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**THE IMPERATIVE FUTURE IN NORTH-  
WESTERN CATALAN**  
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## 1. Introduction

This study deals with a North-Western Catalan phenomenon called *imperative future*. The paper aims to give this phenomenon an accurate representation. The imperative future consists of using the future form of the verb to give an order. The future is usually used to refer to an event posterior to the time of the utterance. Hence, using this verbal form to give an order is somewhat unexpected. As its name indicates, it has a similar meaning to an imperative at first sight, as it is used to command the addressee. However, not all uses of the imperative future are equivalent to the imperative form, as we see in (1):

- 1) a. Ves-            me a comprar les coses ara mateix!  
      go.IMP.2SG-CL to buy        the things now same  
      ‘Go buy me the things right now!’
- b. \*Aniràs-        me a comprar les coses ara mateix!  
      go.FUT.2SG-CL to buy        the things now same  
      ‘Go buy me the things right now!’
- c. Aniràs-        me a comprar les coses demà al matí.  
      go.FUT.2SG-CL to buy        the things tomorrow at+the morning  
      ‘Go buy me the things tomorrow morning.’

### 1.1 Research questions

Although this phenomenon has been mentioned in several works, it has never received enough attention to characterise its properties accurately. In section 2, I aim to provide a more precise definition of this phenomenon. Therefore, my first research question is how the imperative future behaves.

In addition to this lack of study of its use, there has not been any research analysing this phenomenon from a more theoretical perspective. I aim to how to understand this phenomenon from an epistemic modality perspective, which the future morphology seems to be an exponent of. Hence, my second research question is how the imperative future fits in the epistemic framework attributed to the future. As I will show in section 3.2, future morphology has been related to epistemic modality, and it is unexpected that it indicates orders. Therefore, another question I will try to answer is if the utterances with the imperative future are actually orders.

Furthermore, it is essential to point out that even if, at first sight, the imperative future has a similar meaning to the imperative form, morphologically, it is not an imperative, and it is essential to see the syntactic differences between the imperative future and the imperative. I argue that the place in the syntax the imperative verb occupies, the head of C, cannot be occupied by the imperative future form. Then, where does the imperative future verb move to? To answer this question, I will use the syntactic structure of the illocutionary force established by Krifka (2020).

## 1.2 Hypothesis

For the analysis of this phenomenon, I will defend that the imperative future form encodes epistemic meaning: the modal base of the imperative future has as its foundation the epistemic state of the speaker. It does not involve deontic modality but epistemic; hence, the sentences with the imperative future are not orders. In order to analyse the imperative future, I will follow three proposals: Rivero and Terzi (1995), Mari and Giannakidou (2017) and Krifka (2020). The hypothesis that the imperative future encodes epistemic meaning is relevant to give the syntactic and semantic interpretation of sentences with the imperative future, like (2):

- 2) Despertaràs- me demà al dematí.  
wake up.FUT.2SG-CL tomorrow at+the morning  
'Wake me up tomorrow morning.'

Rivero and Terzi (1995) argue that the imperative verb rises to the head of the Complementizer Phrase. I will defend that this is not the path the future follows in the imperative future. Krifka (2020) proposes that the syntax-pragmatics interface structure has a level of representation that gathers the judgements of the speaker and hosts the epistemic and evidential modifiers of the utterances. This projection is called Judgement Phrase. Mari and Ginnakidou (2017), analysing the behaviour of the future in Greek and Italian, among other languages, defend that future morphology is a modal epistemic marker. In addition, the use of the imperative future depends on the speaker's perception of the moment the action should be carried out because this form is ungrammatical if the action must happen at the time of the utterance. Hence, the imperative future is bound to the speaker's epistemic state. Following these works, I postulated that this epistemic nature of the future would allow the verb and the clitic to rise to the head of the Judgement

Phrase. I further argue that the whole sentence moves to the Commitment Phrase specifier position. The speaker's commitment to the proposition is encoded in this projection. I defend that this commitment of the speaker becomes part of the common ground shared by both speaker and hearer, making it possible that the imperative future is interpreted as a command.

### 1.3 Methodology

The methodology of this study consists of, firstly, describing the contexts where the imperative future is used and preferred and in which contexts it is ungrammatical. Once these uses are established, I will resort to the papers mentioned in section 1.2 to analyse and embed the imperative future in a framework that accounts for its epistemic meaning. I will argue that the behaviour of the epistemic future cannot be the same as the imperative. In addition, I will use Krifka's (2020) proposal to give a structure for this hypothesis.

### 1.4 Organization of the study

This paper's first step is to accurately depict the imperative future phenomenon. I analyse how it diverges from the imperative, in which uses it is accepted, and in which uses it is preferred. Section 2 of this paper is dedicated to this topic.

In section 3, I summarize three papers that are the core of our bibliography. The first one is “Imperatives, V-movement and logical mood” by Rivero and Terzi (1995). It deals with the two different classes of languages that exist according to whether they have a specific syntax for imperative verbs or they do not. The second paper is “A Unified Analysis of the Future as Epistemic Modality” by Mari and Giannakidou (2018). In this paper, the authors analyse future morphemes as epistemic modals cross-linguistically. The last paper is “Layers of Assertive Clauses: Propositions, Judgements, Commitments, Acts” by Krifka (2020).

In section 4, I offer a discussion where I analyse the imperative future using the theoretical framework delimited in section 3. I discuss the epistemic values of the imperative future and propose an analysis of the phenomenon at the syntax-pragmatics interface, where the verb does not rise to the Complementizer Phrase (CP) as in imperatives, but to the

Judgement Phrase (JP), one of the layers that characterise speech acts. Finally, the conclusions are stated in section 5.

## 2. Description of the phenomenon

Catalan has specific verbal morphology for the imperative form. In this language, this form is usually used to give orders (3):

- 3) Canta!  
sing.IMP.2SG.  
'Sing!'  
Canteu!  
sing.IMP.2PL  
'Sing!'

Joan Veny (1984) mentions in his book *Els parlars catalans* a syntactic phenomenon typical in North-Western Catalan: the *imperative future*. It consists of the use of the future with an imperative meaning (4), (5), (6):

- 4) Pensaràs- hi, eh?  
think.FUT.2SG-CL particle.  
'Think about it, okay?'
- 5) Trauràs- t' ho tu mateixa, sents?  
take off. FUT.2SG-CL-CL you yourself hear. PRES.2SG  
'Take it off yourself, you hear me?'
- 6) Quan tornes, fixaràs- t' hi, veuràs.  
when come back.PRES.SUBJ.2SG notice.FUT.2SG-CL-CL see. FUT.2SG  
'When you come back, take notice of it, you'll see.'

Veny mentions that the imperative future is usually followed by an interrogative particle (such as *eh*) or an interrogative tag (such as *sents*). However, as we see in (7), this particle is not compulsory. The author explains that the position of the pronouns is characteristic of this phenomenon, as they adopt the enclitic form, as in the imperative form (8). In the other uses of the future, the pronouns are proclitic (9):

- 7) Compraràs- los un regal a la botiga.  
 buy.FUT.2SG-CL a gift at the store  
 ‘Buy a gift for them at the store.’
- 8) Compra’ ls un regal a la botiga.  
 buy.IMP.2SG-CL a gift at the store  
 ‘Buy a gift for them at the store.’
- 9) Els compraràs un regal a la botiga?  
 CL buy.FUT.2SG a gift at the store  
 ‘Will you buy them a gift at the store?’

This imperative future cannot be negated (10), parallel to the standard imperative form (11a). To negate an order, Catalan uses the subjunctive present tense (11b). However, the standard future can be negated (12):

- 10) \*No pensaràs -hi, eh?  
 not think.FUT.2SG-CL particle.  
 ‘Do not think about it, okay?’
- 11) a. \*No pensa-hi, eh?  
 not think.IMP.2SG-CL particle.  
 ‘Do not think about it, okay?’
- b. No hi pensis, eh?  
 not CL think.PRES.SUBJ.2SG particle.  
 ‘Do not think about it, okay?’
- 12) Demà no hi pensaràs.  
 tomorrow not CL think.FUT.2SG  
 ‘Tomorrow you will not think about it.’

So far, all the examples we have seen are in the 2<sup>nd</sup> person singular. The imperative form of verbs can also appear in the 2<sup>nd</sup> person plural (13), either for addressing a plural audience or for addressing only one person but with the *vos* treatment, which denotes respect. It is also possible to use the imperative in the 3<sup>rd</sup> person when treating the addressee of *vostè*, a formal treatment that uses this person (14).

