders, are always replies and are tied to weakest desires, which are not the properties of ordinary imperatives.

To frame CPIs as hidden counterfactual conditionals, she assumes a silent modal  $\Psi$  which takes the antecedent of a conditional as its argument. Therefore, CPIs are conditionals in which only the antecedents are spelled out, as in Figure 1.

Now CPIs, as antecedents of conditionals, are felicitous only if the context is rich enough to retrieve the consequents and allow a free choice item (36) just as ordinary conditional antecedents does.

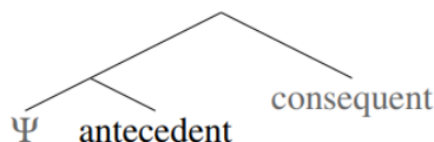


Figure 1. Syntactic structure of CPIs, retrieved from Biezma (2010)

(36) Haber hablado con cualquier estudiante.

haber-INF talked with any student

‘You should have talked with any student.’

There are syntactic implications as well. Just as English inverted conditional (37) requires the rising of the auxiliary verb to C and blocks the presence of the conditional complementizer head *if*, Spanish inverted conditional (38) and CPIs undergo the same syntactic process. Due to these syntactic features, CPI do not allow subject pronouns or focus adverbs before the auxiliary verb, as in (39).

(37) Had you left earlier, you would have arrived on time.

(38) Hubieras salido antes, habrías llegado

haber-SUBJ-IMPF-2ND-SING left before haber-COND-2ND-SING arrived

a tiempo.

on.time

‘Had you left earlier you would have arrived on time.’

(39) (\*Solo) (\*tú) haber salido antes.

only you haber left before

She argues that this syntactic property can explain certain semantic features as well.  $\Psi(p)$  indicates that  $p$  is already a part of the common ground. She adds that this property can partially explain why CPIs deliver a sense of rude obviousness and why they are generally used as reproaches. Moreover, CPIs may be optatives since



they are always tied to desires while counterfactuals do not have such restrictions. Optatives require their consequents to be desires and allow them to be covert. The lack of the truth value of CPIs can be answered as well; giving a binary truth conditional answer to conditional antecedents does not make sense.

### **3.1.2 Literature of Korean CPIs**

Little has been researched about this topic in Korean literature. Kim & Kim (2012) describe Korean CPIs to be a type of periphrastic phrases and to refer to counterfactual hypothetical situations. They claimed that such counterfactuality assumes past events and is expressed by the past tense morpheme, while the auxiliary verb *pota* does not assume any function in delivering counterfactuality. As Biezma does with Spanish data, they consider a PI to be a conditional antecedent. While they mention that the hypothetical ending *-(u)myen-* delivers the same counterfactuality as a PI when conjoined with the past tense morpheme, they point out some differences: only a PI can deliver a full intention and speech act when it stands alone, and a PI cannot assume an event that is new to the addressee.

Lee (2016) categorizes a Korean PI as a counterfactual subtype of conditional imperatives. She points out that the counterfactual subtype of conditional imperatives always requires the past tense morpheme and the imperative morphology for the auxiliary verb *pota*. She argues this expresses an event that can never happen in the present or in the future and the auxiliary verb *pota* bear the interpretation of ‘experience’. She lastly points out this subtype of imperatives is free of tense, subject, and predicate restrictions that are applied to ordinary imperatives.

## **3.2 Semantics of counterfactual imperatives**

### **3.2.1 Mastop (2011)**

Mastop reports Dutch counterfactual imperatives (40), which are commonly used

for a speaker to reproach an addressee. There have been argued that sentences like (40) are not true imperatives, but rather optatives.

(40) Was toch lekker thuisgebleven.

was PRT PRT at.home.stay-PP<sup>16</sup>

‘You should just have stayed at home.’

However, Mastop argues that they are true imperatives. For Mastop, an imperative is a semantic primitive just a proposition is and cannot be a modalized proposition, opposed to Kaufmann’s (2012) approach. In this line, a counterfactual imperative is a simple imperative under irrealis mood operator.

There are a few reasons for which he claims counterfactual imperatives to be true imperatives. Firstly, a counterfactual imperative is distinguished from a real optative including the particle *maar* both syntactically and semantically. A real optative with *maar* allows a subject and produces a conditional antecedent-like interpretation *If only*. In contrast, a counterfactual imperative with the particle *toch* is not compatible with an overt subject and disallows a conditional antecedent-like interpretation.

Secondly, the past participle in a declarative clause can induce a perfective reading in the context of a past reference time as in (41). In a similar way, the past participle of (40) places the event in the past.

(41) Nadat ik was opgestaan, heb ik mijzelf aangekleed.

After I was up.get-PP have I myself on.dress-PP

‘After I had gotten up, I dressed myself.’

Interestingly, the Dutch counterfactual imperative can have the *infinitivus pro participio* (IPP) construction (42) just as the Spanish CPI does. Although he leaves for future research why the counterfactual imperative requires the past participle or the IPP construction, he argues they “are used to indicate an event time prior to the speech time, after some reference time, and without a resultative meaning”.

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<sup>16</sup> PRT stands for ‘particle’.

(42) Was jezelf dan ook gaan aankleden.  
 was yourself PRT PRT go-INF dress-INF  
 ‘You should just have started to dress yourself.’

Lastly, Dutch counterfactual imperatives contain a past tense marker just as Korean CPIs do. Mastop considers this past tense marker marks the non-factuality of the imperative. In this sense, counterfactual imperatives are not real advice and solely applicable to reproach the addressee for their actions that should have been realized.

The important claim of his paper is the update semantics of a counterfactual imperative. Mastop assumes different commitment slates: a fact sheet, where accepted propositional and truth conditional information is recorded, and a practical commitment function, which represents accepted instructions. When an imperative is given in the context, both commitment slates are updated. In the case of a counterfactual imperative, a more complicated update process is required due to its incompatibility with the existing slates.

Suppose the counterfactual imperative (40) is uttered; the existing context is inconsistent with the addressee’s having stayed home and Mastop assumes that not-staying was an intentional refraining to stay. For the fact sheet to accept the counterfactual imperative, first it should be hypothetically expanded so that it includes the hypothetical worlds that would have been had the counterfactual imperative been fulfilled. Mastop calls this *retraction*, and the practical commitment function also undergoes this retraction. Then the practical commitment function is subsequently updated with the counterfactual imperative. The difference of the updating process of the counterfactual imperative from that of an ordinary imperative is that there exists an “after-the-fact commitment”.

### **3.2.2 Kaufmann (Kaufmann, 2012; Schwager, 2011)**

To explain Dutch CPIs, Kaufman assumes a counterfactual imperative modal operator which is a modified version of her indicative imperative modal operator for non-counterfactual imperatives. Let me first start with her indicative imperative

modal operator (Kaufmann, 2012). She claims that imperatives denote the same semantics as modalized declarative clauses, assuming an operator that takes a proposition as a prejacent and grants a modal flavor to the proposition. She relies on Kratzerian semantics for modality and introduces the modal background, consisting of the modal base  $f$  and the ordering  $g$ , to define the domain of quantification for imperatives. The modal base  $f$  is restricted by conversational background  $CG_c$ , the common ground in the salient context, which is a joint belief among the discourse participants, following Stalnaker (1978). The ordering source  $g$  can be either deontic, bouletic, or teleologic, establishing a preorder over any world-time pair.

Based on these basic concepts, an optimal world functional  $O$  is introduced, which requires as inputs a salient modal base restricted by the common ground of the context  $f_{CG_c}$ , a salient ordering source  $g$ , the salient index time  $t_i$  ('tense time' in Kaufmann's terminology), and the world of the context  $w_c$ . Once calculated, it means that the result is a set of the best worlds that are based on  $f_{CG_c}$  at  $t_c$  and  $w_c$  and ordered by  $g$  at  $t_c$  and  $w_c$ . On understanding a world-time pair the prejacent takes, the event time  $t_e$  ('event frame' in Kaufmann's terminology) refers to the time when the content of the prejacent is expected to take place. Formally, the indicative modal operator  $\text{IMPMOD}^{\text{IND}}$  denotes (43).

$$(43) \llbracket \text{IMPMOD}^{\text{IND}}(p) \rrbracket^c = \lambda f \lambda g \lambda t' \lambda p \lambda w. (\forall w' \in O(f_{CG_c}, g, t_c, w_c)) [p(t_e)(w')]$$

There are four presuppositions that are necessary to construe the denotation of the  $\text{IMPMOD}^{\text{IND}}$ : temporality condition, authority condition, epistemic uncertainty condition, and ordering source restriction. Firstly, the temporality condition defines that it is not the case that the event time  $t_e$  precedes the index time  $t_i$ . In a canonical context, the index time is equivalent to the utterance time  $t_0$ . Hence the temporality condition can also be interpreted as that the content denoted in the prejacent has to occur at least at the same time as the utterance time or after the utterance time.

The authority condition states that the speaker of  $\text{IMPMOD}^{\text{IND}}$  is naturally endowed with the authority on the modal background of the context. In other words,

the modal base  $f$  and the ordering source  $g$  are dependent on the speaker's authority over the context. The speaker does not need to justify the background of her utterance.

The epistemic uncertainty condition requires discourse participants to believe that the content of the proposition is possible but not necessary. That is to say, at the salient world-time pair, discourse participants believes that it is possible for both  $p$  and  $\neg p$  to happen at the event time  $t_e$ .

Lastly, the ordering source restriction concerns a decision problem of the context  $\Delta_c$ . Discourse participants believe that the imperative clause can give an answer to a salient decision problem of the context  $\Delta_c$ . All these four presuppositions can be formally written as follows.

(44) Presuppositions of  $\text{IMPMOD}^{\text{IND}}$

- a. Temporality condition:  $\neg(t_e < t_c)$ , where  $t_c$  is equivalent to  $t_0$
- b. Authority condition:  $f, g \in \text{AUTH}'(S_c)(c)$ , where  $S_c$  is the speaker of the context.
- c. Epistemic uncertainty condition:  $\exists w', w'' \in f_{\langle \text{CG}_c, t_c, w_c \rangle} \rightarrow \neg p(t_e)(w') \wedge p(t_e)(w'')$
- d. Ordering source restriction: either
  - i. in the context  $c$ , there is a salient decision problem  $\Delta_c \subseteq \mathcal{P}(W)$  such that in  $c$  the imperative provides an answer to it,  $g$  is any prioritizing ordering source, and speaker and addressee consider  $g$  the relevant criteria for resolving  $\Delta_c$ ; or else,
  - ii. in  $c$ , there is no salient decision problem  $\Delta_c$  such that the imperative provides an answer to it in  $c$ , and  $g$  is speaker bouletic.

Now moving onto the counterfactual imperative modal operator  $\text{IMPMOD}^{\text{CF}}$  (Schwager, 2011), primary differences lie in defining the modal background  $f$  and  $g$ . For  $\text{IMPMOD}^{\text{CF}}$ , counterfactual modal background  $H_{\text{count-cg}}$  just as (45) is introduced to replace the non-counterfactual modal background. Moreover, as a

counterfactual imperative carries strong and uncancellable counterfactuality, the content  $p$  at the event time  $t_e$  and the world of context  $w_c$  has to be incompatible with the common ground of the context  $CG_c$ . This presupposition is formally expressed in (46). Lastly, in the syntactic structure,  $IMPMOD^{CF}$  is scoped over by the past tense.

$$(45) H_{\text{count-cg}}(w, t) = \{w' | w' \text{ is optimal according to the addressee's goals at } w, t \text{ and } w'' \in CG[w'' \text{ and } w' \text{ share the same history up to } t]\}$$

$$(46) CG_c \cap \lambda w. P(t')(w) = \emptyset$$

### 3.2.3 Saito (forthcoming)

Authors like Tagawa (2019) and Ihara (2021) reported and carried out an analysis of Japanese counterfactual imperatives. After them, Saito (forthcoming) carried out thorough research on the semantics of Japanese counterfactual imperatives, which he dubbed *past imperatives*. Japanese counterfactual imperatives like (47) employ the same morpheme as non-counterfactual ordinary imperatives, lack a truth value, and have a restriction on the subject. The sentence final particle (SFP) *-yo* is required, even though Saito does not consider it to be crucial in construing counterfactuality. This last feature is similar to Korean auxiliary verb *pota* which is attached to a CPI.

$$(47) \text{Kinoo(-wa) gakkoo-ni ko-i(-yo)!}$$

yesterday(-TOP) school-to come-IMP(-SFP)

‘You should have come to school yesterday!’

While many features of Japanese counterfactual imperatives are alike to their Korean counterparts, one important difference is the lack of the past tense morpheme. Even though counterfactual imperatives by themselves do not indicate a past eventuality, they refer to the one that should have happened in the past and it is common that languages with past counterfactual imperatives have a past tense or perfect aspect morpheme. This was also the case of Korean and Spanish data.

To explain Japanese counterfactual imperatives, Saito employs Kratzerian semantics and is based on the theory of imperatives developed by Kaufmann. Concerning non-counterfactual future-oriented imperatives in the first place, his interpretation and presuppositions (48) follow what Kaufmann proposed but they have an explicit time marker  $t'_i$  on the decision problem. In canonical interpretation, both index times  $t_i$  and  $t'_i$  are the utterance time, thereby generating the same prediction as that of Kaufmann.

(48) Non-counterfactual future-oriented imperatives by Saito

- e.  $\llbracket \text{IMPMOD}[p] \rrbracket^c = \forall w' \in O(f_{CG_c}, g_c, t_i, w_c) [p(t_e)(w')]$
- f. Presuppositions:
  - i.  $t_c \leq t_e$
  - ii.  $\exists w', w'' \in f_{CG_c}(t_i, w_c) \rightarrow \neg p(t_e)(w') \wedge p(t_e)(w'')$
  - iii. In the context  $c$ , there is a salient decision problem  $\Delta_{t'_i}$  such that in  $c$  the imperative provides an answer to it.

For counterfactual imperatives, Saito proposes an operator  $OP_T$ , which shifts the index time  $t_i$  to a salient point  $t'_i$  in the past that is relevant to the decision problem. The operator  $OP_T$  scopes over the imperative modal operator, converting it to denote strong and uncancellable counterfactuality, as shown in (49). This operator is defined only if the salient point  $t'_i$  precedes the utterance time.

(49) Counterfactual imperatives by Saito

- g.  $\llbracket OP_T[\text{IMPMOD}[p]] \rrbracket^c = \forall w' \in \text{BEST}(f_{CG_c}, g_c, t'_i, w_c) [p(t_e)(w')]$ ,  
defined only if  $t'_i \leq t_0$
- h. Presuppositions:
  - i.  $t'_i \leq t_e$
  - ii.  $\exists w', w'' \in f_{CG_c}(t'_i, w_c) \rightarrow \neg p(t_e)(w') \wedge p(t_e)(w'')$
  - iii. In the context  $c$ , there is a salient decision problem  $\Delta_{t'_i}$  such that in  $c$  the imperative provides an answer to it.

Saito proposes a modification to the modal base  $f$  as well. This is due to uncancellable counterfactuality and this implies that the content of a counterfactual imperative should be incompatible with the common ground. Also, a modal base of counterfactual imperative should be able to access hindsight. His suggestion is that the modal base  $f$  be revised with that a salient discourse participant (the addressee, mostly) did  $\neg p$  at  $t'_i$ , and for consistency of the modal base, any proposition  $q$  incompatible with  $\neg p$  is eliminated from the new modal base. The revised modal base  $f_{CG_c}(t'_i, w_c)$  is as (50). This modal base allows that both  $p$  and  $\neg p$  be possible at the salient temporal point  $t'_i$ , also satisfying epistemic uncertainty condition.

$$(50) f[\neg[Ad_c \text{ chose } \neg p \text{ at } t'_i]](w, t)$$

Since Japanese counterfactual imperatives do not have any past morpheme, what makes  $t_e$  in (50) to be in the past is the adverb, which is the one such as *kinoo* in (47).

Lastly, Saito also recognizes the foresight contexts, which he names as *future-oriented past imperative*. When addressing foresight, Saito argues that the decision problem is in the past. Then no additional revision is required but the operator  $OP_T$ .

### 3.3 Semantics of non-counterfactual imperatives

#### 3.3.1 Portner (2004, 2007)

Portner (2004, 2007) analyzes how imperatives update the context. While declaratives denote propositions and interrogatives denote a set of propositions, imperatives denote addressee-bound properties. For this reason, imperatives are designated to their own contextual component called To-Do List (T), separately from declaratives and interrogatives that are recorded in the Common Ground (CG) and the Question Set/Question Under Discussion. Other than these devices, there exist parametrized selection functions  $h$ , which concern several modal flavors such



as deonticity, bouleticity, or teleology. These selection functions are defined as (51).

- (51) For any individual  $x$ , world  $w$  and set of propositions or properties  $\Pi$ ,
- a. if it is defined,  $deontic_x(w, \Pi) = \{y \in \Pi: y \text{ expresses an obligation of } x \text{ in } w \vee y(x) \text{ expresses an obligation of } x \text{ in } w\}$
  - b. if it is defined,  $bouletic_x(w, \Pi) = \{y \in \Pi: y \text{ expresses a desire of } x \text{ in } w \vee y(x) \text{ expresses a desire of } x \text{ in } w\}$
  - c. if it is defined,  $teleologic_x(w, \Pi) = \{y \in \Pi: y \text{ expresses a goal of } x \text{ in } w \vee y(x) \text{ expresses a goal of } x \text{ in } w\}$

For an imperative to be accepted by discourse participants and enter the context (52a), a parametrized selection function  $h_{addressee}(w, T(addressee))$  should be defined with regard to all the worlds in the context set. When a selection function is defined, the addition of an imperative to the context updates the Common Ground and the To-Do List (52b). The To-Do List is updated with the imperative, and the Common Ground is updated with the modal counterpart of the imperative.

(52) Pragmatic function of imperatives (Portner, 2007)

The canonical discourse function of an imperative clause  $\phi_{imp}$  is as follows. Where  $C$  is a context of the form  $\langle CG, Q, T, h \rangle$ :

- a.  $C + \phi_{imp}$  is defined only if  $h_{addressee}(w, T(addressee))$  is defined, for every  $w \in \cap CG$ .
- b. Provided that it is defined,  $C + \phi_{imp} = \langle CG', Q, T', h \rangle$ , where:
  - i.  $T'$  is just like  $T$  except that  $T'(addressee) = T(addressee) \cup \{\llbracket \phi_{imp} \rrbracket\}$ ; and
  - ii.  $CG' = CG \cup \{w \in \cap CG: \text{for any set of properties } S, \text{ if } h_{addressee}(w, S) \text{ is defined, } \llbracket \phi_{imp} \rrbracket \in h_{addressee}(w, S)\}$ .

### 3.3.2 Condoravdi & Lauer (2012)

Condoravdi & Lauer (2012) consider speaker's preference as a key component of imperatives. They introduce the modal operator PEP (public effective preference) such that semantics of imperatives be  $\text{PEP}_w(\text{Sp}, p)$ . This means that the speaker is publicly committed at  $w$  to act as though  $p$  is a maximal element of  $\langle P_w(A), \leq_{P_w(A)} \rangle$ , where  $P \subseteq \wp(W)$  and  $\leq$  is a partial order on  $P$ .

The only discourse participant who is considered relevant in PEP is the speaker. In directive uses of imperatives where an explicit addressee is required, the inherent nature of the prejacent  $p$  solves this issue since  $p$  is about an addressee action when given as an imperative, which ensures that the addressee be the agent of realizing the content of  $p$ .

(53) Condoravdi & Lauer's semantics of imperatives:

$$\llbracket \text{imp} \rrbracket^c := \lambda p[\lambda w[\text{pep}_w(\text{Sp}, p)]]$$

where  $\text{pep}_w(\text{Sp}, p)$  means that 'Sp is publicly committed at  $w$  to act as though  $p$  is a maximal element of  $\langle P_w(A), \leq_{P_w(A)} \rangle$ , where in turn  $P \subseteq \wp(W)$  and  $\leq$  is a partial order on  $P$ .

### 3.3.3 Roberts (2015; 2018)

Roberts (2015; 2018) proposes her analysis of imperatives through her language game scoreboard. In this model, an imperative is related to diverse contextual and discourse components such as goals, plans, and priorities. This theory explains not only what the effects of uttering imperatives are, but also what motivates the speaker to utter them. This model is illustrated in Figure 2, which is my own visualization. Figure 2 sketches the scoreboard for only one discourse participant  $i$  and the scoreboard for the counterpart  $j$ , which would be identical, is omitted due to space issues. In this scoreboard, each discourse participant has their own goals, which are prioritized with their own criteria. When the discourse participants share a common goal, it goes into the question under discussion (QUD) and the context

requires the discourse participants to make relevant moves to remove the goal from the QUD. The move that directly affects QUD is a direction. If the speaker gives a direction and the addressee accepts it, the addressee arranges their plan, makes relevant actions to bring about the content of the given direction, and thereby solves the goal on QUD.

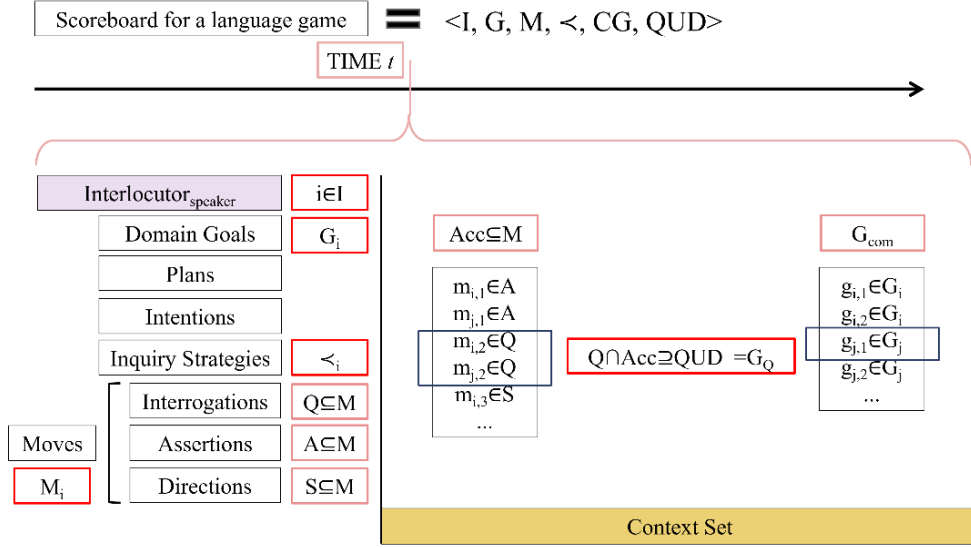


Figure 2. Scoreboard for a language game (Roberts, 2018)

Roberts tries to reconcile Portner's and Kaufmann's approaches employing this model. Following Portner's proposal, an imperative denotes a property. When an imperative is accepted in a conversation, it updates the addressee's goals, plans, and priorities, and this pragmatic update conveys the illocutionary force. Furthermore, the corresponding deontic proposition is added to the common ground. As for Kaufmann's theory, Kratzerian modal parameters, namely the modal base and the ordering source, can contribute to the formulation of goals and priorities.

Once these assumptions are put together, the conventional content of English imperatives is as follows. First, one needs the applicable circumstances, namely world-time pairs, (54a) to convey a directed property. They are the world-time pair in the actual world and at a non-past time with respect to the issuance

time  $t$ . They also are the most ideal worlds in the context set according to  $g(\langle w, t \rangle)$ . In (54b), if the presuppositions are satisfied, an imperative is felicitous as a property, suggesting the addressee the goals to be realized.

(54) Roberts' approach to imperatives:

- a. Applicable circumstances for a directed property:

$$\text{Applic}_{f,g}(\langle w, t \rangle) = \{ \langle w', t' \rangle \mid w' = w \& t \leq t' \& \langle w', t' \rangle \in \cap f(\langle w, t \rangle) \\ \& \forall \langle w'', t'' \rangle \in \cap f(\langle w, t \rangle): \langle w', t' \rangle \leq_{g(\langle w, t \rangle)} \langle w'', t'' \rangle \}$$

- b. Conventional content of English imperatives  $!_{f,g} [sVP_i]$ :

Given context  $K$  and circumstance of evaluation  $\langle w, t \rangle$ :

Presupposed content:

$x_i = \text{addressee}(K)$

$f$  is a circumstantial modal base

$g$  is an ordering source reflecting  $x_i$ 's goals, plans, and priorities in  $\langle w, t \rangle$ .

Proffered content: (type  $\langle s, \langle e, t \rangle \rangle$ )

$$\lambda \langle w', t' \rangle \lambda x \in \{x_i\}. \text{Applic}_{f,g}(\langle w', t' \rangle) \subseteq ([x \in VP]^{\mathcal{Q}})$$

where  $[x \in VP]^{\mathcal{Q}}$  is the sense of  $[x \in VP]$ , the set of worlds where  $x$  has the property denoted by  $VP$ .

## Chapter 4. CPIs as true imperatives

In this chapter, I will revise the semantics of imperatives proposed by Kaufmann and Saito so that the revision can cover PI data from Spanish and Korean. The revision will mostly focus on increasing the explanatory power for CPIs. I will argue that temporal restriction is irrelevant to defining CPIs, and in addition, epistemic uncertainty regarding  $p$  is a key feature to define counterfactuality and to distinguish CPIs from non-counterfactual ordinary imperatives, including NCPIs.

Before proposing my own suggestion, I will discuss a time machine example in the following section. This example implies that even ordinary imperatives are not subject to temporal restriction of event time. Along with hindsight and foresight previously mentioned, the time machine example will be useful to suggest a modified theory in Chapter 4.2. I will suggest a unified imperative modal operator for both counterfactual and ordinary imperatives. This operator will include a new presupposition, which will check the counterfactuality feature based on epistemic uncertainty. In the following Chapter 4.3, I will apply the semantics to different contexts of imperatives and prove its explanatory power. In Chapter 4.4, I will suggest counterarguments to the claims of Biezma (2010) that Spanish CPIs are not true imperatives. Lastly, in Chapter 4.5, I will address Spanish imperatives in general with regard to performativity, with a special focus on wish-type imperatives, which are infelicitous in this Romance language.

### 4.1 Time machine example and epistemic uncertainty

Foresight showed that contents of CPIs are not exclusive to past events, but also applicable to future events as well. It requires that possibility for future events is blocked and that the decision that could have made the content into the actual world should have been taken in a past moment. This implies that limiting the event time of CPIs to a temporal point prior to the utterance time is not a necessary condition for their felicity. In the same line, I suggest that, even for ordinary imperatives, it is not necessary to limit their event time to a temporal point after the utterance time if conditions are set.

Suppose there is a time machine which can successfully bring one to a past moment. Given the existence and complete functionality of this imaginary time machine, discourse participants will agree that they are able to go back to any moment in the past and carry out certain actions. Then an ordinary imperative as in (55) can be successfully uttered.<sup>17</sup>

- (55) Context: Paul invented a time machine. Miguel, who could not understand a phrase in Cicero's *De diuinatione*, wants Paul to go back to the Roman Republic and ask Cicero the meaning of that phrase. Now,  
Miguel: Paul, go meet Cicero and ask him the meaning of this phrase.

In context (55), the felicity of the ordinary imperative implies that, for discourse participants, it is possible to carry out the content *p* not only at the time Paul goes back to Rome but also at the time Miguel is talking to Paul. Otherwise, either of the discourse participants would not have allowed the imperative.

Any native speaker will judge the imperative of context (55) to be felicitous and they may probably try to justify their judgment with complex pragmatic accommodations due to the belief that an ordinary imperative should be future-oriented. For instance, one may argue that the utterance is a sort of an indirect speech, whose utterance time is relocated in a past moment and places an event time at a temporal point posterior to this past utterance time, thereby maintaining its future-orientedness. Others may suggest that the discourse participants are actually talking about a future event, assuming that the actual world exists separately from the world where Paul goes back to the past and the time of the actual world will keep flowing regardless of his time travel.

However, once we remove those pragmatic accommodations and observe the conversation as it is, the context is simpler. The discourse participants believe that they will go back to a past moment and carry out an action at the past moment. The event time is placed in the past and the index time, the time when discourse participants are given a modal necessity or possibility, is equal to the utterance time.

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<sup>17</sup> For simplicity, only English examples will be given throughout this subchapter. This does not mean that only English allows imperatives in the example contexts. Spanish and Korean imperatives are also felicitous.

The possibility to add a past temporal adverb is another clue that the event time is placed in the past. For instance, ‘in 44 BCE’ of (56) refers to a past moment.

(56) Under the same context as in (55),

Miguel: Go meet Cicero in 44 BCE!

Obviously, it may be controversial whether the future course after the event time of the time machine example is compatible with the actual world known at the utterance time. In other words, one may still ask if we can actually make a significant change in the past such that it affects the actual world. There have been constant debates with this regard; for instance, the mainstream idea is that even if time travel was possible, it would be impossible to make a substantial change in the past such that the result of the change is inconsistent with the past known in the actual world.<sup>18</sup> However, although this question deserves additional philosophical discussions, in the conversations (55) or (56), discourse participants do not find the imperatives to be infelicitous. I consider that this is due to the fact that they admit the complete functionality of the time machine and their ability to carry out an action in a past moment, and they are ‘disinterested’, roughly described, with what consequences there will be after *p* is carried out in the past. In other words, such a philosophical controversy is not enough to refuse the felicity of (55) or (56) in the use of language. What would be the result of a change made in the past or whether such a change is possible or not do not intervene in licensing the imperative of a time machine example. If one believes that carrying out *p* in a past moment is possible and if such an idea is mutually admitted in the common ground of the context by discourse participants, a time machine imperative is felicitous enough.

The temporal conditions of a time machine example are similar to some extent to those of hindsight CPIs without foresight. In hindsight CPIs without foresight, the index time is placed after the event time. A core difference between the time machine example and hindsight CPIs without foresight is epistemic uncertainty concerning whether the content *p* is possible or not at the utterance

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<sup>18</sup> See Smith for a brief introduction to philosophical discussions concerning time travel and time machine.

time. In hindsight CPIs without foresight,  $p$  is false in the actual world because  $\neg p$  had already happened and  $p$  is incompatible with  $\neg p$ . In contrast, in the time machine example (55), the realization of  $p$  is epistemically uncertain. Such a contrast between the time machine example and hindsight CPIs without foresight hints us that counterfactuality may be interpreted with regard to epistemic uncertainty.

This contrast is equally applicable to future-oriented ordinary imperatives and foresight PIs. Recall foresight PI example (34), where the discourse participants admit that  $p$  cannot be the actual world by no means, or in other words,  $p$  is an impossible event, even though it concerns a future event. Discourse participants believe in its impossibility due to the context of the discourse and admit strong counterfactuality concerning  $p$ . In contrast, future-oriented ordinary imperatives require epistemic uncertainty.