- 13) Atanseau- me el vi, si us plau (vosaltres/vos).  
 bring near. IMP.2PL-CL the wine please.  
 ‘Hand me the wine, please.’

14) Tanqui la porta, si us plau (vostè).

close.IMP.3SG the door please

‘Close the door, please.’

With the imperative future, the 2<sup>nd</sup> person plural is possible, both with the informal treatment for a plural addressee or with the respect treatment, *vos* (15). The 3<sup>rd</sup> person, however, is odd (16). This oddness could be due to the fact that the *vostè* formal treatment is not common in North-Western Catalan, where *vos* is preferred.

15) Despertareu-me demà al dematí (vosaltres/vos).

wake up. FUT.2PL-CL tomorrow at+the morning

‘Wake me up tomorrow morning.’

16) #Fixarà-s’ hi quan torne (vostè).

notice.FUT.3SG-CL-CL when come back. PRES.SUBJ.3SG

‘Take notice of it when you come back.’

From a typological verb perspective regarding aspectuality, I will follow the division from Beth Levin (2009) between accomplishments, activities, achievements and states. She adopts the same aspectual division as Vendler (1967), Levin (1993), and Levin & Rappaport-Hovav (1999), among others. I have chosen this classification because verbs encoding an event (accomplishments, activities and achievements) can be used in the imperative form cross-linguistically, but states cannot.

Accomplishments are durative events with an inherent temporal endpoint, such as *break* or *clean*. (17) is an example of a placed object accomplishment, and (18) is an accomplishment that expresses a caused change of place. Both examples of achievements are grammatical.

17) Ensellaràs-lo, el cavall, demà.

saddle.FUT.2SG-CL the horse, tomorrow

‘Saddle the horse tomorrow.’

18) Empresonarà-nos els detinguts, quan pugues.

imprison.FUT.2SG-CL the detainees when can.SUBJ.2SG.

‘Imprison the detainees for us, whenever you can.’



With these examples, it is noticeable that the imperative future gives an order that does not have to be carried out *right now*. In (17), the order is for tomorrow and in (18) there is no delimited time to carry out the order.

Activities are durative actions with no inherent endpoint, such as *work* or *run*. There are two types of activities, the ones that denote a specific manner of acting and the ones that express an action where an instrument is used. (19) is an example of a manner activity, and (20) is an example of an instrument activity. Both are compatible with the imperative future. In these examples there is also this non-immediate deadline for the order.

19) Llegiràs- te el llibre per a la setmana que ve.  
 read.FUT.2SG-CL the book to at the week that come.PRES.3SG  
 ‘Read the book for next week.’

20) Pentinaràs- me la nena per a la comunió.  
 comb.FUT.2SG-CL the kid for at the communion  
 ‘Comb my kid’s hair for the communion.’

Achievements are punctual events that involve a resulting state, like *arrive* and *explode*. This resulting state can be caused externally, as in *knock over* or *open*, or internally, as in *bloom* or *die*. It is important to make this distinction because it seems that the imperative future is only natural with verbs that involve an externally caused state. Sentences like (21) are perfectly acceptable, whereas sentences like (22) are ill-formed. Note that the use of the imperative is also strange with internally caused result states: to order someone to *die tomorrow!* is not impossible but odd.

21) Engegaràs- me el rec dels ametllers.<sup>1</sup>  
 turn on.FUT.2SG-CL the irrigation of+the almond trees.  
 ‘Turn on the almond trees’ irrigation.’

22) #Moriràs- te la setmana que ve.  
 die.FUT.2SG-CL the week that come.PRES.3SG  
 ‘Die next week.’

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<sup>1</sup> For this sentence to work, the field where the almond trees are must be owned by the speaker. If it is not, the sentence must be used without the clitic, as in (i).

(i) Engegaràs el rec dels ametllers.  
 turn on.FUT.2SG the irrigation of+the almond trees.  
 ‘Turn on the irrigation of the almond trees.’

Therefore, the future in North-Western Catalan seems to be able to work as an imperative in this specific context.

States, unlike non-states, can be judged true at any moment, involve no change, and do not require energy input to maintain an event, like *have* or *know*. These kinds of usually are not compatible with imperatives, and it seems that they do not work either with the imperative future, as we see in (23), (24) and (25).

23) #Sabràs-            ne, de llatí!  
      know.FUT.2SG-CL of Latin  
      ‘#Know Latin!’

24) #Odiaràs-        lo, aquest home!  
      hate.FUT.2SG-CL this    man  
      ‘#Hate this man!’

25) #Tindràs-        ne dos, de galledes.  
      have.FUT.2SG-CL two of buckets.  
      ‘#Have two buckets!’

Having analysed which kinds of verbs the imperative future is compatible with, I now proceed to describe which adverbial modifiers the imperative future can occur with. This information is relevant for section 4, where I argue the verb's final position at the syntax-pragmatics interface (Krifka 2020). First, the imperative future is incompatible with adverbs expressing the speaker's certainty about the proposition. In other words, they specify the epistemic and evidential state of the speaker towards the proposition. We will see in section 3.3 that these adverbs are said to be placed in a projection called *judgement phrase*. Some of these adverbs are *probably*, *certainly* and *possibly*. As we see in (26), these modifiers are incompatible with the epistemic future.

26) \*Possiblement faràs-        me una truita    per sopar.  
      possibly        do.FUT.2SG-CL an omelette for dinner  
      ‘\*Possibly cook me an omelette for dinner.’

The imperative future is neither compatible with adverbs placed in the projection called *commitment phrase*. These adverbs refer to the speaker's strength of commitment toward the proposition. Some of them are *seriously* and *definitely*. In (27), we can see that they cannot combine with the epistemic future:

27) \*Seriosament, estimaràs- los a padrí i padrina quan  
 seriously kiss.FUT.2SG-CL to grandfather and grandmother when  
 arribem.  
 arrive.SUBJ.1PL

‘\*Seriously, give a kiss to grandfather and grandmother when we arrive.’

Finally, let us consider those adverbs in the Act Phrase, which refer to the speech act itself, such as *by the way* or *frankly*. These adverbs can be combined with the imperative future, but some are more felicitous than others. For example, with *by the way* the cooccurrence with the imperative future is perfect (28), and with *frankly* is strange, but more possible than the combination with judgement and commitment modifiers (29):

28) Per cert, engegaràs- me el rec dels ametllers.  
 by the way turn on.FUT.2SG-CL the irrigation of+the almond trees.  
 ‘By the way, turn on the almond trees’ irrigation.’

29) ?Francament, cobraràs- me el cafè, quan pugues.  
 frankly charge.FUT.2SG-CL the coffee when can.SUBJ.2SG  
 ‘?Frankly, charge me the coffee whenever you can.’

To conclude, the imperative future in North-Western Catalan coexists with the standard imperative form. The grammatical verbs in the imperative future construction are the same ones that allow imperative constructions: activities, accomplishments, and achievements the resulting state of which is caused externally. However, it seems that the imperative future can only be used in a context where the order must not be carried out immediately. That is why we find minimal pairs like (30) in North-Western Catalan:

30) a. Faràs- me una truita per sopar  
 do.FUT.2SG-CL an omelette for dinner  
 ‘Cook me an omelette for dinner.’

b. Fes- me una truita per sopar.  
 do.IMP.2SG-CL an omelette for dinner  
 ‘Cook me an omelette for dinner.’

Both sentences are grammatical, but their pragmatic implications are different. On the one hand, a speaker would only use the imperative future (30a) if, according to his/her knowledge (i.e., the epistemic modal base of the speaker, see section 3.1 below) (s)he expects that the eventuality will be carried out at some point in a non-near future. This

sentence would be uttered in the morning or the afternoon, before the addressee starts cooking dinner. On the other hand, (30b) can imply that the addressee must obey the order right away; hence this sentence should be said when the addressee is about to start cooking dinner or has already started.<sup>2</sup> However, it can also be used in the future imperative context.

Furthermore, it is important to mention that the imperative future becomes the preferred option the more distant the speaker perceives the moment where the eventuality will take place. In the context where the speaker is in a cafeteria and asks the waiter to bring him the bill, not immediately, but in close time-space, both the imperative future (31a) and the imperative (31b) are possible, and there is no preferred option. However, in a context where the speaker asks someone to wake him up tomorrow morning, the imperative future is the preferred form (32).