Such epistemic uncertainty regarding counterfactuality is a separate condition from the epistemic uncertainty condition of Kaufmann or Saito's theory. While CPIs satisfy epistemic uncertainty regarding counterfactuality and ordinary imperatives do not, both imperatives must satisfy the epistemic uncertainty condition. In other words, the epistemic uncertainty condition is a presupposition for the felicity of overall imperatives. If CPIs do not satisfy the epistemic uncertainty condition, it will result infelicitous, regardless of whether it is epistemically uncertain regarding counterfactuality. This issue will be described in more details in Chapter 4.3.

In sum, the time machine example has two implications. Firstly, the temporality condition is not a necessary condition for the felicity of CPIs. In the existing theories of CPIs, the modal necessity should arise prior to the event time. When the event time follows the time when the modal necessity arises, then this is proper to ordinary imperatives. However, the time machine example overrides this relation. In the time machine example, the event time can precede the index time. This is not only the case of the time machine example. Since I defined the index time to be a temporal point when the modal necessity arises and discourse participants properly acknowledge the salient decision problem, hindsight CPIs also present such an inverted event-time-index-time relation.



Secondly, the counterfactuality of CPIs can be discussed concerning epistemicity. Since the relation between temporal indices do not play a key role in determining their counterfactuality anymore, I rely on epistemic possibility to do this. As briefly discussed above, ordinary imperatives, including the time machine example, share epistemic possibility as their common feature, while all types of CPIs should not require it.

There is another example context that support this approach. The first idea is a TV show example, which is alike to but different from the time machine example. Assume there is a music contest TV show which is a filmed broadcast and where a number of amateur singers compete to get a higher score from the jury. Even when discourse participants are fully aware that the show was filmed in a past moment and the content of the show cannot be changed, they can still utter an optative-like imperative clause such as the utterance of Miguel in (57). However, another imperative as Paul's in (57) is infelicitous. Both utterances do not differ in the epistemic uncertainty condition, since there must exist a salient moment before the event time of  $p$  such that future course is not yet determined. Additional to the epistemic uncertainty condition, for the felicity of Paul's ordinary imperative of (57), Paul should have been epistemically uncertain about  $p$  at the utterance time. This is not the case since Paul has already seen the episode and knows its content. This implies that the counterfactuality should be checked with regard to epistemic uncertainty to license not only CPIs but also ordinary imperatives.

(57) Context: Miguel and Paul are watching an episode of a recorded music contest TV show. Miguel is watching the episode for the first time, while it is the second time for Paul to watch it. Miguel knows that Paul has already watched it once. Given this context, Miguel finds Paul's reaction is awkward.

Miguel: Please sing a good song!

Paul: #Yes, please sing a good song!

One might question this approach with regard to a possible reply to (55) as shown in (58). In English, Paul can answer with (58) to Miguel's imperative, using the

auxiliary verb *will*. The auxiliary verb *will* may induce either an epistemic reading just as *must* would do, or a predictive future reading, which is the case of (58). The future oriented reading of *will* may seem inconsistent with the past event of (55); however, I will follow Giannakidou & Mari (2018) to argue that they are compatible. According to Giannakidou & Mari, the auxiliary *will* of both epistemic and predictive reading is an epistemic modal, whose syntactic node ModP (FutP) is located higher than the TP. In the ordinary predictive future reading, the future temporal feature arises from the lower TP, and the Mod-head, occupied by the future morpheme *will*, anchors the temporal variable of the TP to the utterance time (*Now*-anchoring rule, according to the authors), such that they can compositionally denote a future prediction with regard to the utterance time. I will assume that the *Now*-anchoring rule be modified so that the temporal variable of the TP be anchored to a salient past moment prior to the event time of the imperative (55) if the context is rich enough to trigger this shift. Such a context will be the same as the one that allows the time machine example. Now the reply (58) does not necessarily refer to the future time of the utterance time, thereby being consistent with the past event.

(58) In reply to (55) in English:

Paul: I will.

The same reply can also be given in Spanish and Korean just as in English, exemplified in (59) and (60). Spanish employs a future tense verb and Korean uses *-lkey* ending, respectively. Since Giannakidou & Mari extend their analysis to Italian and Greek future morphemes, I will assume that Spanish future tense can be explained in the same way without significantly revising their analysis. I will also assume that Korean does not present significant differences either, although the ending *-lkey* additionally delivers the speaker's commitment and volition to carrying out the action.

(59) Spanish counterpart of (58):

Paul: Lo haré.

CL do-1ST-SING-FUT

(60) Korean counterpart of (58):

Paul: Kule-lkey.

be.as.such-lkey

## 4.2 Semantics of CPIs

The suggestion of the present thesis is to modify the existing theories of Kaufmann and Saito for three unique contributions. The first is to propose a single imperative modal operator for both CPIs and ordinary imperatives. Kaufmann's approach assumes different operators for each of ordinary imperatives and counterfactual imperatives, while Saito unifies them into a single operator and assumes an additional operator for the backshift of the index time. I suggest a single operator that can cover both ordinary and counterfactual imperatives.

The second contribution of the suggestion is that the new operator should explain hindsight contexts of CPIs, which remain unanswered under Kaufmann's approach. It should also explain the lack of counterfactuality of time machine examples and TV show examples. They are inexplicable under the two existing theories. The issue about hindsight contexts has already been briefly addressed in Nam, 2022; the current thesis is a broader and more refined extension of this former proposal.

Lastly, the modified theory should deal with the counterfactuality of imperatives with minimum modifications of their semantic components. Kaufmann's strategy to induce the counterfactuality is to assume a separate modal background. Saito chooses to revise the modal base. I argue that there should be a different way to access to counterfactual worlds so that it becomes relatively less burdensome for speakers than the existing strategies.

Here are the details of the proposal. Firstly, an imperative denotes a set of all the optimal worlds (i) according to the modal base  $f$  of the common ground of the context  $CG_c$  and ordered by a salient ordering source  $g$  in the actual world  $w_0$  and at the decision time  $t_d$ , and (ii) which make  $p$  true at the event time  $t_e$ . This denotational meaning, formally illustrated in (61) is technically identical to the

theory of Kaufmann and Saito. A slight difference lies in defining the temporal component  $t_d$ , which should be calculated considering the utterance time  $t_0$  and implies a back shift of the evaluation time for CPIs.

(61) Semantics of an imperative:

$$\llbracket \text{impmod}[p] \rrbracket = \forall w \in O(f_{CG}, g, w_0, t_d)[p(t_e)(w)]$$

The semantics of (61) does not assume any revision of the modal base. This is different from the previous theories, which assumed either a separate modal background or a modified modal base: Kaufmann assumes a counterfactual modal background and Saito proposes a process to modify the modal base (see chapters 3.2.2 and 3.2.3 for details). The way how one gets access to counterfactual contexts without any of such modifications is by recalling the modal base of the decision time. Different contexts of imperatives have shown so far that the decision time always precedes the utterance time. A rational speaker must preserve their knowledge about the contexts that were available to them at the decision time, and may retrieve it at the right moment. If the speaker did not remember the contexts that were available to them at the decision time, it would not be a proper context to suggest alternative options to the actual world by uttering counterfactual imperatives. I assume that this cognitive process is less burdensome than assuming a modification of the modal base of the utterance time and activating two different modal bases at the same time for different purposes. The discourse participants can still rely on the current modal base and can simply recall the memory from it. Furthermore, I additionally assume that the perfect aspect or past tense morpheme of Spanish and Korean CPIs triggers the retrieval of the past memory. In other words, the relevant aspectual or temporal morpheme makes the decision time of (61) to be backshifted to the salient past moment so that the discourse participants retrieve the memory of that temporal point.

Secondly, I suppress the temporality condition, which has been persistent in both theories. The time machine example has shown that this condition is not relevant to distinguish CPIs from ordinary imperatives, neither to define imperatives.

Then the first presupposition of the semantics (61) is the epistemic uncertainty condition. This presupposition calculates the decision time  $t_d$  based on the utterance time  $t_0$  and checks whether epistemic uncertainty is satisfied at  $t_d$ . In the previous theories, in the place of  $t_d$ , Kaufmann put the tense time ( $t'$ ) and Saito put the index time ( $t_i$ ), both of which precede the utterance time. I assume that the speaker of CPIs might not naturally acknowledge the exact  $t_d$  and thereby it must be calculated with the utterance time  $t_0$ . Consider hindsight CPIs: in hindsight CPIs, although the speaker was once at  $t_d$  where  $p$  would be epistemically possible, they do not acknowledge this fact at the very moment of  $t_d$  since they realize the modal necessity or possibility after  $t_d$ . This new first presupposition then can be formally expressed as in (62).

(62) Epistemic uncertainty condition at the decision time ( $t = t_d$ ) (to be revised):

$$\exists t. \exists w, w' \in f_{CG}(w_0, t) [\neg p(t_e)(w) \wedge p(t_e)(w')]$$

The second presupposition is the ordering source restriction, which is also technically identical to the one proposed by Kaufmann and Saito. The decision problem  $\Delta$ , which is to be answered at  $t_d$ , arises at the index time  $t_i$ , and I will express this with a superscript and a subscript as  $\Delta_{t_d}^{t_i}$ <sup>19</sup>. For instance, in hindsight-less CPIs, the index time may be the same as the decision time. In hindsight CPIs, in contrast, it is more probable that the utterance time overlaps the index time. This presupposition is formally expressed in (63).

(63) Ordering source restriction: In the context  $c$ , there is a salient decision problem  $\Delta_{t_d}^{t_i}$  at the index time  $t_i$  such that in  $c$  the imperative provides an answer to it.  $g$  is any prioritizing ordering source, and speaker and addressee consider  $g$  the relevant criteria for resolving  $\Delta_{t_d}^{t_i}$ .

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<sup>19</sup> The subscript indicates the time when the decision problem should be answered, and the superscript indicates the time when discourse participants realize the decision problem.

There is more to talk about the decision problem. Recall the hindsight CPI example (32). Since discourse participants acknowledge their proper decision problem after the salient decision time, they have to calculate the proper decision time reversely from the utterance time with the information given to them, rather than just knowing it. This calculation is equally applied to the speaker and the addressee. This is formally expressed in (63) as the first presupposition, but one might have noticed that it is possible that there may exist an infinite number of temporal points that satisfy the condition. For instance, in (32), Paul's studying for the exam in April is possible not only in March, but also in innumerable temporal points before March. Then the presupposition in (62) fails to block any moment of five years ago from the utterance time to be the decision time, which should not be the case. There should be a device that could help the discourse participants to properly track back to the decision time so that it is relevant to the salient decision problem.

I will revise the first presupposition so that it includes a device that restricts the placement of the decision time properly. The decision problem and the ordering source are the two components that are engaged in this device. They serve as contextual information so that discourse participants can locate the decision time appropriately. In other words, the decision time should be the time of decision-making such that the decision made at the decision time solves the decision problem in accordance with ordering source. (64) below illustrates the improved version of the epistemic uncertainty condition with this additional condition.

(64) Epistemic uncertainty condition at the decision time ( $t = t_d$ ) (final):

$$\exists t. \exists w, w' \in f_{CG}(w_0, t) [\neg p(t_e)(w) \wedge p(t_e)(w')]$$

& The decision made at  $t_d$  should solve  $\Delta_{t_d}^{t_i}$  in accordance with  $g$ .

Last but not least, imperatives require a novel presupposition (65), which is the epistemic counterfactuality condition to judge whether an imperative is counterfactual or not. Discourse participants will accept CPIs if all the worlds accessible at the common ground of the context  $CG_c$  in the actual world  $w_0$  and at the utterance time  $t_0$  are contrary to  $p$  at the event time  $t_e$ . To be concise, there should be no chance that  $p$  be true at the event time  $t_e$ . On the contrary, an

imperative is not counterfactual if it is epistemically possible with regard to the context set of the utterance time. In many contexts, this may coincide with the first presupposition, but it is not the only case. If an imperative fails to satisfy either of these two counterfactuality conditions, it is infelicitous as an imperative.

(65) Epistemic counterfactuality condition:

Counterfactual if  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_e)(w)$ ;

Not counterfactual if  $\exists w, w' \in f_{CG}(w_0, t_0) \rightarrow [\neg p(t_e)(w) \wedge p(t_e)(w')]$

To sum up, imperatives denote the following:

(66) Semantics of imperatives (with a special focus on CPIs):

a.  $\llbracket \text{impmod}[p] \rrbracket = \forall w \in O(f_{CG}, g, w_0, t_d)[p(t_e)(w)]$

b. Presuppositions:

i. Epistemic uncertainty at the decision time ( $t = t_d$ ):

$\exists t. \exists w, w' \in f_{CG}(w_0, t)[\neg p(t_e)(w) \wedge p(t_e)(w')]$

& The decision made at  $t_d$  should solve  $\Delta_{t_i}$  in accordance with  $g$ .

ii. Ordering source restriction: In the context  $c$ , there is a salient decision problem  $\Delta_{t_d}^{t_i}$  at the index time  $t_i$  such that in  $c$  the imperative provides an answer to it.  $g$  is any prioritizing ordering source, and speaker and addressee consider  $g$  the relevant criteria for resolving  $\Delta_{t_d}^{t_i}$ .

iii. Epistemic counterfactuality condition:

Counterfactual if  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_e)(w)$ ;

Not counterfactual if  $\exists w, w' \in f_{CG}(w_0, t_0) \rightarrow [\neg p(t_e)(w) \wedge p(t_e)(w')]$

Under the proposed semantics, hindsight of CPIs is defined by the relation between the index time and the decision time. If the decision time precedes the index time, there is a hindsight; otherwise, there is not.

Moreover, the salient decision problem of the context might be either that of the speaker or that of the addressee. It is not necessary that both shares a same decision problem, and it is still enough that only the speaker has such a decision problem. In both cases, the speaker may consider that they have a justifiable reason to order or request the addressee to share the common decision problem. Certainly, it is also possible that only the addressee possesses an initial decision problem, and then the speaker shares the problem and utters a relevant imperative clause.

The role of the past tense morpheme of Korean or perfect aspect morpheme of Spanish is not explicitly described in the compositional semantics of (66). I assume that it plays a syntactic role in generating the counterfactual meaning and make a contrast with non-counterfactual meaning which lacks a past tense or perfect aspect morpheme in the intended syntactic node. The details are given in Chapter 5.1.

Table 1 below summarizes the temporal components and the time-related component of the semantics of (66).

Component	Symbol	Description
event time	$t_e$	The temporal point in which the event of $p$ is to be carried out.
index time	$t_i$	The temporal point in which (a) discourse participant(s) recognize the modal necessity/possibility, thereby consequently the decision time as well.
decision time	$t_d$	The temporal point in which the salient agent of the conversation is required to carry out an action to achieve the salient decision problem.
decision problem	$\Delta_{t_d}^{t_i}$	The subscript indicates the time in which the salient agent should carry out the action, that is the decision time. The superscript refers to the time when (a) discourse participant(s) recognized the decision problem itself, namely the index time.

Table 1. Temporal components and time-related component of (66)



## 4.3 Case studies

In this chapter, I will prove the explanatory power of the semantics proposed in the previous chapter. I will use different PI contexts to show that the semantics of this thesis makes accurate explanations and predictions. There are four different contexts of CPIs and one context of an NCPI. Moreover, I will use four different contexts of ordinary imperatives to show that all the presuppositions are necessary to define an imperative.