- 31) a. Cobraràs-            me el cafè, quan pugues.  
           charge.FUT.2SG-CL the coffee when can.SUBJ.2SG  
           ‘Charge me the coffee, whenever you can.’
- b. Cobra’                m el cafè, quan pugues.  
           charge.IMP.2SG-CL the coffee when can. PRES.SUBJ.2SG  
           ‘Charge me the coffee, whenever you can.’
- 32) a. →Despertaràs-    me demà        al        dematí.  
           wake up.FUT.2SG-CL tomorrow at+the morning  
           ‘Wake me up tomorrow morning.’
- b. Desperta’            m demà        al        dematí.<sup>3</sup>  
           wake up.IMP.2SG-CL tomorrow at+the morning  
           ‘Wake me up tomorrow morning.’

In addition, the only adverbial modifiers that affect the syntax-pragmatics interface this construction accepts are the ones in the Act Phrase. In sections 3.3 and 4, this topic will be accounted for.

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<sup>2</sup> Note that this contrast disappears in those Catalan dialects that do not have the imperative future.

<sup>3</sup> I use the symbol ‘→’ to indicate the preferred sentence form.

### 3. Reviewed bibliography

In this section, I will provide the summary of three papers that analyse several phenomena that are related to the imperative future. These articles will provide the theoretical framework to analyse our phenomenon. The first article is “Imperatives, V-movement and Logical Mood”, by Rivero and Terzi (1995), where they offer a syntactical analysis of the imperative form and its movement in Class I languages (section 3.1). The second one is “A Unified Analysis of the Future as Epistemic Modality”, written by Mari and Giannakidou (2017), where they offer an analysis of the future morphology as an epistemic modal (section 3.2). The last article is “Layers of Assertive Clauses: Propositions, Judgements, Commitments, Acts”, written by Krifka (2020). In this paper, he proposes a structure for the syntax-pragmatics interface (section 3.3).

#### 3.1 “Imperatives, V-movement and Logical Mood”, Rivero and Terzi; 1995

In the paper “Imperatives, V-movement and Logical Mood”, Rivero and Terzi discuss the differences between languages with distinctive morphology for the imperative form. They distinguish between two classes of languages: Class I, where imperatives have a specific syntax, and Class II, where imperatives lack a distinctive syntax. In Class I there are languages like Modern Greek and Spanish; in Class II there are languages like Ancient Greek and Serbo-Croatian.

The first characteristic of the distinctive syntax of Class I languages is that sentences with the imperative form cannot be negated (33), but other verbal forms, like indicative forms, can (34):

33) a. \*Den/mi diavase! (Modern Greek)

NEG read.IMP.2SG

‘Do not read!’

b. \*No lee! (Spanish)

NEG read.IMP.2SG

‘Do not read!’

34) a. Den diavases (Modern Greek)

NEG read.IND.2SG

b. No leíste (Spanish)

NEG read.IND.2SG

‘You did not read.’

The second characteristic the authors note is that imperatives precede pronouns, whereas indicative and subjunctive forms must follow clitic pronouns (35):

35) a. Diavase to! (Modern Greek)

read.IMP.2SG it.

‘Read it!’

b. Léelo! (Spanish)

read.IMP.2SG-it.

‘Read it!’

c. To diaviases. / \*Diavases to.

it read.IND.2SG / read.IND.2SG it

‘You read it.’

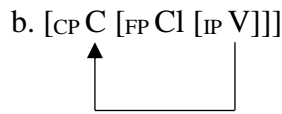
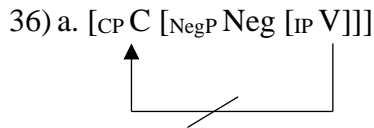
d. Lo leíste / \*Leístelo.

it read.IND.2SG / read.IND.2SG-it

‘You read it.’

The authors propose that in Class I languages there is a strong feature, a logical mood feature for imperatives, in the root complementiser (C) that must be checked with the overt rising of the verb with imperative morphology to this node. In the words of Rivero and Terzi (1995): ‘Modern Greek and Spanish Imperatives are special because their morphological mood correlates one-to-one with their logical mood, and this is why they involve C in a way that gives them unique syntax.’ (Rivero and Terzi, 1995; 305).

In their framework, Negation (Neg) and Clitic (Cl) are two heads above Inflection (I). The imperative verbs in Class I surpass Cl when they rise, but not Neg. Therefore, Cl and Neg must be different types of heads. Rivero and Terzi propose that both the imperative feature in C and Neg have operator features or logical mood. These operator features or logical mood are why Neg would constitute a minimality barrier and prevent the verb from rising above. Hence, imperatives and negation in Class I languages are incompatible. Cl would not share these operator features and would let the verb rise to C, which is shown in the enclitic position of pronouns of Class I languages. The structure they propose is the following (36):



Class II languages differ from Class I in that they do not have a special syntax for imperative verbs, even if they have an imperative morphological paradigm with intrinsic logical mood. The authors claim that this difference is because, in Class II verbs, all verbal features (V-features) are in IP.

In Serbo-Croatian, negation can appear with imperatives (37), and clitics adopt an enclitic form with this form if no other constituent begins the sentence (38). If there is a such constituent, they precede the verb (39):

37) Ne čitajte! (Serbo-Croatian)

NEG read.IMP.2SG

‘Do not read!’

38) Čitajte je! (Serbo-Croatian)

read.IMP.2SG it

Read it!

39) Knjige im čitajte! (Serbo-Croatian)

books to+them read.IMP.2SG

‘Read books to them!’

The examples in (38) and (39) show two possible positions for the imperative verb: in front of or behind the clitics in Serbo-Croatian, a Class II language. However, Rivero and Terzi argue that the distribution where the verb precedes the clitics and rises to C is last resort. In Serbo-Croatian, clitics have the requirement to be in a second position in the sentence. If no other constituent can occupy the first position of the sentence, like *knjige im* (39), the verb rises to C to occupy the first position in the sentence. The structure the authors propose for Class II languages is the one in (40). There is one more note to be made: Rivero and Terzi assume that in these languages clitics occupy the head of the WP, a functional projection that complements C. (40a) is the structure where the verb rises to C as a last resort, and (40b) is the structure where another phrase rises to the specifier of CP.

- 40) a. [<sub>CP</sub> [<sub>C'</sub> [<sub>C0</sub> V<sub>i</sub>] [<sub>WP</sub> CL] [<sub>IP</sub> t<sub>i</sub>]]]  
 b. [<sub>CP</sub> XP<sub>i</sub> [<sub>C0</sub> ∅] [<sub>WP</sub> CL [<sub>IP</sub> [<sub>I0</sub> V] t<sub>i</sub>]]]

Ancient Greek is another Class II language. Like in Serbo-Croatian, in Ancient Greek imperatives can be negated (41), and the imperative verb can be sentence-initial only if there is no other constituent to appear before the clitics, which seem to have a second position requirement (42). If such a constituent exists, the verb stays in IP, which makes the clitics proclitics (43).

- 41) Mê mega lege. (Ancient Greek)  
 NEG grandly say.IMP.2SG  
 ‘Do not boast so.’
- 42) Patakson men, akouson de. (Ancient Greek)  
 strike.IMP.2SG CL listen.IMP.2SG CL  
 ‘By all means, strike, but listen.’
- 43) Ta men poiei, ta de mê poiei. (Ancient Greek)  
 these CL do.IMP.2SG these CL NEG do.IMP.2SG  
 ‘Do this, but do not do that.’

It seems, then, that in Class II languages the imperative verb occupies a position within IP unless some other language requirement needs to be satisfied. In Serbo-Croatian and Ancient Greek, the verb rises to C to satisfy the second position restriction of clitics as a last resort if no other constituents are available to occupy C. <sup>4</sup>

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<sup>4</sup> The authors also mention the case of Cypriot Greek. This language, at first sight, seems to be a mixture between Class I and II. In (i), we see that clitics must follow the verb with the imperative form even if there is a topicalised element.

- (i) Touto to vivlio dose tou! (Cypriot Greek)  
 this the book give.IMP.2SG to+him.CL  
 ‘This book give to him!’  
 \*Touto to vivlio tou dose! (Cypriot Greek)  
 this the book to+him.CL give.IMP.2SG  
 ‘This book give to him!’

In addition, imperatives in Cypriot Greek cannot be negated (ii):

- (ii) a. Fige! (Cypriot Greek)  
 leave.IMP.2SG  
 ‘Leave!’  
 b. \*En/mi fige! (Cypriot Greek)  
 NEG leave.IMP.2SG  
 ‘Don’t leave!’

Rivero and Terzi conclude that Cypriot Greek is a Class I language whose clitics have a second position restriction. In other words, it has a strong V feature in C that makes the imperative rise to that position,



To conclude, Rivero and Terzi divide the world's languages into two categories considering if they have a specific imperative syntax (Class I) or if they do not (Class II). The specific syntax for the imperative form is defined by a strong V feature in CP that the imperative verb needs to rise to that node to check. Class I languages have this strong feature, but Class II languages do not. Because of this rising, imperative verbs have a specific syntax in Class I languages. The first characteristic of this specific syntax is that imperative verbs cannot be negated, as Neg constitutes a barrier to the rising of the verb. The second characteristic is that clitics always follow the imperative verb in these languages. As the head occupies a higher head than the clitics, they always appear in the enclitic form. In Class II languages, imperative verbs can be negated, and clitics can be proclitic. In addition, there can be intrinsic characteristics of the language that interact with the position of the verb, like second position requirements for the clitics.

### 3.2 “A Unified Analysis of the Future as Epistemic Modality”, Mari and Giannakidou; 2017

In the paper “A unified analysis of the future as epistemic modality”, Mari and Giannakidou argue that future is an epistemic modal, not a metaphysical modal nor a tense. They start the paper by comparing the future with the past and present tenses. Eng (1996) points out that *present* and *past* tenses are deictic, whereas *future* is not. When we make a prediction, it is never assured that there will be a time *t* where the predicted event happens. In addition, future expressions do not always imply an event that is going to happen in the future. Future morphemes can imply modality. Ç

Imagine we see a person with baggy eyes. The example (44) is a possible reaction to this context.

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which means that clitics are always enclitic with imperative verbs. On the other hand, with other tenses there must be a rising of another constituent to C (or the verb as a last resort) to licence the clitics (iii):

- (iii) a. \*To edkiavasa / Edkiavasa tou. (Cypriot Greek)  
 CL read.PAST.1SG / read.PAST.1SG CL  
 ‘I read it.’  
 b. Touto to vivlio sou edoken i Maria. (Cypriot Greek)  
 this the book to+you.CL give.PAST.2SG the Mary  
 ‘This book Mary gave to you.’

44) Hij zal wel slecht geslapen hebben! (Dutch)

he FUT.3SG particle bad slept have

‘He must have slept really bad!’

Based on the speaker's knowledge, in Dutch, (s)he uses the future to indicate that (s)he is not fully committed to that statement. In other words, (s)he uses the future *zal* to modalise the statement epistemically. “Future morphemes cross-linguistically are not used just to make predictions, but also as *must*-equivalents.” (Mari and Giannakidou, 2017; 90). This is one of the reasons why the authors argue for an epistemic modal interpretation of the future.

The authors offer an analysis of the future morphemes in Italian and Greek as epistemic modal operators. In Greek, tense and aspect are always reflected morphologically in the verb. Their combination creates three semantic tenses: present (PRES), PAST and NON-PAST (used for prediction). The future marker in Greek, *tha*, combines with all these three tenses. FUT is expressed in the verb morphology in Italian. The combination of the future (FUT) and PRES does not have a predictive reading in Greek or Italian. Its reading is epistemic (45):

45) a. I Ariadne tha troi tora. (Greek)

the Ariadne FUT eat.IMPERF.NON-PAST.3SG now.

‘Ariadne must be eating now.’

b. Giacomo ora starà mangiando. (Italian)

Giacomo now be.FUT.3SG eat.GERUND.

‘Giacomo must be eating now.’

The reading of the combination of FUT with a lower PAST is also epistemic and non-predictive (46):

46) a. I Ariadne tha efige xthes. (Greek)

the Ariadne FUT leave.PERF.PAST3SG yesterday.

‘Ariadne must have left yesterday.’

b. Gianni avrà parlato ieri.

Gianni have.FUT.3SG spoken yesterday. (Italian)

‘Gianni must/#will have spoken yesterday.’

The predictive reading of FUT emerges with perfective non-past in Greek and eventives in Italian (47):

- 47) a. O Janis tha ftasi avrio. (Greek)  
the John FUT arrive.PERF.NON-PAST.3SG tomorrow.  
'John will arrive tomorrow.'
- b. Gianni arriverà domani. (Italian)  
John arrive.FUT.3SG tomorrow.  
'John will arrive tomorrow.'

It is crucial to point out that both future and epistemic modals are non-veridical. They can only be used when the speaker has no direct knowledge of  $p$ . Hence, *tha* and *futuro* are not purely predictive operators. The generalisation Mari and Giannakidou provide is presented in (48). The authors argue that the predictive reading of the future is also epistemic, as the speaker makes a prediction using the knowledge (s)he has at the time of the utterance ( $t_u$ ).

- 48) 1. *Tha* and *futuro* are not used just for prediction.  
2. *Tha* and *futuro* have purely epistemic readings with present and PAST forms.  
3. The lower tense fully determines the type of reading. Prediction arises with lower NON-PAST.

In order to determine the truth value of sentences with future forms, Mari and Giannakidou distinguish between objective and subjective veridicality. Epistemic modals do not entail the truth nor the falsity of  $p$ : they are non-veridical. At  $t_u$ , the speaker does not know the actual state of the world, the objective truth. The speaker, however, is not lying because his/her knowledge of the world makes him/her believe that a world where  $p$  happens is more possible than a world where it does not happen. In other words, 'objective truth is truth irrespective of the individual anchor (the speaker,  $i$ ), relative truth is truth relative to the anchor' (Mari and Giannakidou, 2017; 97). The prediction describes a possible world at  $t_u$ . If this world described at  $t_u$  matches the actual world, the prediction would be correct.

In addition, non-veridicality implies that the speaker's epistemic state is partitioned between  $p$  and  $\neg p$  worlds: the epistemic state is not homogeneous. This partitioned epistemic state creates weaker statements than non-partitioned ones. FUT would quantify over the set of  $p$  and  $\neg p$  possible worlds and select the most probable world given the

speaker's knowledge. The objective truth of the prediction cannot be resolved at the time of the utterance.

The authors propose  $t_u$  as a parameter of evaluation in all epistemic modals. The modal base is anchored to  $t_u$  (Now-anchoring). Mari and Giannakidou understand Now-anchoring as a substitution rule for free variables. "The rule will enable the free variable  $t$  of NON-PAST to be identified with  $t_u$ . As a result, the interval provided by NON-PAST will then be anchored to  $t_u$ , which is what we want." (Mari and Giannakidou, 2017; 115). As PAST is a deictic tense, the rule would not apply because there are no free variables.

One last point in Mari and Giannakidou's paper that I wish to point out is the cross-linguistic variation in epistemic futures. The authors indicate that even if the future marker *will* in English is an epistemic modal, in its non-predictive use it is not always equivalent to *must* (49). There is a context where *must* is more accepted than *will* in English: ratificational futures.

49) a. He is not at school. ??He will be ill.

b. He is not at school. He must be ill.

This ratificational future implies there is going to be a time of verification. This verification in the future seems to be a factor constraining the distribution of epistemic futures. French repeats the same pattern as English (50), whereas Greek (51a) and Italian (51b) do not. In Greek, *must* and FUT can even combine, showing that they are not in competition with each other (52):

50) a. La sonnette sonne. Ce sera le facteur. (French)

the doorbell ring.PRES.3SG. that be.FUT.3SG the postman.

'The doorbell is ringing. It will be the postman.'

b. Il n'est pas a l'école. Il doit être malade

he not-be.PRES.3SG at the-school. he must.PRES.3SG be ill

'He is not at school. He must be ill.'

51) a. Dhen ine sto sxolio. Thai ne arrostos. (Greek).

not be at school. FUT be ill.

b. Non é a scuola. Sarà malato. (Italian)

not is at school. be.FUT.3SG ill.

'He is not at school. He *must* be ill.'

52) I Ariadne tha prepí na milisi avrio. (Greek)  
 the Ariadne FUT must.3sg SUBJ talk.PERF.NON-PAST.3SG tomorrow  
 ‘For all I know, it must be the case that Ariadne will speak tomorrow.’

In this paper, the authors show numerous parallelisms between predictive future and epistemic modals. Like epistemic modals, predictive statements are subjective and depend on the speaker's epistemic state. They argue that the epistemic and the predictive reading of the future are essentially the same: ‘The prediction is an epistemic modal sentence about an eventuality that the speaker has reason to believe that will happen at a future time, and the temporal information comes from the tense below, not from the future morpheme itself.’ (Mari and Giannakidou, 2017; 186).

### 3.3 “Layers of Assertive Clauses: Propositions, Judgements, Commitments, Acts”, Krifka; 2020

In this paper, Krifka proposes a structure for what is commonly called “illocutionary force” or, in other words, the syntax-pragmatics interface. He divides it into three functionally distinct layers: a Judgement Phrase, a Commitment Phrase and an Act Phrase. The proposition is expressed after these three layers, in the following order (53):

53) Act Phrase > Commitment Phrase > Judgement Phrase > Proposition

This structure accommodates the distinction between propositions and the illocutionary force, and differentiates between three different functions of the latter in three different layers.