Concerning CPIs, hindsight and foresight are the main parameters characterizing each one of the four contexts. There will be one context without hindsight and foresight, another with hindsight only, another with foresight only, and the other with both hindsight and foresight. With respect to ordinary imperatives, I will use one NCPI context, one time machine example, two TV show examples, and one example of an infelicitous ordinary imperative.

### 4.3.1 CPIs with and without hindsight

Example (31) presented in Chapter 2.3 is a typical CPI without hindsight, repeated here as (67). In this context, the modal necessity arises in a past moment, which is April or earlier, and the index time  $t_i$  is placed therein. The optimal world is calculated based on the modal base  $f$  restricted by the common ground at the world-time pair  $\langle w_0, t_d \rangle$ . Hence, the world where the prejacent  $p$  ('Paul study more in April') at  $t_e$  (April) should be optimal according to this calculation.

- (67) Context: In March, Paul applied for DELE exam scheduled for May. He tried to study hard in April since he wanted to pass the exam, but could not study enough due to other affairs. The result he got in June was desperate. Miguel, a friend of his, knows all this context and utters:
- Miguel:
- (In Spanish) ¡Haber estudiado más en abril!
- (In Korean) Sawol-ey kongpu te hay-sse pwa-la!

‘You should have studied more in April!’

For its denotational meaning to be felicitous, all the presuppositions should be fulfilled as well. First, there must exist a salient temporal point in the context such that  $p$  is epistemically uncertain according to the modal base  $f$  restricted by the common ground at that moment. In the current example, the salient temporal point  $t_d$  is the same as the index time  $t_i$ , corresponding to  $t_{-2}$  in Figure 3. The modal base at the moment when Paul tries to  $p$  at  $t_r(=t_{-2})$  is  $f_{CG}(w_0, t_{-2})$ , which predicts that there still is a possibility whether the future course at  $t_e(=t_{-1})$  will become  $p$  or  $\neg p$ , thereby  $t_d = t_r$ . Be aware that the judgment of epistemic uncertainty is made based on  $f_{CG}(w_0, t_{-2})$  and the world-time pair  $\langle w_0, t_0 \rangle$  is not yet an actual world according to  $f_{CG}(w_0, t_{-2})$ . This implies a technical necessity to distinguish the actual world  $w_0$  observed from  $t_0$  and the same world observed from  $t_{-2}$ , which is not precisely described in Figure 3 for conciseness. I will use the notation  $w'_0$  for  $w_0$  observed from  $t_{-2}$ , as it appears in (68b-i).

Secondly, the ordering source restriction is also satisfied. Paul has an explicit desire to pass DELE in May, which in turn becomes the salient decision problem in the context and is ordered by a teleological ordering source  $g$ .

Lastly, counterfactuality must be checked regarding epistemicity.  $p(t_{-1})(w_1)$  is not true, since the judgment is now made from  $f_{CG}(w_0, t_0)$ , not from  $f_{CG}(w_0, t_{-2})$  as in the first presupposition. Therefore, counterfactuality condition is met.

(68) Semantics of (67) (See Figure 3 for numeric subscripts)

- a.  $\llbracket \text{impmod}[\text{you study more in April}] \rrbracket$   
 $= \forall w \in O(f_{CG}, g, w_0, t_{-2})[\llbracket \text{you study more in April} \rrbracket(t_{-1})(w)]$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_i = t_{-2}$ ):  
 $\exists t_{-2}. \exists w'_0, w_1 \in f_{CG}(w_0, t_{-2})[\neg p(t_{-1})(w'_0) \wedge p(t_{-1})(w_1)]$   
 & The decision made at  $t_{-2}$  should solve  $\Delta_{t_{-2}}^{t_{-2}}$  in accordance with  $g$ .

ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_{-2}}^{t_{-2}}$  = what Paul should do to pass DELE in May.

iii. Epistemic counterfactuality condition:

Counterfactual since  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_{-1})(w)$

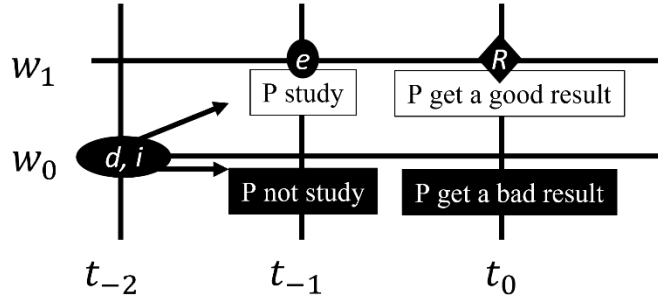


Figure 3. World-time grid of (67)<sup>20</sup>

A similar evaluation can be made for a hindsight CPI, repeated here as (69) and Figure 4. Their difference from (67) and Figure 3 is that the index time  $t_i$  is now located at the utterance time.

(69) Context: In March, Paul applied for DELE exam scheduled for May because his mom told him to do so. He was totally indifferent to the exam, and did not study even a single Spanish word. The result he got in June was desperate. But he soon saw that a good company suddenly posted a job opening, requiring all applicants to submit a valid DELE certificate. As he has been looking for a decent job, now he regrets not having studied harder in April. Miguel, a friend of his, knows all this context and utters:

Miguel:

(In Spanish) ¡Haber estudiado más en abril!

(In Korean) Sawol-ey kongpu te hay-sse pwa-la!

‘You should have studied more in April!’

<sup>20</sup> For consistency, the figures in this chapter will use a dark box to indicate an epistemically certain event that is compatible with the actual world and a white box to indicate a strongly counterfactual event. A box with gray slashes indicates an epistemically uncertain event. Similarly, a black arrow refers to a time course that is epistemically certain, while a gray arrow refers to an epistemically uncertain time course.

The only difference of (69) from (67) is to calculate  $t_i$  as  $t_0$  instead of  $t_{-2}$ , thereby placing  $t_d$  before  $t_i$ . Hence, one can notice a hindsight effect given that  $t_d < t_i$ .

Hence the presupposition undergoes certain changes. In epistemic uncertainty at salient temporal point presupposition, the temporal variable scoped over by existential closure is not assigned to the index time  $t_i$  anymore; it is a past moment which precedes  $t_i$  and actually the same as the  $t_d$  of the hindsight-less example (67). Locating  $t_d$  precisely in  $t_{-2}$  is thanks to the ordering source  $g$  and the decision problem  $\Delta_{t_d}^{t_i}$ . Secondly, the decision problem arises at the utterance time  $t_0$ , which becomes the index time  $t_i$ . Lastly, the third presupposition is the same as the one in the hindsight-less CPI.

(70) Semantics of (69) (See Figure 4 for numeric subscripts)

- a.  $\llbracket \text{impmod}[\text{you study more in April}] \rrbracket$   
 $= \forall w \in O(f_{CG}, g, w_0, t_{-2})[\llbracket \text{you study more in April} \rrbracket(t_{-1})(w)]$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_{-2} < t_i = t_0$ ):  
 $\exists t_{-2}. \exists w'_0, w_1 \in f_{CG}(w_0, t_{-2})[\neg p(t_{-1})(w'_0) \wedge p(t_{-1})(w_1)]$   
& The decision made at  $t_{-2}$  should solve  $\Delta_{t_{-2}}^{t_0}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_{-2}}^{t_0}$  = what Paul should do to pass DELE in May.
  - iii. Epistemic counterfactuality condition:  
Counterfactual since  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_{-1})(w)$

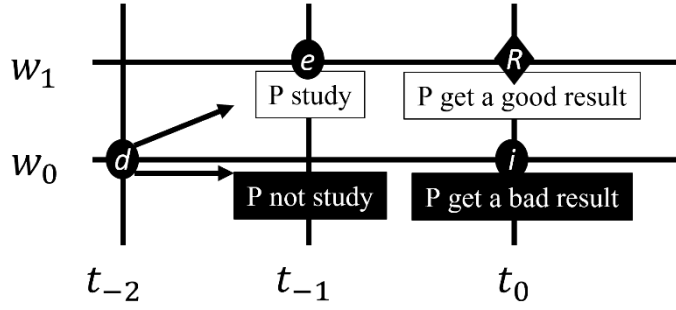


Figure 4. World-time grid of (69)

### 4.3.2 Foresight CPIs with and without hindsight

In foresight CPIs, the event time  $t_e$  is placed after the utterance time  $t_0$ , as in (34), which is repeated here as (71) and Figure 5. Without hindsight, the index time  $t_i$  is placed in a salient past moment, when the decision problem arises.

- (71) Context: A few days ago, Paul sold stocks of Samsung he had because there seemed to be no chance that Samsung's shares would rise. Having sold them all, now he is wondering how to make money. But today, Miguel, a friend of his who knows this context, saw in a stock market news that such advance in the share price is expected to happen in a few days as the company is launching a new product. Now Miguel says to Paul:
- (In Spanish) ¡Haberlas vendido la semana siguiente!
- (In Korean) Taum cu-ey pal-ass-e pwa-la!
- 'You should have sold them next week!'

It is possible that the addressee of a hindsight-less foresight CPI knows at the index time  $t_i$  that the best moment to carry out  $p$  is  $t_e$ , but it is not a necessary condition. It is necessary enough that the addressee has a relevant decision problem and understands that the ordering source  $g$  can give an answer to the problem at a certain temporal point but the index time  $t_i$ . In such a case, according to Figure 5, the addressee might not know at  $\langle w_0, t_{-2} \rangle$  that  $p$  should be carried out at  $t_1$ , but for there to be a felicitous context for a foresight CPI, they should know that  $p$  is

related to the decision problem and there must exist a better temporal alternative to carry out  $p$  than  $t_{-1}$ , when they actually sell the stocks.

Concerning the rest of the presuppositions, the epistemic uncertainty is calculated at the past moment, when both  $p$  and not  $p$  were possible. Epistemic counterfactuality is calculated at the utterance time, and for the felicity of the foresight CPI, discourse participants should agree that  $p$  cannot happen in any moment of the future. This is shown with gray arrows in Figure 5, which lead the future course of the time to different worlds but  $w_1$ .

(72) Semantics of (71) (See Figure 5 for numeric subscripts)

- a.  $\llbracket \text{impm}[\text{you sell them next week}] \rrbracket$   
 $= \forall w \in O(f_{CG}, g, w_0, t_{-2})[\llbracket \text{you sell them next week} \rrbracket(t_1)(w)]$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_i = t_{-2}$ ):  
 $\exists t_{-2}. \exists w'_0, w_1 \in f_{CG}(w_0, t_{-2})[\neg p(t_1)(w) \wedge p(t_1)(w')]$   
& The decision made at  $t_{-2}$  should solve  $\Delta_{t_{-2}}^{t_{-2}}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_{-2}}^{t_{-2}} = \text{what Paul should do to earn money}$ .
  - iii. Epistemic counterfactuality condition:  
Counterfactual since  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_1)(w)$

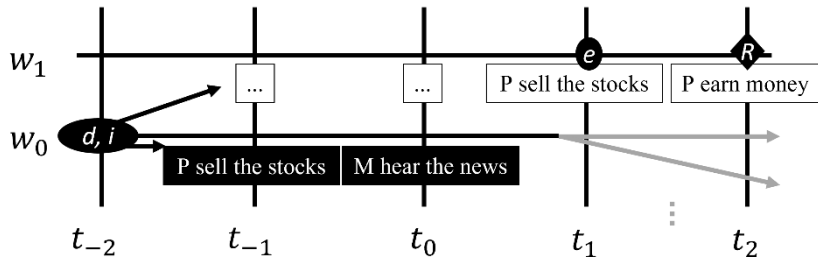


Figure 5. World-time grid of (75)

Once the index time is brought to the utterance time, as in (73), which was first

presented in (35), then we have a hindsight effect and a foresight effect at the same time. As illustrated in (74) and Figure 6, a foresight is marked by  $t_0 < t_e$ , while a hindsight is marked by  $t_d < t_i$ . The hindsight implies that the addressee did not have the salient decision problem at  $t_d(=t_{-2})$ , thereby was unconscious that there would exist a better temporal alternative to carry out  $p$  than  $t_{-1}$ .

(73) Context: A few days ago, Paul sold stocks of Samsung he had simply because his mom told him to do so. After having sold them all, he recognizes that he would have had a chance to earn a lot of money if he had not sold them. Today, Miguel, a friend of his who knows this context, saw in a stock market news that such advance in the share price is expected to happen in a few days as the company is launching a new product. Now Miguel says to Paul:

(In Spanish) ¡Haberlas vendido la semana siguiente!

(In Korean) Taum cu-ey pal-ass-e pwa-la!

‘You should have sold them next week!’

(74) Semantics of (73) (See Figure 6 for numeric subscripts)

- a.  $\llbracket \text{impm}[\text{you sell them next week}] \rrbracket = \forall w \in O(f_{CG}, g, w_0, t_{-2})[[\text{you sell them next week}](t_1)(w)]$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_{-2} < t_i = t_0$ ):  

$$\exists t_{-2}. \exists w'_0, w_1 \in f_{CG}(w_0, t_{-2})[\neg p(t_1)(w'_0) \wedge p(t_1)(w_1)]$$
 & The decision made at  $t_{-2}$  should solve  $\Delta_{t_{-2}}^{t_0}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_{-2}}^{t_0}$  = what Paul should do to earn money.
  - iii. Epistemic counterfactuality condition:  
 Counterfactual since  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_1)(w)$

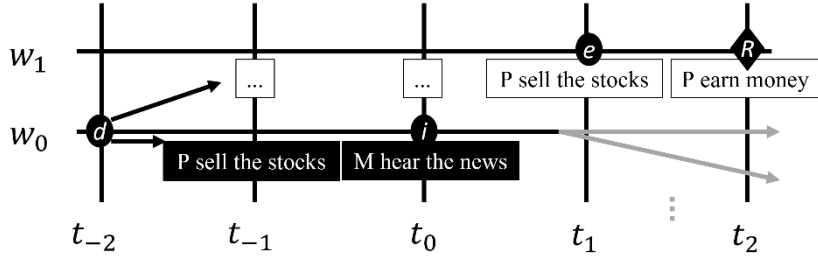


Figure 5. World-time grid of (73)

### 4.3.3 NCPIs

NCPIs are a subtype of ordinary imperatives. They indicate that an event has been carried out priorly and the content itself refers to the resultative state of an action due to their perfect aspect or past tense morpheme. Example (27), repeated here as (75), is felicitous in English and Korean, while it is infelicitous in Spanish since it does not allow non-performative imperatives.

- (75) Context: Miguel bought a bag of twisted doughnuts and put the bag on the table in the kitchen. After taking a shower, he fell asleep in his bedroom, without tasting a single string of twisted doughnut. When he woke up, he was worried his brother ate them all. Now wishing his brother didn't eat them all, he talked to himself:
- Cepal com namkyenwa-ss-ela!  
 please some leave-past-imp  
 'Please have left some for me!'

Concerning the presuppositions, the salient temporal point  $t_d$  is a past moment  $t_{-2}$  and at this point the common ground allows that there be a world where each of  $p$  and  $\neg p$  is felicitous. In other words, since the speaker cannot have access to what happened at a past moment  $t_{-2}$  (See Figure 7), they are still uncertain about  $p$ ; otherwise, it would be infelicitous. The necessity of uttering  $p$  and a relevant decision problem arises when the speaker in (75) wakes up, assigning  $t_i$  to  $t_0$ . Lastly, the epistemic counterfactuality condition in the NCPI is identical to the



epistemic uncertainty condition.