The author assumes there is a public commitment toward propositions in assertions. This public commitment is expressed in the Commitment Phrase (ComP): “public assertions are expressed in a Commitment Phrase ComP with a head that turns a proposition  $\phi$  into the propositional function that the speaker  $x$  is publicly committed in world  $i$  to  $\phi$ . I express this as ‘ $x \vdash_i \phi$ ’ [...] and I use the turnstile ‘ $\vdash$ ’ also to mark the head of the ComP.” (Krifka, 2020; 6). Private judgements are expressed in the Judgement Phrase (JP) “with a syntactic head that turns a proposition  $\phi$  into the propositional function that a judger  $x$  judges the proposition  $\phi$  to be true. I express this as ‘ $x J- \phi$ ’, using the symbol ‘ $J-$ ’ also to mark the head of the JP.” (Krifka, 2020; 6). JP corresponds to projections of evidentials and epistemics. Act Phrases (ActP) encode information related to the speech act, such as

if the speaker intends the proposition to be an assertion (‘•’) or a question (‘?’). The structure Krifka proposes for a sentence such as (54a) is given in (54b):

54) a. Max laut schnarcth (German)

Max loudly snore.PRES.3SG

‘Max snores loudly.’

b.  $[[\text{ActP} [\text{Act}' [\text{Act}^\circ \bullet] [\text{ComP} [\text{Com}' [\text{JP} [\text{J}' [\text{TP Max laut schnarcth}]] [\text{J}^\circ \text{J-}]]] [\text{Com}^\circ \vdash ]]]]]]$

Certain parameters are relevant for interpreting an assertion: the speaker ‘s’, the addressee ‘a’, and the judge ‘j’. The proposition the speaker wants to communicate is represented by a Tense Phrase (TP). Krifka claims that the essential role of the JP is to make the judge parameter ‘j’ available for linguistic operators. In (55), ‘i’ denotes the world in which the proposition is judged.

55)  $[[[\text{J}' [\text{TP Max laut schnarcth}]] [\text{J}^\circ \text{J-}]]]^{s,a}$   
 $= \lambda j [[[\text{TP Max laut schnarcth}]]]^{s,a,j}$   
 $= \lambda j \lambda i [\text{Max snores loudly, according to } j, \text{ in } i]$

ComP changes the propositional function into a public commitment that involves the judge parameter (56). “This results in a propositional function that j, the judger, is responsible for the truth of the proposition, the TP meaning. I will write  $\lambda i [x \vdash_i \varphi]$  for the proposition that x is publicly responsible for the truth of  $\varphi$  with respect to i.” (Krifka, 2020; 9).

56)  $[[[\text{Com}' [\text{JP} [\text{J}' [\text{TP Max laut schnarcth}]] [\text{J}^\circ \text{J-}]]] [\text{Com}^\circ \vdash ]]]]^{s,a}$   
 $= \lambda j \lambda i [j \vdash_i [[[\text{J}' [\text{TP Max laut schnarcth}]] [\text{J}^\circ \text{J-}]]]]^{s,a} (j)$   
 $= \lambda j \lambda i [j \vdash_i \lambda i [\text{Max snores loudly, according to } j, \text{ in } i]]]$

ActP adds this propositional function to the common ground, where the judge is identified as the speaker. However, a proposition cannot be forced into the common ground: there must be a reason for the hearer to accept the proposition. The author argues that this reason is the public commitment of the speaker to the truth of a proposition: “I have elaborated this proposal using formulas of the form “ $i \circ \bullet i'[\varphi]$ ” to express that index i' immediately follows i and differs from i only insofar as the proposition  $\varphi$  is true at i', with all the consequences that follow from that. This leads to the definition of performative updates, represented by the bold dot.” (Krifka, 2020; 9) (57).

$$\begin{aligned}
57) S_1 \text{ to } S_2: & \llbracket [\text{ActP} [\text{Act}' [\text{Act}^\circ \bullet ] ] [\text{ComP} [\text{Com}' [\text{JP} [\text{J}' [\text{TP} \text{Max laut schnarcht} ]][\text{J}^\circ \text{J-}]] ] [\text{Com}^\circ \\
& \vdash ]]]]]]]]]^{s,a} \\
& = \lambda c [c + \bullet \llbracket [\text{ComP} [\text{Com}' [\text{JP} [\text{J}' [\text{TP} \text{Max laut schnarcht} ]][\text{J}^\circ \text{J-}]] ] [\text{Com}^\circ \vdash ]]]]]^{S_1, S_2} (S_1)] \\
& = \lambda c \{i' \mid \exists i \in c [i \circ \bullet i'] [\lambda i [S_1 \vdash i \lambda i [\text{Max snores loudly, according to } S_1, \text{ in } i]]]]\}
\end{aligned}$$

Another important concept is the Commitment Closure (58). This closure implies that if there is no objection by the other participants in the conversation, once the speaker is committed to the truth of the uttered proposition, it is incorporated into the common ground of both speaker and hearer.

58) Commitment Closure:

If  $s$  is a participant in the conversation that is trustworthy, and  $\phi$  is a (recently expressed) proposition such that  $\forall i \in c: [s \vdash i \phi]$ , and the other participants in conversation do not object:

$$c + \text{CCI}(\phi) = \{i \mid i \in c \wedge \phi(i)\}$$

The proposition is added to the common ground under the Commitment Closure conditions if and only if the conversation participants indicate an understanding of the proposition and do not object.

One argument supporting the division of the 'illocutionary force' into JP, ComP and ActP is that specific modifiers exist for each category. For example, JP relates to epistemic and evidential modifications of the proposition. It is proposed that epistemic adverbs such as *certainly*, *probably*, and *possibly* occupy this position, and they are said to express a subjective modality in contrast to an objective one. One piece of evidence for this claim is that these adverbs cannot be part of the protasis of a conditional, which refers to a proposition (59):

59) Wenn Max ??sicherlich / ??vielleicht / ?möglicherweise / ?wahrscheinlich  
if Max certainly perhaps possibly probably  
/ ?sicher schnarcht, sollten wir Ohrstöpsel mitnehmen.(German)  
for sure snore.PRES.3SG should.PRES.1PL we earplugs bring  
‘if Max is certainly / perhaps / possibly / probably / for sure snoring, we should bring earplugs’

In addition, propositional operators, like negation, cannot scope over these adverbs (60):

60) Max schnarcht \*nicht sicherlich / \*unsicherlich laut. (German)

Max snore. PRES.3SG not certainly uncertainly loudly

According to these data, Krifka proposes that subjective epistemic modifiers are hosted in JP (61):

61)  $[_{ActP} Max_1 [_{Act'} [_{Act^o} schnarcht_{to} \bullet] [_{ComP} t_1 [_{Com'} [_{JP} t_1 [_{J'} sicherlich [_{J'} [_{TP} t_1 laut to] [_{J^o} to J-]]] [_{Com^o} to \vdash ]]]]]]]]$

Furthermore, subjective and objective modal markers can be combined, suggesting that they occupy different positions in the structure (62).

62) It certainly is improbable that Max will win the race.

The modifying epistemic adverbs of JP provide information about how certain the judge is about the proposition. Another modifier of JP is evidentials. Evidentials relate to the source of information, if it is first-hand or second, if an event is seen, heard or inferred. Depending on the source of information, the speaker has higher or lower epistemic authority. They can also mark that the source of the proposition is another person using reportative evidentials like *according to*. If there are no objections by the conversation participants, an assertion with evidentials is added to the common ground by commitment closure. However, this process can be blocked by disagreement, like in (63):

63) According to Eva, Max snores loudly, but I don't believe it.

The author claims that the evidential modality can also be expressed by head features, like the German modals *sollen* (64) and *wollen* (65). With *sollen*, the evidential source is distinct from the speaker. With *wollen*, the source is also the subject.

64)  $[[[_{JP} Max_1 [_{J'} [_{InfP} PRO laut schnarchen] [_{J^o} soll ]]]]]^{s,a}$

=  $\lambda j \lambda i: x \neq s [x \vdash i \lambda i [Max \text{ snores loudly, according to } x, \text{ in } i]]$

65)  $[[[_{JP} Max_1 [_{J'} [_{InfP} PRO laut schnarchen] [_{J^o} will ]]]]]^{s,a}$

=  $\lambda j \lambda i [Max \vdash i \lambda i [Max \text{ snores loudly, according to } Max, \text{ in } i]]$

According to this framework, the semantic contributions of the elements modifying JP are not part of the main proposition in TP, but they have the role of supporting that proposition using epistemic and evidential devices.