(76) Semantics of (75) (See Figure 7 for numeric subscripts)

- a.  $\llbracket \text{impm}[\text{have left some}] \rrbracket = \forall w \in O(f_{CG}, g, w_0, t_{-2})[\llbracket \text{have left some} \rrbracket(t_0)(w)]$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_{-2} < t_i = t_0$ ):  
 $\exists t_{-2}. \exists w_2, w_3 \in f_{CG}(w_0, t_0)[\neg p(t_0)(w_3) \wedge p(t_0)(w_2)]$   
 & The decision made at  $t_{-2}$  should solve  $\Delta_{t_{-2}}^{t_0}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_{-2}}^{t_0} = \text{What he should have done so that Miguel could eat some doughnuts.}$
  - iii. Epistemic counterfactuality condition:  
 Not counterfactual since  $w_2, w_3 \in f_{CG}(w_0, t_0) \rightarrow [\neg p(t_0)(w_3) \wedge p(t_0)(w_2)]$

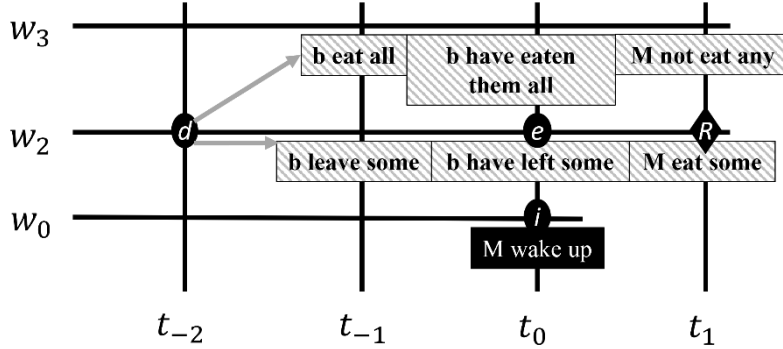


Figure 7. World-time grid of (75)

#### 4.3.4 Ordinary imperatives other than NCPIs

In this chapter, I will apply the semantics to four special cases of ordinary

imperatives. Only English examples are given for simplicity, but the same contexts are applicable to their Spanish and Korean counterparts. One is the time machine example discussed above, repeated here as (77).

- (77) Context: Paul invented a time machine. Miguel, who could not understand a phrase in Cicero's *De diuinatione*, wants Paul to go back to the Roman Republic and ask Cicero the meaning of that phrase. Now,  
Miguel: Paul, go meet Cicero and ask him the meaning of this phrase.

The time machine example assumes that it is epistemically uncertain whether  $p$ , even though it is an event in the past. Hence, imperative clause (77) satisfies the first presupposition. As a salient decision problem arises at the utterance time, the index time  $t_i$  overlaps the utterance time  $t_0$ . The decision problem is placed in a past moment, which is  $t_{-1} (< t_0)$ , but this is still felicitous since the first presupposition about epistemic uncertainty is satisfied. The last presupposition is the same as the first presupposition, framing (77) as a non-counterfactual imperative.

(78) Semantics of (77) (See Figure 8 for numeric subscripts)

- a.  $\llbracket \text{impmod}[\text{you meet Cicero}] \rrbracket$   

$$= \forall w \in O(f_{CG}, g, w_0, t_0) [\llbracket \text{you meet Cicero} \rrbracket(t_{-1})(w)]$$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point ( $t_d = t_i = t_0$ ):  

$$\exists t_0. \exists w_2, w_3 \in f_{CG}(w_0, t_0) [\neg p(t_{-2})(w_3) \wedge p(t_{-2})(w_2)]$$
 & The decision made at  $t_0$  should solve  $\Delta_{t_0}^{t_0}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_0}^{t_0} =$  What Paul should do so that Miguel can get the answer.
  - iii. Epistemic counterfactuality condition:

Not counterfactual since  $w_2, w_3 \in f_{CG}(w_0, t_0) \rightarrow$   
 $[\neg p(t_{-2})(w_3) \wedge p(t_{-2})(w_2)]$

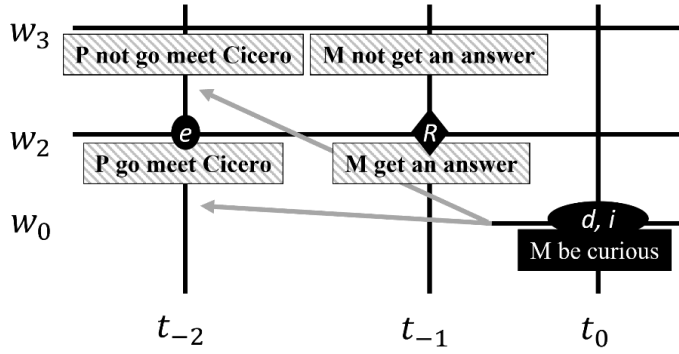


Figure 8. World-time grid of (77)

There is an additional context which is alike to, but different from a time machine example. It is the TV show example (57), repeated here as (79).

- (79) Context: Miguel is watching a recorded music contest TV show. He became a fan of one of the contestants and wishes them win the competition. Since Miguel thinks it is important to sing a good song to win, he talks to himself,  
Miguel: Please sing a good song!

The presuppositions of (79) differ slightly from the presuppositions of (77). Unlike (77) in which discourse participants believe in the performativity and the epistemic uncertainty arises at the utterance time  $t_0$ , the discourse participants in (79) agree with that there is no possibility of a change of the time course. Then the epistemic uncertainty condition should be checked at a salient past moment which precedes the event time  $t_e(=t_{-2})$ . Therefore, the first and the third presuppositions are not identical.

(80) Semantics of (79) (See Figure 9 for numeric subscripts)

- a.  $\llbracket \text{impm}[\text{you sing a good song}] \rrbracket$   
 $= \forall w \in O(f_{CG}, g, w_0, t_{-3})[\llbracket \text{you sing a good song} \rrbracket(t_{-2})(w)]$
- b. Presuppositions:
- i. Epistemic uncertainty at salient temporal point ( $t_d = t_i = t_0$ ):  
 $\exists t_0. \exists w_2, w_3 \in f_{CG}(w_0, t_{-3})[\neg p(t_{-2})(w_3) \wedge p(t_{-2})(w_2)]$   
 & The decision made at  $t_{-3}$  should solve  $\Delta_{t_0}^{t_0}$  in accordance with  $g$ .
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_0}^{t_0} = \text{What the singer A should do to win}$ .
  - iii. Epistemic counterfactuality condition:  
 Not counterfactual since  $w_2, w_3 \in f_{CG}(w_0, t_0) \rightarrow [\neg p(t_{-2})(w_3) \wedge p(t_{-2})(w_2)]$

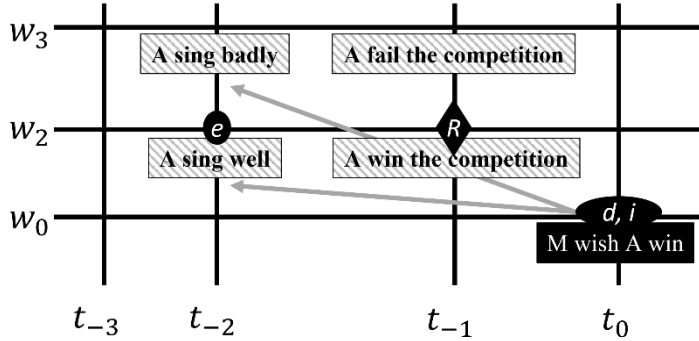


Figure 9. World-time grid of (79)

However, discourse participants may find the second imperative of context (81) to be infelicitous. The common ground of the context includes that Paul has already watched the episode and knows whether the singer will sing well or not. It is not epistemically uncertain for Paul whether  $p$ . Therefore, Paul's imperative of (81) results in the presupposition failure of the epistemic counterfactuality condition. For his utterance to be felicitous, Paul should confirm that this was not a true imperative, but rather he wanted to deliver a different pragmatic meaning, as he does in the second utterance of (81).

(81) Context: Miguel and Paul are watching an episode of a recorded music contest TV show. Miguel is watching the episode for the first time, while it is the second time for Paul to watch it. Miguel knows that Paul has already watched it once. Given this context, Miguel finds Paul's reaction is awkward.

Miguel: Please sing a good song!

Paul: #Yes, please sing a good song!

Miguel: Huh? Haven't you already watched it?

Paul: Oh, well, I'm just being on your side.

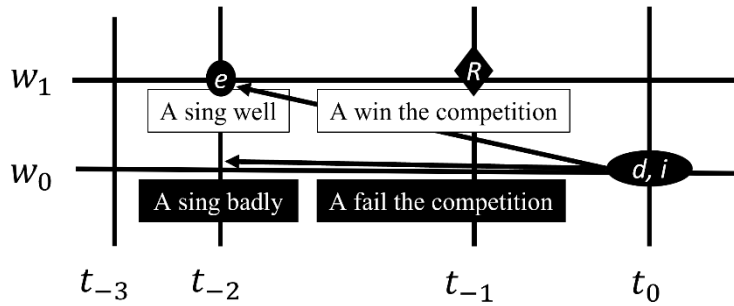


Figure 10. World-time grid of (81) for Paul

The last ordinary imperative example is (82), which is an example of an infelicitous imperative clause due to the presupposition failure. In (82), Miguel shares Paul's decision problem at the utterance time and considers that carrying out  $p$  is an answer to the problem. Since carrying out  $p$  is incompatible with the common ground, one might deduce that (82) is a kind of a counterfactual imperative. Imperative (82) satisfies the third presupposition (83c) in that  $p$  cannot be felicitous at any time and any world which is compatible with the common ground of the actual world-time pair. Figure 11 places the event time at the utterance time for conciseness, but this is not the only case since it can be located either in the past or in the future as well.

Nonetheless, failure of the first presupposition disallows it to even be an imperative. There should exist a temporal point where allows both  $p$  and  $\neg p$  at the event time. However, Minotaur has not existed at any time and killing Minotaur thereby is an impossible choice for the addressee. The salient temporal point

cannot exist, and the imperative does not satisfy the first presupposition. Therefore, the semantics can successfully rule out an infelicitous imperative.

- (82) Context: Paul wants to become a hero. Miguel, who recently read a story about Greek myths, recommends Paul to kill Minotaur. Since killing Minotaur never has been a possible option for Paul due to its inexistence, this utterance is infelicitous.

Miguel: #Kill Minotaur!

- (83) Presuppositions of (82) (See Figure 11 for numeric subscripts)

- a.  $\llbracket \text{impmod}[\text{you kill Minotaur}] \rrbracket$   

$$= \forall w \in O(f_{CG}, g, w_0, t_d) \llbracket [\text{you kill Minotaur}](t_0)(w) \rrbracket$$
- b. Presuppositions:
  - i. Epistemic uncertainty at salient temporal point:  

$$\neg \exists t_d$$
  - ii. Ordering source restriction: the ordering source  $g$  offers an answer to  $\Delta_{t_d}^{t_0} = \text{What Paul should do to win fame}$ .
  - iii. Epistemic counterfactuality condition:  
 Possibly counterfactual since  $\forall w \in f_{CG}(w_0, t_0) \rightarrow \neg p(t_0)(w)$ ;

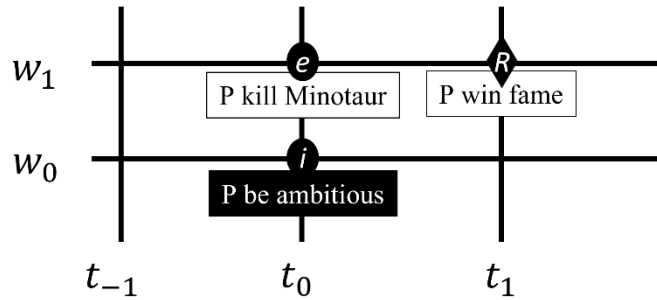


Figure 11. World-time grid of (82)

## 4.4 A reply to Biezma (2010)

In Chapter 3.1.1, Biezma's (2010) counterargument against Bosque's (1980) claim argued that CPIs are not true imperatives but rather hidden inverted conditionals.

Her counterargument can be summarized into two points. Firstly, morphosyntactic features of CPIs are not proper to imperatives. CPIs exclusively appear to be infinitival imperatives and are not interchangeable with morphological imperatives. They also allow a 3<sup>rd</sup> person subject and a stative predicate, especially the latter unlike ordinary imperatives as shown in (84) with *saber* ‘to know’ verb.

(84) Asymmetric licensing of imperatives by *saber* ‘to know’

- a. \*¡Sábelo            antes!  
       know-IMP-CL before  
       ‘Know it before!’
- b. ¡Haberlo sabido antes!  
       haber-CL known before  
       ‘You should have known it before!’  
       (Biezma, 2010)

Secondly, CPIs convey some speech acts that cannot be expressed with the semantics and pragmatics of ordinary imperatives. The prejacent *p* is already present in the common ground and CPIs may make weird orders, always being reproach-like replies and tied to weakest desires. In this chapter, I will argue that Spanish CPIs are true imperatives against these claims, as an extension of the arguments I have made in Nam (2023).

First of all, from a morphosyntactic point of view, CPIs cannot alternate with their morphological imperative mood counterparts due to their counterfactuality. I assume that the lack of tense feature of an infinitive verb is a crucial parameter in licensing CPIs in Spanish and it can also explain why English and Korean differ from Spanish. This will be explained in more details in Chapter 5. See Chapter 5.1 for Spanish CPI syntax.

Also, not only CPIs but also ordinary imperatives can have a 3<sup>rd</sup> person subject and a stative predicate. One of the commonly found 3<sup>rd</sup> person subjects are (85) and (86). They usually appear to be a passive verb with an enclitic, and their subject is a noun other than a 2<sup>nd</sup> person (RAE & ASALE, 2009: §42.4i). Moreover, it is common that infinitival imperatives are addressed to a number of unspecified

individuals. RAE & ASALE (2009: §42.3q) affirm that Spanish infinitive imperatives, such as that of (87) are commonly found in relatively informal written contexts, such as signboards, email, or school texts, and this use is widespread in all Spanish speaking regions. Biezma (2008) indicates that infinitive imperatives are true imperatives just as their finite counterparts.

(85) Context: At the end of a civil suit ruling by the Spanish Supreme Court

Notifíquese                      esta resolución a las partes e  
notify.3P.SING.SUBJ-*se* this resolution to the.PL parts and  
insértese                      en la colección legislativa.  
insert.3P.SING.SING-*se* in the collection legislative

Intended meaning: ‘This resolution shall be notified to both parties and be inserted in the legislative collection.’

(86) Véase              el párrafo siguiente.

see-SUBJ-*se* the paragraph next

‘See the next paragraph.’

(RAE & ASALE, 2009: §42.4i)

(87) No entrar.

not enter.INF

‘Do not enter.’

An ordinary imperative with a stative predicate can be found in a sentence like (88). As observed in Chapter 3.1.1, Spanish disallows wish-type imperatives that are solely speaker-bouletic and out of the scope of the addressee’s performativity. Otherwise, an imperative is still felicitous, even if it contains a stative verb.

(88) Sé              amable.

be.IMP kind

‘Be kind.’

Secondly, it is not weird that the content of CPIs is already present in the common ground since its prejacent delivers a strong counterfactual proposition. Innate



counterfactuality of CPIs requires that  $\neg p$  is already in the common ground of the context. Such a stricter pragmatic and contextual background CPIs require can explain why they are mostly replies and reproaches: for their utterance to be felicitous, it should have been  $p(t_e)(w_0)$  while  $\neg p(t_e)(w_0)$  in the actual world, which is a condition that naturally frames CPIs as reproaches. From this point of view, Bosque's report that CPIs cannot start a conversation seems unsatisfactory. Once adequate contextual background is present (i.e. the common ground, non-verbal expressions, and so on), CPIs are felicitous in the beginning of a conversation.

The last observation concerns Biezma's claim about weird orders, such as the one in (89). I consider that discourse participants of the context agree that there is a salient decision problem in the context such that having born as a potato would have given the answer to the problem. Furthermore, given that discourse participants would rarely agree that they had a chance to be born as a potato, the speaker must rely on a pragmatic accommodation so that the addressee understands (89) as a joke and assumes a salient temporal point  $t_s$  when being born as a potato is epistemically uncertain. Otherwise, the joke will be easily refused.

- (89) ¡Haber nacido patata!  
haber-INF born potato  
'You should have been born as a potato!'

Additional to these arguments, I would like to add that Spanish CPIs are by itself independent clauses that can stand alone and are different from the antecedents of a conditional, which is dependent on its consequent pair. Examples (13)-(15), repeated here as (90)-(92), are a good proof. While the overt antecedents of (90) and (91) are followed by their consequents without any conjunction, the CPI of (92) unmarkedly requires a conjunction. This demonstrates that CPIs should be analyzed as independent imperative clauses, rather than assuming hidden antecedent conditionals.<sup>21</sup>

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<sup>21</sup> In the meantime, the fact that Spanish CPIs are used as a conditional imperative followed by a counterfactual subjunctive clause might have additional implications about their tense.

- (90) Si lo      hubierais                      dicho, os      lo  
       if it-CL haber-SUBJ-IMPf-2ND-PL said you-CL it-CL  
       hubiéramos                      traído.  
       haber-SUBJ-IMPf-1ST-PL brought  
       ‘If you had said that, we would have brought it to you.’
- (91) De haberlo    dicho, os      lo    hubiéramos                      traído  
       of haber-CL told you-CL it-CL haber-SUBJ-IMPf-1ST-PL brought  
       ‘If you had said that, we would have brought it to you.’
- (92) Haberlo dicho y os      lo    hubiéramos                      traído.  
       haber-CL told and you-CL it-CL haber-SUBJ-IMPf-1ST-PL brought  
       ‘If you had said that, we would have brought it to you.’

## 4.5 A note on performativity feature of Spanish imperatives

Regarding Biezma’s (2010) argument that Spanish imperatives do not allow stative predicates, I argued in the previous subchapter that some stative predicates can be used in imperatives. Nevertheless, if the stative predicates are non-performative, then Spanish does not allow imperatives with such verbs. Wish-type imperatives refer to those sentences in which the realization of the prejacent does not depend on the addressee’s performance, there cannot be any addressee, or the possible addressee is not present in the speaker’s sight at the moment. They have been

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Hernanz (2016) summarizes there are several different ways to figure out the tense of an infinitive verb of a subordinate clause. One of them is *consecutio temporum* of an adverbial infinitive introduced by a subordinate clause head *de*. In (i), the tense of *tener* is calculated with the tense features of the subordinate clause head and the time correlation between the matrix clause and the subordinate clause, thereby being equivalent to *tuviera* ‘had’.

- (i) De tener      dinero, me      compraría                      la casa.  
       of have-INF money me-CL buy.1ST.SING.COND the house  
       If I had money, I would buy the house.

CPIs are different from the *de*-head clause of (i) since the former is not a subordinate clause but an independent imperative clause. However, the *consecutio temporum* is straightforwardly applicable to figure out the tense of CPIs like (92). The correlation is established between the CPI and the second conjunct, and the conjunction *y* ‘and’ will assume the role that the preposition *de* would do in (i). This correlation is still active even if CPI stand alone, since the content and tense of the consequent are encoded in the ordering source restriction of the CPI.

known as audienceless imperatives as well. The English examples (93)-(95) are extracted from Condoravdi & Lauer (2012), with their translations of Spanish and Korean counterparts. A noteworthy fact is that among the three languages in comparison, only English and Korean can express wish-type imperatives with the canonical imperative verbal mood, while Spanish imperative mood verbs disallow them.<sup>22</sup>

(93) Wish

- a. \*¡Mejórate pronto!  
get.well-2P-SING-IMP soon
- b. Ese na-ala!  
soon get.well-IMP
- c. Get well soon!

(94) Addresseeless wish

- d. \*¡Por favor no lluevas!  
please not rain-2P-SING-SUBJ-PRES
- e. Cepal pi o-ci ma-la!  
please rain come-ci NEG-IMP
- f. Please don't rain!

(95) Absent wish (Context: On the way to a blind date)

- g. \*¡Sé rubio!  
be-2P-SING-IMP blond
- h. Kumpal namca-i-ela!  
blond man-COP-IMP
- i. Be blond!

---

<sup>22</sup> An example like (95a) is infelicitous only if it is an absent wish. For example, a speaker is not expected to utter the sentence when they are going to a blind date and express their wish with the absence of the addressee. If the addressee is present at the sight and the speaker is asking the addressee to dye the hair, then the utterance is felicitous.

Also, there are some Spanish imperatives that seem non-performative, such as (i). This is uttered in a specifically religious context, and it is natural to assume that *p* actually is performative in this context due to the omnipotence of the God.

(i) ¡Hágase la luz!  
'Let there be light!'

Spanish disallows the use of the imperative mood in this sense and requires either of the two possible alternatives: one is the '*que* + subjunctive' structure and the other is the '*ojalá* + subjunctive' structure, exemplified in (96) below.

(96) *Que/ojalá* structures in Spanish

- j. ¡Que/Ojalá te mejores pronto!  
que/ojalá get.well-2ND-SING-SUBJ-PRES soon
- k. ¡Por favor, que/ojalá no llueva!  
please que/ojalá not rain-2ND-SING-SUBJ-PRES
- l. ¡Que/Ojalá sea rubio!  
que/ojalá be-3RD-SING-SUBJ-PRES blond

These alternative structures can hardly be considered imperatives. The predicates are embedded under the complementizers *que* or *ojalá*, which would not be possible were they true Spanish imperatives. Another evidence that they are not imperatives is the inconsistent agreement in person. Take the absent wish example, for instance. In the ungrammatical examples in (93)-(95), the verb is conjugated into 2<sup>nd</sup> person singular, but in the grammatical counterparts in (96), the verb is conjugated into 3<sup>rd</sup> person singular, implying that they are not assuming any 2<sup>nd</sup> person addressee and thereby are far from being imperatives.<sup>23</sup>

Non-performative imperatives do not necessitate any active agent and they are likely to appear with non-dynamic predicates. Dynamic predicates can also be used, but in this case, the predicates must be presented in perfect aspect, as in (97), retrieved from Wilson & Sperber (1988/1998). Otherwise, it is unlikely to induce a non-performative interpretation. Spanish again disallows the imperative mood for (98) and either *que* structure or *ojalá* structure will be required.

<sup>23</sup> It is well known that Spanish subjunctive verbs are suppletive forms for 3<sup>rd</sup> person imperatives and negative imperatives (RAE & ASALE 2009: 3130). However, this still does not prove that subjunctives themselves are always equivalent to true imperatives, since the suppletive subjunctives for imperatives can appear unembedded, while (96) cannot appear unembedded.

(97) Non-performative imperatives with perfect predicates

- m. \*Por favor no        hayas                    arruinado las cosas.  
                                 please   not have-2ND-SING-SUBJ-PRES   ruined   the things
- n. Cepal il-man   mangchi-ci   mal-ass-ela.  
                                 please work-only   ruin-*ci*   neg-PAST-IMP
- o. Please don't have made things wrong.

(98) Imperfect counterparts of (97)

- p. ¡Arruina las cosas!  
                                 ruin-IMP the things
- q. Ta mangchy-ela!  
                                 all ruin-imp
- r. Make things wrong!

If dynamic predicates are not in perfect aspect anymore as in (98), the predicates are no longer stative, and they cannot deliver the sense of non-performative imperative. They rather proffer a directive interpretation, naturally assuming an agent with performativity.

The same restriction is applied to CPIs. Some native speakers have personally reported that a sentence like (99) is infelicitous unlike other CPIs which have been present throughout this thesis. This sentence is a counterfactual imperative with a non-performative verb *llover* ('to rain').

(99) \*Ay, ¡no haber llovido!

ay   not haber rained

Intended meaning: 'Oh, it should not have rained!'

To sum up, Spanish does not allow canonical wish, addresseeless wish, and absent wish imperatives, and the same restriction is applicable to CPIs as well. However, there are two issues to point out. Firstly, canonical wish imperatives are not completely impossible, as illustrated in (100). Although addresseeless wish and absent wish imperatives are completely impossible and subjunctive optative constructions are preferred even for canonical wish imperatives, a sentence like

(100) still is a possible option.<sup>24</sup>

(100) ¡Recupérate pronto!

get.well-IMP soon

‘Get well soon!’

Secondly, Spanish allows TV show examples, which can be considered as a subtype of absent wish imperatives. The difference between TV show examples and the rest of the absent wish imperatives concerns performativity. Such a diversity of Spanish imperatives can be summarized in Table 2 below.

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<sup>24</sup> I couldn’t have found any research so far about any diachronic, variational, semantic, or pragmatic differences between the two forms. I will leave these issues for future research.

	Is <i>Ad</i> present or absent?	Is it performative or not?	Is it wish-like?
<b>1. Ordinary imperatives</b>	present	performative	no
<b>2. Canonical wish imperatives</b> <i>*¡Recupérate!</i>	present	<i>Unsure</i>	yes
<b>3. Addresseeless imperatives</b> <i>*¡No lluevas!</i>	non-existent	non-performative	yes
<b>4. Absent wish imperatives</b> <i>*¡Sé rubio!</i>	absent	non-performative	yes
<b>5. Performanceless imperatives</b> <i>*¡Sábelo antes!</i>	present	non-performative	no
<b>6. Passive imperatives</b> <i>Véase el párrafo siguiente.</i>	absent	performative	no
<b>7. TV show examples</b> <i>¡Cántalo bien!</i>	absent	performative	yes
<b>8. Present perfect NCPIs</b> <i>*¡No hayas lavado los platos!</i>	absent	non-performative	yes
<b>9. Future perfect NCPIs</b> <i>¡No hayas lavado los platos!</i>	present	non-performative	no
<b>10. CPIs</b>	present or absent	performative	<i>Unsure</i>

Table 2. Spanish imperatives analyzed with three different parameters

According to the table, the most critical features in allowing Spanish imperatives are performativity and addressee-presence. For non-PIs, that is, from 1 to 7 on the table, if performativity feature is positive, then Spanish imperatives are felicitous. For PIs, if either of performativity or addressee-presence features is positive, then imperatives are felicitous. On the contrary, wish-likeness is not critical.

Once again, one peculiarity to note is canonical wish imperatives and their ambiguous felicity. While it is unsure whether they are performative or not, we can consider two possibilities about why this happens. First possibility is the speakers' judgement on performativity. Given the example (100), one might argue that nothing can be performed by the addressee to achieve to the goal of getting well, while others might argue that all the measures taken to get well, such as taking pills or taking a rest, can be considered as performances. How speakers understand and reconstruct the event may affect the felicity of (100).

The other possibility concerns the lexical aspect of the verb. This includes both the conversion and the alternation. The conversion refers to the change of the lexical aspect as a different verbal mood is given to the verb. The alternation refers to the inherent duality (or more than duality) of lexical aspects of a verb. The aspect alternation is reported to some extent in the Spanish literature such as (101). However, both the conversion and the alternation of the lexical aspects should be researched more.

(101) Lexical aspect alternation of *vivir* 'to live'

- s. Los mosquitos **viven** pocos años.  
the mosquitos live few years  
'Mosquitoes live few years.'
  - a. **Viven** intensamente la vida.  
live-3RD-PL-IND-PRES intensively the life  
'They live the life intensively.'
- (RAE & ASALE, 2009: §23.2.1c)



## **Chapter 5. Crosslinguistic asymmetries of PIs**

One of the interesting features of PIs are their crosslinguistic asymmetries. On one hand, English only allows NCPIs, Spanish allows CPIs and negative NCPIs, and Korean fully has both CPIs and NCPIs. This asymmetry is contrasted with ordinary imperatives, which are commonly available in all three languages. On the other hand, declaratives and imperatives of Spanish and Korean display another asymmetry. In both languages, non-past declarative clauses can deliver imperative-like meanings, especially when they carry performative speech acts. However, no declarative clause can be used as counterfactual imperatives.

Based on these observations, the aim of this chapter is twofold. First is to explain why PIs are asymmetrically distributed across languages, especially among Spanish, Korean, and English. Second is to explain why declaratives of different tenses are asymmetrically used as imperatives.

### **5.1 Syntax of PIs: A comparison between Spanish and English**

CPIs need to be explained with an additional parametric device to clarify why some languages like English do not allow CPIs and why other languages like Spanish do not allow full NCPIs, while languages like Korean fully allow both PIs. I propose that syntax serves as a crosslinguistic parameter.

Let me start with the syntax of Spanish imperatives. Finite verbs of ordinary Spanish positive imperatives, including imperative mood verbs and subjunctive verbs, move up to the C-head from their original position of generation (Harris, 1998; Rodríguez Ramalle, 2005: 498-499). Since imperative mood verbs, just as infinitives or participles, do not carry any feature that requires tense agreement, it is unnecessary that they move to the T-head for tense agreement, while C-head agreement is required due to the imperative feature that the C-head carries. This movement explains why the explicit subject and clitics are placed after the imperative verb, as illustrated in (102).

(102) [CP [C haz [TP pro [T t(haz) [vP lo [VP t(haz) ]]]]]]

Rodríguez Ramalle adds that the postverbal subject and enclitics are characteristics that positive imperative verbs share with infinitive verbs. However, this is not enough to assume that infinitival imperative clauses also follow the same movement pattern, which is a movement to the C-head. As observable in an impossible example of a negative imperative clause in (103a), Rodríguez Ramalle explains that the negation *no* placed between the C-head and the VP blocks the rising of the verb *haz* to the C-head, thereby disallowing a sentence like *\*Haz no lo*. She does not give details about the infelicity of (103b), but it seems to be due to the feature agreement issue. In contrast, the infinitive verb allows a sentence like (103c). If an infinitive verb raised to the C-head, such a sentence would be infelicitous.

(103) Spanish negative imperatives

- a. *\*Haz no lo*.
- b. *\*No hazlo*.
- c. *No hacerlo*.
- d. *No lo hagas*.

Han (1998: 55-57) proposes different structures for (103c) and (103d). While (103c) has the infinitive operator in the C-head, (103d) has the subjunctive operator. Both operators carry irrealis feature. The difference lies in the position of the verb: in (103c), she assumes an InfP (Infinitive Phrase) between the NegP and the IP to place the infinitive verb therein, while the verb of (103d) is placed in the IP. Clitics such as *lo* are placed between the InfP and the IP, so we can have the correct word orders. She adds that the irrealis feature carries the directive speech act of imperatives.