Modifiers in ComP affect the nature of commitment and modify its strength. Krifka understands strength-related expressions as expressions that specify the type of



commitment of the speaker. One class of these commitment modifiers are the ones that call on an authority that may inflict sanctions, like *bei Gott* ‘by God’ in German. Explicit performatives such as *I swear* can also rise commitment levels. Expressions like *seriously* or *definitely* express that the commitment is serious. Sometimes it is difficult to distinguish between judgement and commitment modifiers because their effect might be similar. However, if they cooccur, commitment modifiers scope over judgement ones (66):

- 66) Dieses Buch ist                    wahrlich mit Sicherheit ein Meisterwerk.  
       this    book be.PRES.3SG truly    with certainty a masterpiece  
       ‘This book is truly with certainty a masterpiece.’  
       (\*Dieses Buch ist mit Sicherheit wahrlich ein Meisterwerk.)

The semantic representation of commitment modifiers that Krifka proposes is the following (67).

- 67)  $[[[Com' \text{echt} [Com' [JP [TP \text{Max laut schnarcht} ] [J^o J- ] ] [Com^o \vdash]]]]]^{s,a}$   
       =  $\lambda j \lambda i [\text{SERIOUS\_COMMITM}(i,j)$   
        $(\lambda j \lambda i [j \vdash i \lambda i [\text{Max snores loudly, according to } j, \text{ in } i])]$

Unlike with judgement modifiers, commitment modifiers are difficult to move to the specifier position of ActP (68). The author proposes that this difference is because judgement modifiers belong to the semantic material of the proposition the speaker is committed to. Hence, they are part of the communicated message. In contrast, commitment modifiers are tools for communication, but they are not part of the message.

- 68) a. Sicherlich / möglicherweise / vielleicht / offenbar / laut            Eva  
       Certainly    possibly            maybe    apparently according to Eva  
       schnarcht    Max laut. (German)  
       snore.PRES.3SG Max loud  
       ‘Certainly / possibly / maybe / apparently / according to Eva Max snores  
       loudly’  
        $[_{ActP} \text{sicherlich / möglicherweise / vielleicht / offenbar / laut Eva}_1$   
        $[[[_{Act^o} \text{schnarchto} \bullet ] [_{ComP} [JP [J' t_1 [J' [TP \text{Max laut to} ] [J^o J-]] ] [Com^o \vdash]]]]]]]$

b. ? bei Gott / echt / im Ernst / wirklich / wahrlich / ungelogen /  
 at God seriously in seriousness truly verily not lyingly  
 ungläublich schnarchte Max laut. (German)  
 unbelievably snore.PAST.3SG Max loud  
 ‘?For God / seriously / seriously / truly / verily / truly / unbelievably snored  
 loudly.’  
 ?[<sub>ActP</sub> bei Gott / echt / im Ernst / wirklich / wahrlich / ungelogen / ungläublich<sub>1</sub>  
 [[<sub>Act°</sub> schnarchte<sub>o</sub> • ] [<sub>Comp</sub> [<sub>Com°</sub> t<sub>1</sub> [<sub>Com°</sub> [JP [TP Max laut t<sub>o</sub>] [<sub>J°</sub> J-]] [<sub>Com°</sub> †]]]]]]]

ActP modifiers can express some forms of politeness, like *frankly*; or rhetorical relation, like *by the way*. The analysis Krifka proposes is the following (69):

69) Max schnarcht übrigens sehr laut. (German)  
 Max snore.PRES.3SG by the way very loud.  
 ‘Max snores by the way very loudly.’  
 [<sub>ActP</sub> Max<sub>1</sub> [<sub>Act°</sub> [<sub>Act°</sub> schnarcht<sub>o</sub> ] [<sub>Act°</sub> übrigens [<sub>Act°</sub> [<sub>Act°</sub> t<sub>o</sub>] [<sub>Comp</sub> t<sub>1</sub> sehr laut o]]]]]]]

ActP specifiers can be expressed parenthetically, and such parenthetical constructions can be analysed as adjuncts to the ActP. In (70), there is an interpretation where HONEST\_ACT is a property of the relation between the input and the output commitment state:

70) Ehrlich gesagt Max schnarcht laut.  
 honestly say.PRES.1.SG Max snore.PRES.3.SG loud  
 ‘Honestly, Max snores loudly.’  
 S<sub>1</sub> to S<sub>2</sub>: [[ [<sub>ActP</sub> ehrlich gesagt [<sub>ActP</sub> Max<sub>1</sub> [<sub>Act°</sub> [<sub>Act°</sub> schnarcht<sub>o</sub> • ] [<sub>Comp</sub> [C° [JP  
 [TP t<sub>1</sub> laut t<sub>o</sub>] [<sub>J°</sub> J- ] ] [C° †]]]]]]]]]]<sup>s,a</sup>  
 = λc[<sub>tc</sub>‘[c’ = [[ActP Max schnarcht laut]]S<sub>1</sub>,S<sub>2</sub>(c) ∧ HONEST\_ACT(S<sub>1</sub>,c,c’)]

It is important to note that Krifka’s analysis uses X-bar syntax. The adverbials that modify JP, ComP and ActP are placed on the specifier of the projection. In addition, the author gives at least two examples where these modifiers can be expressed as head operators. One of them is the expression of JP head with a subjunctive epistemic verb. This is illustrated in (71) with the German verbal form *müsste*, which expresses subjective necessity.

71) Max zuhause sein müsste

Max at home be must.PAST.3SG

‘Max must have been at home.’

[<sub>JP</sub> Max [<sub>J'</sub> [<sub>InfP</sub> PRO zuhause sein] [<sub>J°</sub> müsste ]]]

The other one is the expression of commitment with the “free factive subjunctive” (72) in German, which indicates that the speaker is not certain that his/her commitment “fits the pragmatic requirements of a relevant assertion.” (Krifka, 2020; 22).

72) Ich hätte da eine Dorade.

I have.SUBJ.1SG there an sea bream

‘I have a sea bream there’

[[[<sub>ActP</sub> ich<sub>1</sub> [<sub>Act'</sub> [<sub>Act°</sub> hätte<sub>2</sub> •] [<sub>ComP</sub> [<sub>Com'</sub> t<sub>1</sub> [<sub>JP</sub> t<sub>1</sub> [<sub>TP</sub> t<sub>1</sub> da eine Dorade t<sub>0</sub>] [<sub>J°</sub> J–]

[<sub>Com°</sub> [hab-0 + KonjII]<sub>2</sub> †]]]<sup>s,a</sup>

Krifka provides more evidence, in addition to specific modifiers, to defend his division of the illocutionary force in three projections, such as the subcategorization properties of predicates that embed clauses or the interpretation of responses to assertions. However, our investigation, we will focus on the definitions of ActP, ComP and JP and their role within the assertion.

The author concludes that the speech act, including assertions, does not involve only a proposition. This speech act is created with a proposition and an illocutionary force operator over it. Analysing this illocutionary force, he distinguishes three different layers. The first one is JP, which expresses evidential and epistemic modifications. Even if judgements are proposition-like, their modifiers are not part of the communicated proposition. The next layer is the ComP, where the fact that the judge is committed to the proposition is encoded. Its modifiers are not part of the proposition and are usually seen as parenthetics. The last layer is ActP, which encodes information related to the speech act. Its modifiers behave the same way as ComP modifiers: they are not part of the proposition and are usually seen as parentheticals.

#### 4. Analysis of the imperative future

In my proposal, the formation of the imperative future consists of six steps. The first one is the starting point of the construction. The verb is merged in the VP, the clitic in the Agreement Object Phrase (AgrOP), and the tense is specified in the TP. Regarding the syntax-pragmatics interface, in the ActP it is specified that the utterance is an assertion and that the speaker (s1) is committed with respect to the addressee (s2) to the truth of the proposition.

Step 1: [ActP [Act ASSERT] [ComP [Com  $\vdash$ ] <sup>s1-s2</sup> [JP [J-] [CP [C-] [TP [T<sub>EpisFut</sub>] [AgrOP [AgrO *em/me*<sup>5</sup>] [VP *despertar demà al dematí*]]]]]]]]

In the second step, the verb rises to the head of the AgrOP, which was already occupied by a first person singular clitic, *em/me*. The verb attaches to it from the front, creating a compound head.