Meanwhile, Biezma's (2008) suggests the syntactic structure of Spanish negative NCPIs. While positive imperatives have the vP as their highest node without a TP, negative imperatives do have the TP. One of her main pieces of evidence is that only negative imperatives can be conjoined with the auxiliary

*haber*, thereby allowing negative NCPIs as the one in (104). Biezma argues that *haber* of NCPIs is placed in the AspP that is between the TP and the vP, but positive imperatives do not have a room for *haber* as their highest node is the vP.

(104) ¡No *hayas* lavado los platos cuando vuelva!

Based on these observations, I assume that Spanish CPIs have an intermediate structure between positive imperatives and negative imperatives: they have the AspP and do not have a TP. I subsequently assume that the Asp-head occupied by *haber* infinitive and a vacant (or inexistent) T-head allow the C-head occupied by the imperative modal operator to produce the uncancellable strong counterfactual meaning. CPIs satisfy this condition. For example, in the CPI sentence (1), repeated here as (105) and whose syntactic tree is illustrated in Figure 11, the infinitive auxiliary verb *haber* is placed in the Asp-head and does not rise to the C-head for being infinitive. Since there is no TP and the Asp-head is occupied, the counterfactual meaning arises.

(105) ¡*Haber* venido ayer!

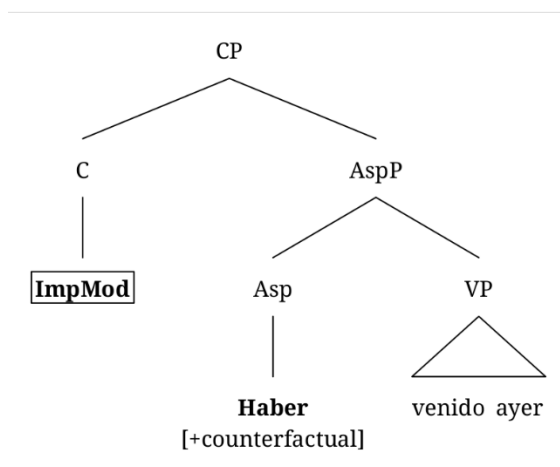


Figure 11. Syntactic tree of (105)

This is different from the structure of (104) in Figure 12, where the TP is occupied by *hayas*. In the NCPI example, the auxiliary verb *hayas* is first placed in the Asp-head and then rises to the T-head to check its features. Since the T-head is occupied,

the counterfactual meaning is blocked.

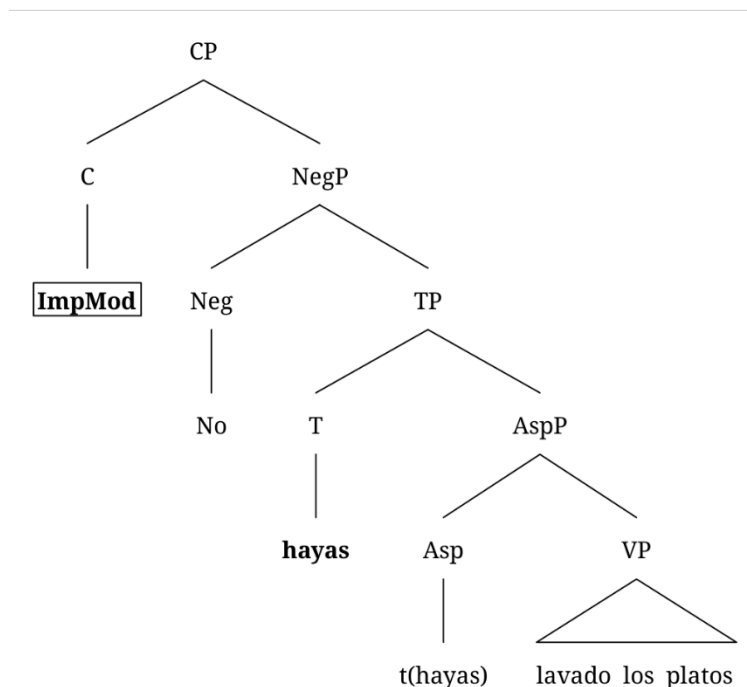


Figure 12. Syntactic tree of (104)

In contrast, *have* verb of English NCPIs is a finite verb and so is the auxiliary verb *do* in both positive and negative imperatives. In English, I will follow Rupp (2003) in that the auxiliary verb *do* in both positive and negative English imperatives is placed in the Infl-head (T-head) to check  $\phi$ -features there before rising to the C-head. I assume then that in English imperatives including NCPIs, while *have* is placed in the Asp-head, the T-head is filled with the auxiliary *do* either overtly or covertly. Therefore, English NCPIs share their syntax with that of Spanish NCPIs, rather than that of Spanish CPIs. This is illustrated in Figure 13, which is the reduced tree of (106).

(106) Please have left some for me!

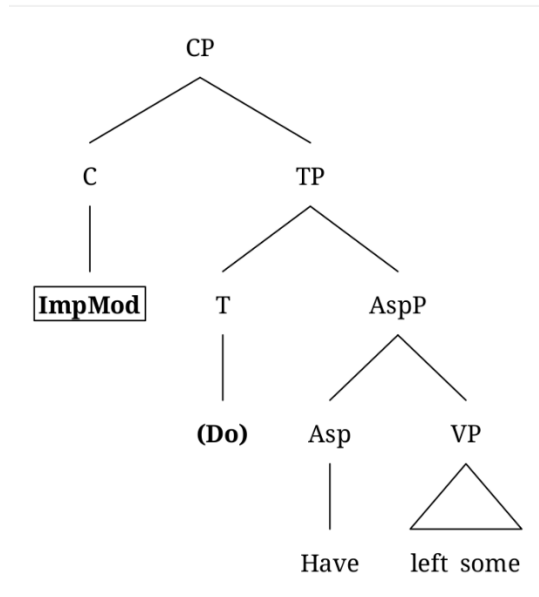


Figure 13. Syntactic tree of (106)

### 5.1.1 Syntax of Korean PIs

Korean fully allows both CPIs and NCPIs. This is due to the peculiarity of Korean past tense marker *-ess-*. Historically, Korean did not have a past tense marker. The periphrasis *-e ista*, which was used to express the perfect aspect, was shortened into *-es(s)-*, and evolved into the past tense marker at least before the 17<sup>th</sup> century. However, this ending still conserves the perfect aspect in contemporary Korean (Ko, 2007: 412-413).

Many authors have pointed out this tense-aspect feature of *-ess-* of the modern days. Chung (2005) suggests that *-ess-* is an anterior that indicates the current result state of a prior event and should not be considered a simple past tense because of this feature. It contrasts with *-essess-*, which lacks current result state and is a simple past tense. Other authors like Lee (1991) and Oh (2003) present a similar analysis. They agree with Chung that *-ess-* is the anterior suffix. However, they diverge from Chung in that *-ess-* can also be a simple past tense. Oh supports this idea by quantitative research; she analyzed 597 tokens of *-ess-* extracted from audio-recorded conversation data and concludes that “simple past is definitely the

most frequent type of use of *-ess-* (452 cases, 76%)”. The interpretation of the suffix *-ess-* between the past tense and the perfect aspect depends on “discourse contexts involving speakers’ communicative concerns and goals” (Lee, 1991: 223).<sup>25</sup> Given this dual functionality and earlier research of *-ess-*, I follow Lee (1991) and Oh (2003) and assume that the nature of *-ess-* is a perfect aspect marker and arises to the Asp-head, with a possibility to arise to the T-head as well to denote the past tense.

Regarding the syntactic structure of Korean imperatives, Han (1998) argues that imperatives are not tensed and thereby lack the TP in their structure. However, I assume that Korean NCPIs are equipped with the TP, following the Spanish NCPI syntax. In the NCPI (27), repeated here as (107), *-ess-* is generated in the Asp-head and rises to the T-head as in Figure 14, resulting in the same state as Spanish NCPIs. In contrast, in the CPI (19), repeated here as (108) and in Figure 15, there is no TP and *-ess-* stays in the place where it is generated, the Asp-head. I have shown that Spanish CPIs display the same structure.

(107) Cepal com namkyenwa-ss-ela!

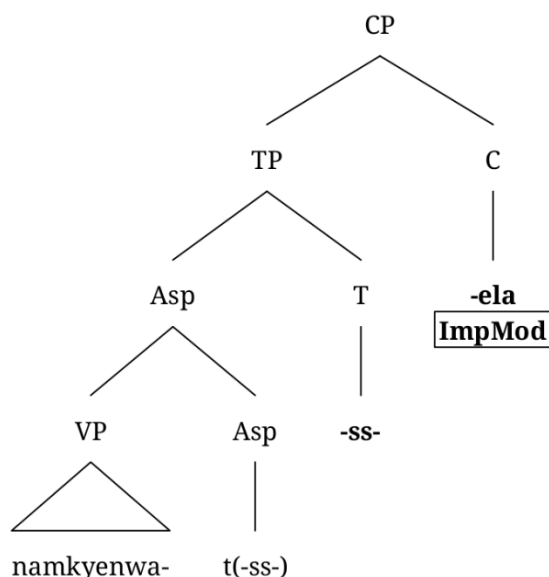


Figure 14. Syntactic tree of (107)

<sup>25</sup> A different approach relates the interpretation of *-ess-* depends on the inherent *aktionsart* of a predicate it is attached to. Both Lee (1991) and Oh (2003) are against this idea.

(108) Ilccik wa-ss-e pwa-la!

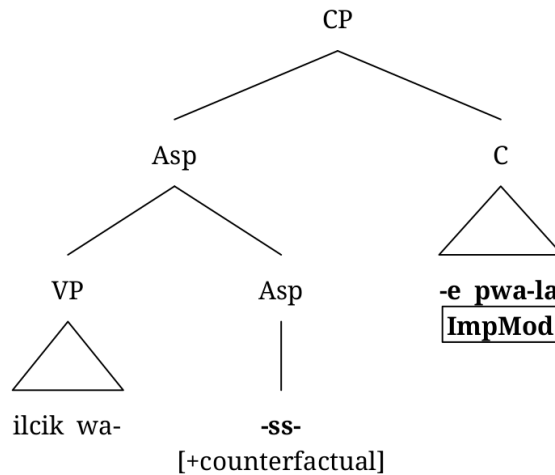


Figure 15. Syntactic tree of (108)

As indicated in Chapter 2.2, Korean CPIs as the one in (107) require its past tense marker to be conjoined with the main verb, not with the auxiliary verb *pota*. Jung (2017) points out that *pota* is tied to such a restriction only if it carries the hypothetical meaning.<sup>26</sup> According to her claim, this feature implies that the past tense marker of CPIs marks the (counter)factualty rather than the tense. Such atemporality of *pota* harmonizes with the lack of a TP in CPIs, and this analysis partially explains why the marker *-ess-* of a CPI occupies the Asp-head, rather than the T-head.

## 5.2 Declaratives as imperatives

Spanish declarative clauses with indicative present tense and future tense verbs are well known to be able to deliver the same sense as ordinary imperatives. Korean counterparts with present tense verbs can be used in a similar way, although in a more limited way than in Spanish. However, interestingly, in both languages,

<sup>26</sup> This does not mean that *pota* introduces hypotheticality of Korean CPIs. Jung (2017) also argues that it is the imperative verbal ending itself which introduces the hypotheticality, given that ordinary imperatives can form conditional imperatives as well as CPIs can. The role of *pota* is to reinforce the hypotheticality in consonance with the imperative verbal ending.

Spanish present tense declaratives can carry various speech acts such as order, instruction, recommendation, petition, advice, proposal, or direction as in (109). (RAE & ASALE, 2009: §23.6o). Future tense declaratives can also deliver order, petition, recommendation, or prohibition as in (110) (RAE & ASALE, 2009: §23.14d). These uses allow a second person subject or a third person subject; in the latter case, the subject is always *usted* or *ustedes*, (a) formal second person addressee(s). Both types of declaratives may carry an authoritarian or cautionary tone, as in (111). They coincide with imperatives in disallowing optative-like meaning.

- Korean declaratives can deliver imperative-like speech acts as well. Since Korean does not have a morphological future tense, present tense declaratives are to be discussed. The similarity to Spanish declaratives is that Korean declaratives are limited to be used in strictly directive contexts when bearing performative speech acts. Some of the examples by Lee (2016: 43-45) are as follows. It is natural to assume a relevant third person subject for each of the examples.



- (112) (Sinpyeng-tul-un) Hayngdong ppali ppali ha-pnita.  
 (new.recruit-PL-TOP) behavior fast fast do-DEC.FORMAL  
 ‘(The new recruits) move quickly.’
- (113) (Elini chinku-tul-un) Kyeytan-eyse ttwuy-ci anh-ayo.  
 (kid friend-PL-TOP) stairs-in run-ci not-DEC.POLITE  
 ‘(Kids) don’t run in the stairs.’

The long *an-* negation in sentence (113) and its incompatibility with the *mal-* negation proves that they are declarative clauses. Sentence (112) is considered a typical military speech, while (113) is a kindergarten teacher’s speech. Both require a strict contextual background to be felicitous, such as the speaker’s authority, although they differ in modal strength. Sentence (110) employs the formal speech style and sentence (111) uses the polite speech style, which is less rigid than the formal style.<sup>27</sup>

The first discussion concerns CPIs and declaratives. Counterfactuality is the key feature of CPIs and their prejacents denote an event that was not realized and may not be realized. However, declaratives denote events that actually happened or at least event that possibly occurred as in (114). In other words, the past tense or perfect aspect morphemes of declaratives are not capable of inducing the backshift of the index time.

- (114) Vendrías ayer.  
 come-COND-2ND-SING yesterday  
 ‘You would come yesterday.’

The second discussion concerns NCPIs and declaratives. Ordinary imperatives, including NCPIs, require epistemic uncertainty, and present and future declaratives which carry such a feature may be used as ordinary imperatives. However, most of the other tenses, including present perfect declaratives, do not carry epistemic uncertainty, mostly dragging the event from the past. One

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<sup>27</sup> See Portner, Pak & Zanuttini (2019) for more details about Korean speech styles.

possibility is Spanish future perfect declaratives. They denote epistemically uncertain events, and thereby may denote the same meaning as NCPIs. Sentence (115) delivers the same meaning as the future perfect imperative (18).

- (115) ¡No habrás lavado los platos cuando  
not haber-IND-FUT-2ND-SING washed the dishes when  
vuelva!  
come.back-SUBJ-PRES-1ST-SING  
'You will not have washed the dishes when I come back!'

## Chapter 6. Conclusion

This thesis has worked primarily on Spanish and Korean PIs to pursue a unified semantic account to explain various PIs. While Spanish allows CPIs and negative NCPIs, Korean fully allows both types of PIs and English does not have CPIs. CPIs are distinguished from ordinary imperatives due to their hindsight and foresight contexts. Furthermore, time machine examples and TV show examples give an additional clue with regard to elaborating the semantics of CPIs and NCPIs. The proposal of this thesis is heavily based on previous works, especially those of Kaufmann (Kaufmann, 2012; Schwager, 2011) and Saito (forthcoming). The important revisions are the removal of the temporality condition, the calculation of the decision  $t_d$  in the light of the decision problem and the utterance time, and the epistemic counterfactuality condition. I also propose some explanations to deal with two asymmetries regarding CPIs. The asymmetry regarding the felicity of CPIs in Spanish, Korean, and English is due to their syntactic structure, while the asymmetry between non-past and past declaratives is due to their accessibility to counterfactuality.

Still, I have to relegate some questions to future research. The first of them is the role of the auxiliary verb *pota* of Korean CPIs. The auxiliary verb *pota* appears obligatorily with CPIs, and it seems to be the result of the counterfactuality, rather than being its cause. This is similar to the particle *-yo*, which appears commonly in Japanese counterfactual imperatives, as shown in (47), repeated here as (116). It is to be studied in more details whether the Korean verb *pota* and the Japanese particle *-yo* share common semantic features with regard to counterfactuality.

- (116) Kinoo(-wa)      gakkoo-ni ko-i(-yo)!  
yesterday(-TOP) school-to come-IMP(-SFP)  
'You should have come to school yesterday!'

The second question is another crosslinguistic counterfactuality. In Chapter 2, I pointed out that Spanish NCPIs are always future perfect imperatives, while

Korean NCPIs are exclusively wish-type present perfect imperatives. The reason for such an asymmetry is to be addressed. Thirdly, as discussed in Chapter 5.1.1, more is to be researched about Spanish wish-type imperatives, focusing on lexical aspects of verbs.

Last problem that remains is the possibility to extend the syntactic analysis about the cross-linguistic asymmetry to other languages. Unlike Spanish, Korean, and English, which have the overt past tense or perfect aspect markers, Saito (forthcoming) reports that Japanese counterfactual imperatives do not have any tense or aspect marker. Dobrushina (2008) reports a similar phenomenon in Russian: Russian counterfactual imperatives do not carry any tense or aspect marker, as shown in (117). A common feature of Japanese and Russian counterfactual imperatives is that they do not carry any other inflectional markers except the imperative marker. In the case of Russian, counterfactual imperatives do not even agree in number with the second person plural subject as they always appear in the second person plural form.

- (117) Bud' vy xudožnik, vy by ume-l-i upravl'a-t'  
 be.IMP2 you.PL painter you.PL SBJV be.able-PST-PL control-INF  
 svo-im voobraženi-em, izliva-t' j-ego izlišk-i  
 POSS.REFL-INSTR imagination-INSTR pour.out-INF he-GEN excess-ACC.PL  
 v tvorenij-ax.  
 in work-LOC.PL  
 'Had you been an artist, you would have known how to control your  
 imagination, unbosoming its abundance in (your) works of art.'

Dutch also presents challenging data to the current analysis. Recall the Dutch counterfactual imperative example (40), repeated here as (118). Although the main verb appears in the past participle and its alternation with the infinitive is also possible, the verb *was* seems to be a finite verb. Since the syntax of Spanish and Korean CPIs does not have TP, additional assumptions should be sought to apply the same syntax to Dutch counterfactual imperatives.

(118) Was toch lekker thuisgebleven.

was PRT PRT at.home.stay-PP

‘You should just have stayed at home.’

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## 국문 초록

# 스페인어와 한국어 완료명령문의 반사실성과 인식적 불확실성

명령문은 여러 언어에서 공통적으로 확인되는 세 가지 문장유형 중 하나로, 명령·조언·요청·초대·소망 등 다양한 화행을 전달한다. 유럽 스페인어(이하 ‘스페인어’)와 한국어를 비롯한 일부 언어에서는 반사실적 명령문이 존재하는데, 이는 주로 과거에 발생해야 했으나 발생하지 않은 사건을 가리키며 청자의 행동을 타박하는 화행을 전달한다. 스페인어의 반사실적 명령문은 *haber* 동사의 비정형과 본동사의 과거분사형으로 구성되고, 한국어의 반사실적 명령문은 명시적인 과거시제 표지와 명령문 표지를 필요로 하며 이와 별도로 보조동사 ‘보다’의 출현을 필수적으로 요구한다. 이 논문에서는 스페인어와 한국어의 반사실적 명령문을 통틀어 ‘반사실적 완료명령문(counterfactual perfect imperative, CPI)’으로 묶었다. 한편, 한국어는 반사실적 완료명령문과 유사한 형태적 특징을 가지면서도 반사실성을 전달하지 않는 명령문도 허용한다. 이러한 ‘비반사실적 완료명령문(non-counterfactual perfect imperative, NCPI)’은 영어와 스페인어에서도 확인되는데, 이 중 스페인어의 비반사실적 완료명령문은 부정문으로만 출현한다는 특징이 있다. 이와 같은 반사실적 완료명령문과 비반사실적 완료명령문을 ‘완료명령문(perfect imperative, PI)’으로 통칭했다.

이 논문의 목표는 크게 두 가지로, 완료명령문이 가지는 의미·통사 특징을 분석하는 것에 주안점을 두었다. 첫째, 이 논문은 명령문을 다루는 기존의 이론을 검토하고 이에 대한 수정을 제안했다. 반사실적 완료명령문의 후회 효과(hindsight effect)를 설명하고 명령문의 반사실성을 인식적 불확실성에 입각해 설명할 수 있는 이론을 제시했다는 의의가 있다. 둘째, 스페인어와 한국어, 영어에서 완료명령문이 비대칭적으로 출현하는 이유를 설명했다. 특히

왜 특정 언어에서만 반사실적 명령문의 출현이 허가되는지, 왜 스페인어와 한국어에서 비과거 평서문은 일반명령문의 의미를 전달할 수 있는 반면, 과거 평서문은 반사실적 명령문의 의미를 전달할 수 없는지에 초점을 두었다.

제2장에서는 스페인어와 한국어의 완료명령문이 가지는 특징을 규명했다. 일부 선행연구에서는 반사실적 명령문을 조건문의 선행절로 분석한 바 있으나, 반사실적 명령문은 그 형태·통사·의미적 특성을 고려했을 때 온전한 명령문으로 분류할 수 있었다. 또 반사실적 명령문이 일반명령문과 달리 후회 효과와 선견 효과(foresight effect)를 가짐을 밝혔다. 비반사실적 완료명령문의 경우, 한국어는 소망 화행을 전달하는 명령문만 허가하는 반면, 스페인어는 미래 완료 의미를 가지는 비반사실적 완료명령문의 부정문만 허가한다는 사실도 밝혔다.

제3장에서는 반사실적 명령문과 일반명령문에 관한 기존의 분석 결과를 정리했다. 우선 스페인어와 한국어의 반사실적 완료명령문에 관한 선행연구를 정리했다. 이 과정에서 스페인어와 한국어의 반사실적 완료명령문을 직접적으로 다룬 연구는 소수에 불과하다는 사실을 지적했다. 이어 네덜란드나 일본어 등 다른 언어의 반사실적 명령문을 분석한 Mastop(2011)과 Kaufmann(Kaufmann, 2012; Schwager, 2011), Saito(forthcoming)의 연구 성과를 요약해 제시했다. 마지막으로 Portner(2004, 2007)와 Condoravdi, Lauer(2012), Roberts(2018) 등 반사실적 명령문을 다루지는 않았지만 명령문에 관한 이론을 제시한 다른 선행 연구도 소개했다.

제4장에서는 Kaufmann과 Saito의 명령문 의미 이론을 수정해 새로운 이론을 제안했다. 먼저 기존 연구가 반사실적 명령문의 후회 효과를 충분히 설명하지 못했다는 점을 언급하며 개선의 필요성을 주장하고, 이어 복수의 명령양태 연산자를 상정하거나 양상 기반을 복잡하게 수정할 것을 상정하므로 이를 단순화할 필요가 있음을 지적했다. 새로운 이론은 명령문의 후회 효과와 반사실성을 더욱 적절히 설명할 수 있도록 고안되었다. 특히 명령문의 반사실성을 시간 지표 사이 관계를 통해 계산하지 않고 명제에 대한 인식적 불확실성을 통해 계산했다. 이에 기존 논의에서 시간 전제 조건을 삭제하고

명령문의 반사실성을 계산하기 위해 인식적 반사실성 조건을 추가했다. 아울러 두 유형의 명령문을 모두 포괄할 수 있는 단일한 명령 양태 연산자를 제시했다. 이러한 수정 제안에 대한 근거를 타임머신 예제를 통해 보충했다. 타임머신 예제는 인식적 불확실성에 입각한 반사실성 개념이 반사실적 명령문뿐만 아니라 일반명령문에서도 고려되어야 한다는 점을 시사했다. 이론 기술을 마친 후에는 다양한 완료명령문 예제를 통해 이 논문이 제안한 명령문의 미 이론의 설명력과 예측력을 증명했다. 이후 Biezma(2010)의 논의를 다시 검토하면서 스페인어에 반사실적 명령문이 없다는 주장을 반박했다. 마지막으로 스페인어 명령문의 수행성 자질에 관해 개략적으로 논의했다.

제5장은 완료명령문의 통사 구조를 밝힘으로써 두 종류의 완료명령문 사이의 비대칭성을 설명하는 것을 목표로 했다. 먼저 반사실적 완료명령문은 스페인어, 한국어, 영어에서 비대칭적인 출현 양상을 보이며, 스페인어와 한국어에서는 명령문과 평서문의 관계에서도 비대칭성을 확인할 수 있음을 보였다. 이 논문에서는 이 두 가지 비대칭성을 설명하기 위해 반사실성을 주요한 근거로 삼았으며, 통사적으로는 비어 있는 시제구(TP) 핵과 차 있는 시상구(AspP) 핵이 중요한 역할을 수행한다고 보았다.

마지막으로 제6장에서는 이 논문의 주장을 요약하고 앞으로의 연구 주제를 제안했다.

핵심어: 반사실적 명령문, 후회 효과, 선견 효과, 타임머신, 시간 전제 조건,  
인식적 불확실성에 입각한 반사실성, 수행성 자질, 양태

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## Resumen en español

### Lo contrafactual y la incertidumbre epistémica de las oraciones imperativas perfectas en español y en coreano

Las oraciones imperativas son uno de los tres tipos de oración que existen universalmente en diferentes idiomas y enuncian distintos actos de habla como órdenes, consejos, peticiones, invitaciones y deseos, entre otros. En algunos idiomas, incluidos el español europeo ('el español' para simplificar) y el coreano, pueden construirse oraciones imperativas contrafactuales que indican sobre todo los eventos que deben haberse producido en el pasado. Las oraciones imperativas contrafactuales en español consisten en el verbo *haber* en infinitivo y en un participio pasado, mientras que sus homólogas en coreano requieren no solo el morfema del tiempo pasado y el del modo imperativo sino también el verbo auxiliar *pota* 'ver'. A lo largo de esta tesis, las oraciones imperativas contrafactuales tanto en español como en coreano se denominan *imperativas perfectas contrafactuales* (*CPI* por su sigla en inglés). Por otro lado, el coreano dispone de otro tipo de oraciones imperativas que morfológicamente se parecen a las *CPIs*, pero sin lo contrafactual. Estas *imperativas perfectas no contrafactuales* (*NCPI* por su sigla en inglés) se constatan en inglés y en español igualmente, mientras que este solo permite las *NCPIs* negativas.. Las *CPIs* y las *NCPIs* reciben en conjunto la denominación de *imperativas perfectas* (*PI* por su sigla en inglés).

Esta tesis analiza las peculiaridades semánticas y sintácticas tanto de las *CPIs* como de las *NCPIs* y tiene un doble objetivo. En primer lugar, se investigan las teorías ya existentes en la literatura sobre las oraciones imperativas y se propone una nueva teoría revisada que puede explicar el efecto retrospectivo (*hindsight effect* en inglés) de las *CPIs* y lo contrafactual de las oraciones imperativas con respecto a la incertidumbre epistémica. En segundo lugar, se explican dos tipos de asimetrías que existen entre las oraciones perfectas imperativas en español, en coreano y en inglés. La primera asimetría trata de por

qué no todos los idiomas sino solo algunos permiten las *CPIs*. La otra asimetría tiene que ver con la correlación semántica entre las oraciones imperativas y las oraciones declarativas en español y en coreano, dado que las oraciones declarativas del tiempo no pasado en ambos idiomas pueden emplearse como imperativas mientras que las declarativas del pasado no pueden hacer lo mismo con las imperativas contrafactuales.

En el segundo capítulo, se recopilan los datos de las *PIs* en español y en coreano. A pesar de que algunos trabajos anteriores han analizado las *CPIs* como los antecedentes de las oraciones condicionales, la presente tesis insiste en que sus propiedades morfosintácticas y semánticas indican que son las oraciones imperativas verdaderas. Además, las *CPIs* se distinguen de las imperativas ordinarias por el efecto retrospectivo y por el efecto prospectivo (*foresight effect* en inglés). En el caso de las *NCPIs*, el coreano permite únicamente las *NCPIs* con el acto de habla de deseo, mientras que el español permite solamente las *NCPIs* negativas del futuro perfecto.

En el tercer capítulo, se resumen los análisis y las teorías sobre las *CPIs* y las imperativas ordinarias. Se resumen primeramente los análisis existentes sobre las *CPIs* en español y en coreano, señalando que solo un número escaso de investigaciones analizan directamente las *CPIs* de los dos idiomas. A continuación, se resumen los análisis de semántica formal sobre las *CPIs* en neerlandés y en japonés, que han sido publicados por los autores como Mastop (2011), Kaufmann (Kaufmann, 2012; Schwager, 2011) y Saito (forthcoming). También existen investigaciones sobre las imperativas ordinarias, sin tratar de las *CPIs*, escritas por Portner (2004, 2007), Condoravdi & Lauer (2012) y Roberts (2018), entre otros.

En el cuarto capítulo, se propone una nueva teoría revisada acerca de la semántica de las imperativas con base a las teorías de Kaufmann y de Saito para que esta pueda explicar mejor el efecto retrospectivo y lo contrafactual de las imperativas. Se plantea que lo contrafactual de las *CPIs* no se calcule con la relación entre los índices temporales, sino con la incertidumbre epistémica en cuanto a la proposición, por lo cual se suprima la condición de la temporalidad de las teorías existentes y se añada la condición de lo contrafactual epistémico. Además, se introduce un único operador modal imperativo que cuenta tanto con las

imperativas ordinarias como con las *CPIs*. El ejemplo de la máquina del tiempo justifica estas modificaciones, sustentando la idea de la incertidumbre epistémica no solo para las imperativas contractuales sino también para las condiciones de felicidad de las imperativas ordinarias. Después de la descripción teórica, se vuelven a analizar con más detalles distintos contextos en los que pueden aparecer las *CPIs* y las *NCPIs* con el fin de probar el poder explicativo y la predictibilidad de la semántica de las imperativas propuesta por esta misma tesis. A continuación, se presentan los argumentos contra el análisis de Biezma (2010), que niega la existencia de las imperativas contrafactuales en español. Antes de terminar el capítulo, se discute brevemente el rasgo performativo de las imperativas en español.

El objetivo del quinto capítulo es comprender la estructura sintáctica de las *CPIs* y de las *NCPIs* con el propósito de explicar las dos asimetrías: la asimetría entre el español, el coreano y el inglés en cuanto a la posibilidad de permitir *CPIs*, y la asimetría entre las oraciones declarativas y las imperativas en español y en coreano. El rasgo más importante para explicar ambas asimetrías es lo contrafactual. En su estructura sintáctica, el nexos ST vacío y el nexos SAsp ocupado juegan un papel esencial.

En el último capítulo, se resumen los argumentos de la tesis y se presentan futuros temas de investigación.

Palabras clave: imperativas contrafactuales, efecto retrospectivo,  
efecto prospectivo, máquina del tiempo, condición de la temporalidad,  
lo contrafactual con respecto a la incertidumbre epistémica,  
rasgo performativo, modalidad

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