Step 2: [ActP [Act ASSERT] [ComP [Com  $\vdash$ ] <sup>s1-s2</sup> [JP [J-] [CP [C-] [TP [T<sub>EpisFut</sub>] [AgrOP [AgrO *despertar-me*] [VP ~~*despertar*~~ *demà al dematí*]]]]]]]]

In the third step, the compound head reaches the head of the TP, which is specified for the epistemic future. The verb is inflected accordingly in the future form.

Step 3: [ActP [Act ASSERT] [ComP [Com  $\vdash$ ] <sup>s1-s2</sup> [JP [J-] [CP [C-] [TP [T<sub>EpisFut</sub> *despertaràs-me*] [AgrOP [AgrO ~~*despertar-me*~~] [VP ~~*despertar*~~ *demà al dematí*]]]]]]]]

In step four, the compound head *despertaràs-me* reaches the head of the CP. Remember that Rivero and Terzi (1995) argue that C in Class I languages has a strong-V feature the imperative verb needs to check by rising to C. One possible hypothesis for the imperative future would be that it stays in C, mirroring the imperative. However, I will argue that it rises to higher projections in the structure.

Step 4: [ActP [Act ASSERT] [ComP [Com  $\vdash$ ] <sup>s1-s2</sup> [JP [J-] [CP [C *despertaràs-me*] [TP [T<sub>EpisFut</sub> ~~*despertaràs-me*~~] [AgrP [Agr ~~*despertar-me*~~] [VP ~~*despertar*~~ *demà al dematí*]]]]]]]]

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<sup>5</sup> In Catalan, the first person pronoun has two allomorphs: *em* and *me*. The regular future has the clitic in the preverbal position, which requires the clitic to adopt the proclitic form *em*. With the imperative future, the clitic is in the enclitic form *me*.

Catalan is a language that resembles Modern Greek and Spanish regarding the behaviour of imperatives. It is a Class I language, which means that the imperative verb always rises to C in order to check a strong V feature (73):

- 73) a. *Compra patates al supermercat!*  
 buy.IMP.2SG potatoes at+the supermarket.  
 ‘Buy potatoes at the supermarket!’
- b. *Compra’ n al supermercat!*  
 buy.IMP.2SG-CL at+the supermarket  
 ‘Buy some at the supermarket!’
- c. *\*En compra al supermercat!*  
 CL buy.IMP.2SG at+the supermarket  
 ‘\*Buy some at the supermarket!’

As a Class I language, Catalan imperative verbs cannot be negated (74a). Rivero and Terzi (1995) argue that negation is a head that acts like a barrier to the rising of the imperative verb. In Catalan, the subjunctive form of the verb is needed to negate an order (74b):

- 74) a. *\*No compra la salsa de soja!*  
 NEG buy.IMP.2SG the sauce of soy  
 ‘\*Do not buy the soy sauce!’
- b. *No compris la salsa de soja*  
 NEG buy.SUBJ.2SG the sauce of soy  
 ‘Do not buy the soy sauce!’

The imperative future in North-Western Catalan cannot be negated (75).

- 75) *\*No pensaràs -hi, eh?*  
 not think.FUT.2SG-CL particle.  
 ‘Do not think about it, okay?’

The incompatibility of negation and the imperative future cannot be taken as proof that the imperative future has the same behaviour as the imperative. If we postulate that the imperative future rises further in the structure than the imperative, it still needs to move to C, which is what the imperative does. If negation is a barrier for the imperative to move

to C, negation would still be a barrier for the imperative future to move up to satisfy its epistemic modality.

In addition, claiming that the imperative future rises to C would imply that, in terms of Rivero and Terzi (1995), C has a strong-V feature that needs to be licensed by future morphology. This would mean that every future form should rise to C to check that feature. However, it is possible to combine the future standard form with *wh*-elements, which are thought to occupy the head of CP (Frankom, 2012) (76). Hence, the future and *wh*-elements do not compete for the same structural position. Note also that with the regular future the clitic precedes the verb. Therefore, on the one hand, it seems that the regular future does not rise to C or above. On the other hand, the impossibility of being negated indicates that the imperative future at least rises to C. This shows that we have two different futures: one that stays at TP, the standard future; and another that moves to a higher position than Tense. I conclude that no strong V-feature in C attracts future morphology, in terms of Rivero and Terzi (1995).

- 76) Què em compraràs demà?  
 what CL buy.FUT.2SG tomorrow  
 ‘What are you going to buy for tomorrow?’

I propose that the complex head formed by the imperative future and the clitic continues its head-to-head movement until it reaches the head of the Judgement Phrase. This is what step 5 represents:

Step 5: [ActP [Act ASSERT] [ComP [Com  $\bar{t}$ ] <sup>s1-s2</sup> [JP [J despertaràs-me]  
 [CP [C ~~despertaràs-me~~] [TP [TEpisFut ~~despertaràs-me~~] [AgrP [Agr ~~despertar-me~~]  
 [VP ~~despertar~~ demà al dematí]]]]]]]]]

Krifka (2020) argues that JP is where the judgements of the speaker towards the proposition are encoded and where epistemic and evidential modifiers are placed. Mari and Giannakidou (2017) argue that future morphology is an epistemic operator as it indicates that the speaker considers *p* and  $\neg p$  worlds. His/her epistemic knowledge helps him/her to judge which of them is more probable. This mechanism is encoded in the expression of the future.

In (77), we can see that the future in Catalan can have a predictive reading linked to the speaker's epistemic state. If (s)he dares to predict Maria's intentions is because (s)he has

some knowledge that points to a certain future. The speaker is in an epistemic state that legitimates the prediction. In this case, Catalan is parallel to other languages, like Greek and Italian.

- 77) La Maria vindrà demà.  
 The Mary come.FUT.3SG tomorrow.  
 ‘Mary will (probably) come tomorrow.’

However, Catalan does not share with Italian and Greek the use of the future morphemes as epistemic modals when referring to ratificational readings. Catalan parallels English and French in their differentiation between this reading of the future morphemes and the other uses of the epistemic readings of the future. In Catalan, sentences like the ones in (78) are expressed with the modal periphrasis ‘*deure* + infinitive’ (79):

- 78) a. He is not at school. He must be ill.  
 b. Il n’est pas a l’école. Il doit être malade  
 he NEG-be.PRES.3SG NOT at the-school. he must.PRES.3SG be ill  
 ‘He is not at school. He must be ill.’  
 c. Non é a scuola. Sarà malato. (Italian)  
 not is at school. be.FUT.3SG ill.  
 ‘He is not at school. He *must* be ill.’
- 79) No és a l’escola. Deu estar malalt.  
 not is at the-school. must.PRES.3SG be ill.  
 ‘He is not at school. He must be ill.’

Nevertheless, it is possible to hear in Catalan sentences such as (80), where the future form overtakes the ratificational reading. The Spanish use of the future (81) may favour this recent change in this context, which parallels Greek and Italian.

- 80) Estarà malalt.  
 be.FUT.3SG ill.  
 ‘He must be ill.’
- 81) No está en la escuela. Estará enfermo.  
 not is at the school. be.PRES.3SG ill.  
 ‘He is not at school. He must be ill.’

In this paper, we focus on analysing a construction of North-Western Catalan, the imperative future. Considering that the future is related to epistemic modality, and not deontic modality, how can this framework be used to explain the imperative future? Consider (82):

- 82) Pensaràs- hi, eh?  
think.FUT.2SG particle okay  
'Think about it, okay?'

Note that the form used in this imperative future is the future form, not the 'deure + infinitive' periphrasis. This can indicate that its base is a future empirical prediction. Whether the speaker is considering  $p$  and  $\neg p$  worlds is a crucial factor in evaluating the epistemic nature of a construction. With the imperative future, the speaker is doing so. His/her current world knowledge enables him/her to picture time/worlds where  $p$  happens and possible time/worlds where  $p$  does not happen. Mari and Giannakidou (2017) mention that FUT quantifies over these sets and determines the Best worlds. 'The Best worlds are the ideal worlds, the ones best conforming to knowledge, rules, or goals (depending on the nature of modality).' (Mari and Giannakidou, 2017; 102).

Indeed, it seems that the speaker could be considering both  $p$  and  $\neg p$  worlds because at the utterance time (s)he cannot know its truth value. Imagine that the speaker has the goal of reaching a specific eventuality in a future time/world. Let us return to the example (82). The speaker believes or knows that if the addressee does not *think about it*, (s)he will not be able to reach that specific eventuality. Therefore, (s)he is picturing  $p$  and  $\neg p$  worlds. In order to reach this desired eventuality in a future time/world, (s)he needs the collaboration of the addressee. In other words, the Best world for the speaker, according to his/her knowledge, is a world where the addressee *thinks about it*. This argument would be valid for all the other examples of the imperative future: the speaker considers  $p$  and  $\neg p$  worlds and evaluates which are the Best worlds for his/her interests. This is expressed with the rising of the verb and clitic to JP, the head that encodes the epistemic judgements of the speaker. The epistemic grounds of this utterance legitimate the future form in JP.

In addition, we must note that the imperative future is more natural and preferred when the action it refers to has to be carried out at a distant time from the moment of the utterance. I.e., the legitimacy of this use depends on the speaker's perception regarding the moment the addressee must execute the action. The speaker must know that the action



must be carried out at a distant time in the future. This condition for using the imperative future is also connected to the speaker's epistemic state. Moreover, the epistemic modality of future modality could also be related to the preference for the imperative future in actions that must take place in a distant timespan. If the speaker has both  $p$  and  $\neg p$  worlds in his/her epistemic state, (s)he cannot commit to  $p$  being true at that moment.

Step 6 is the final step for the formation of the epistemic future. In this step, the complex head has stopped moving head-to-head, and the whole JP moves to Commitment Phrase. By means of this movement the speaker makes the addressee commit to  $p$ .

Step 6: [ActP [Act ASSERT] [ComP [JP [J despertaràs-me] [CP [C ~~despertaràs-me~~]  
[TP [TEpisFut ~~despertaràs-me~~] [AgrP [Agr ~~despertar-me~~]  
[VP ~~despertar~~ demà al dematí]]]]]] [Com I-] <sup>s1-s2</sup> ]]

According to Krifka (2020) the speaker's commitment toward  $p$  is encoded in ComP. In the imperative future, the speaker commits to the whole proposition and his/her judgement expressed in JP. I propose that the whole JP moves to the specifier position of ComP because of the speaker's commitment with the addressee. Krifka (2020) also places the adverbial modifiers of this projection in this position.

The rising of the JP to the specifier of ComP could explain the incompatibility of the adverbs that modify commitment and the imperative future (83), as two different elements would compete for one structural position.<sup>6</sup>

- 83) \*Seriosament, estimaràs-    los a padrí        i    padrina        quan  
       seriously        kiss.FUT.2SG-CL to grandfather and grandmother when  
       arribem.  
       arrive.SUBJ.1PL  
       ‘Seriously give a kiss to grandfather and grandmother when we arrive.’

<sup>6</sup> It is important to note that the structure I propose gives structural reasons for the incompatibility of commitment-modifier adverbs but not for the incompatibility of adverbs that modify JP and the imperative future (i), which occupy the specifier position of JP.

- (i) \*Possiblement faràs-        me una truita        per sopar.  
       possibly        do.FUT.2SG-CL an    omelette for dinner  
       ‘\*Possibly cook me an omelette for dinner.’

It is possible, however, that the incompatibility of such adverbs and the imperative future is due to semantic reasons. Even if the speaker evaluates  $p$  and  $\neg p$  worlds to utter the imperative future, (s)he is wholly committed to  $p$  worlds (the ones mentioned in the utterance). (S)he imposes his/her epistemic judgements only on those. Therefore, these sentences do not fit adverbs that entail possibility or uncertainty.

Another peculiarity of the structure postulated for the future imperative is the specification ‘s1-s2’. Recall that ‘s1’ refers to the first subject of the interaction, the speaker, and ‘s2’ to the addressee. The specification ‘s1-s2’ means that the speaker wants to have an effect on the addressee. The speaker is committed to the truth of *p*, as specified in the head of ComP, and wants it to enter the common ground shared with the addressee. As Krifka (2020) explains, if the addressee does not complain about the proposition, it will be incorporated into the common ground. This effect is known as Commitment Closure.

Typically, when the speaker commits to a proposition and the proposition turns out to be false, the individual seen as untrustworthy is the speaker who has committed to it. Imagine that the father of a child promises him to go to Disneyland if the child behaves properly. If the child does behave appropriately and they do not go to Disneyland, the untrustworthy person is the speaker. However, with the use of the imperative future, the dynamics change. When an imperative future is accepted into the common ground, if the proposition does not become true, the individual seen as untrustworthy is the addressee, not the speaker. This change of the person seen as responsible for the utterance is what ‘s1-s2’ encodes: the addressee becomes the principal committed subject if (s)he does not object to the proposition. To exemplify this effect, I am going to take example (83). If the addressee does not kiss his/her grandparents, (s)he will be seen as untrustworthy, not the person who uttered the sentence.

To summarize, the future cross-linguistically expresses epistemic modality, neither deontic modality nor orders. The utterances using the imperative future are not orders but assertions. Hence, the apparent commanding nature of this phenomenon must come from something else. I have argued that the epistemic nature of the future allows it to rise to JP at the syntax-pragmatics interface. Afterwards, with the rising of the whole JP to the specifier of ComP, the speaker conveys his/her commitment to the addressee. The addressee becomes committed to the proposition with the Commitment Closure effect. The commitment of the addressee towards this proposition is what is interpreted as imperative. As (s)he does not want to be seen as untrustworthy, (s)he must ensure that the proposition becomes true. By contrast, the standard future does not bring this commitment s1-s2 effect. Hence, North-Western Catalan has two different types of futures.<sup>7</sup>

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<sup>7</sup> Under Krifka’s framework, one could take the standard future as a judgement modifier (the speaker commits to being uncertain but biased in favour of *p*), while the imperative future as a commitment modifier (the speaker commits in a way that makes the addressee also commit to *p*). I thank E. Tsiakmakis (p.c.) for

## 5. Conclusion

This study's main goal was to describe the use of the imperative future in North-Western Catalan. In section 2, I depicted the contexts in which the imperative future is used, and I point out the differences between this construction and the imperative form and the standard future. The second goal of this piece of work was to present an analysis of the phenomenon incorporating the imperative future in an epistemic modality framework.

With this analysis, I conclude that utterances formulated with the imperative future are not orders but assertions. The epistemic nature of the future verbal form allows the compound head formed by the verb and the clitic to rise to the head of JP. The speaker is the one that judges the proposition to be possible in a distant time span. In addition, the speaker's epistemic state determined that the action described by the utterance needs to be carried out in the future. The whole JP rises to the specifier position of ComP. In this position where the commitment of the speaker towards the proposition is encoded. This commitment is transferred to the addressee with the Commitment Closure effect. As the addressee is also committed to the proposition, (s)he feels the need, the obligation, to act in order to make the proposition true. It is from the commitment of the addressee that the imperative flavour of the imperative future appears.

The analysis I have portrayed for the imperative future shows that it behaves differently from imperatives and standard futures. On the one hand, whereas imperatives rise to the head CP and stay there, the imperative future looks for a higher position at the syntax-pragmatics interface where the epistemicity of the future is satisfied, thus moving to the head of JP. As I have mentioned, the whole JP would eventually rise to the specifier position of ComP. On the other hand, standard futures stay in TP, as they have the possibility of combining with *wh*-elements and the possibility of being negated. Hence, I conclude that there are two types of futures in North-Western Catalan: an epistemic future that is hypothesized to rise to J and the whole JP to ComP, and a regular future that is attached to a verb that only moves to T.

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this suggestion. Since this piece of research is focused on the imperative future, I leave for future investigation the analysis of the standard future in North-Western Catalan.

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## 7. Bibliography

Enç, Murvet. 1996. Tense and modality. In *Handbook of contemporary semantic theory*, ed. Shalom Lappin, 345–358. Oxford: Blackwell.

Giannakidou, A. and Mari, A., 2017. A unified analysis of the future as epistemic modality. *Natural Language & Linguistic Theory*, 36(1), pp.85-129.

Frankom, J., 2012. Wh-Movement: Interrogatives, Exclamatives, and Relatives. In: J. Hualde, A. Olarrea and E. O'Rourke, ed., *The Handbook of Hispanic Linguistics*.

Levin, B., 1993. *English verb classes and alternations*. Chicago: University of Chicago Press.

Levin, B., 2009. *Lexical Semantics of Verbs IV: Aspectual Approaches to Lexical Semantic Representation*.

Levin, B. and Rappaport Hovav, M., 1999. Two Structures for Compositionally Derived Events. *Semantics and Linguistic Theory*, 9, pp.199-223.

Rivero, M. and Terzi, A., 1995. Imperatives, V-movement and logical mood. *Journal of Linguistics*, 31(2), pp.301-332.

Vendler, Z., 1967. *Linguistics in Philosophy*. NY: Cornell University Press, Ithaca.

Veny, J., 1984. *Els parlars catalans*. Palma de Mallorca: Ed. Moll.