Doktori (Ph.D.) értekezés

# A Semantic Approach to Mood Choice in Complement Clauses with Special Reference to Hungarian

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# A Semantic Approach to Mood Choice in Complement Clauses with Special Reference to Hungarian

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## INTRODUCTION

The fundamental purpose of this dissertation is to show that the distribution of moods in Hungarian complement clauses can be given a semantic characterisation. This stand is well-represented by various authors in relevant literature on mood choice in several languages. However, apart from a pioneering study on mood choice in Hungarian (cf. Farkas 1992b), previous works related to Hungarian mood phenomena do not provide a satisfying treatment of mood choice in complement clauses (either have a limited data base or give only a descriptive list of matrix predicates licensing various moods in their complement clauses without providing any satisfying explanation for mood choice and mood alternation). The present analysis will focus on the indicative/non-indicative opposition, where the latter category includes the subjunctive, the imperative and the conditional. In what follows, I hope to give a detailed characterisation of the types of complements where the indicative and non-indicative moods may appear in Hungarian and I will argue that semantic factors determine their distribution.

Chapter 1 first introduces the category of mood (notional mood vs. grammatical mood) then it provides crosslinguistic data about the syntactic distribution of mood (focussing on the indicative and the subjunctive in complement clauses) in various languages (Spanish, Italian, English, German, French, Romanian and Hungarian). Finally, mood distribution in Hungarian is discussed in a much more detailed fashion. In most Hungarian grammars three grammatical moods are differentiated, the indicative, the conditional and the subjunctive. Sometimes a further syntactically motivated distinction is made (cf. Pataki 1984, Kenesei 1992) stating that the subjunctive comprises two morphologically identical moods: the imperative and the subjunctive proper. I will return to this distinction in Chapter 5, up to that point throughout the discussion I will use the aforementioned tripartite division of moods. As it was noted above, my research will focus primarily on the indicative/non-indicative opposition in complement clauses. However, since mood choice always means rejection of all the other possibilities, this cannot be done without taking into account the other individual moods as well. Chapter 1 also dwells upon the so called polarity vs. intensional subjunctive in Romance (cf. Quer 1998), and examines whether such a difference can be observed in Hungarian.

Chapter 2 first argues in favour of a semantic analysis of mood distribution and then presents a critical overview of earlier approaches based on the assumption that the meaning of the embedding predicate is responsible for mood choice to a great extent and shows that these

are not adequate, at least not when applied to Hungarian data. The following approaches are discussed in this chapter:

- Bolinger's pioneering study (1968)
- the assertive/non-assertive distinction based on Spanish data (Terrell and Hooper 1974)
- assertive/non-assertive distinction, factive/non-factive distinction (Hooper 1975)
- more on assertivity: Mejías-Bikandi's study (1994) in the framework of mental spaces
- Haverkate's analysis of mood phenomena in Spanish (2002)

Finally, the most satisfying classification of predicates is adapted to Hungarian matrix predicates. In that way the present discussion is relevant not only to the semantics of mood in Hungarian, but also to the lexical semantics of predicates licensing various moods in their subordinate clauses.

Chapter 3 examines two different theories of mood choice and their applicability to Hungarian data (relying on the classification of matrix predicates adapted in Chapter 2):

- the traditional realis/irrealis opposition
- direction of fit

As it turns out, none of these analyses is entirely satisfactory in the case of Hungarian.

The aim of Chapter 4 is to put forward a novel account of mood choice in Hungarian complement clauses exploring the relation between mood and modality. First Farkas's theory of anchoring (1992a, 1992b), then a related theory based on the semantic notion of veridicality is discussed (Giannakidou 1998). My proposal is that veridical predicates license the indicative, while the indicative is never triggered by non-veridical predicates. However, the study of veridicality still leaves certain questions about mood variation in complement clauses unanswered. For that reason a possible analysis in terms of Kratzer's theory of modality (Kratzer 1981, 1991) is outlined: following Giorgi and Pianesi (1997) it is argued that the nature of the modal base and the ordering source play an important role in mood selection. Finally, a recent analysis based on the notion of context change potential (Heim 1992) within optimality theory (Farkas 2003) is presented and adopted to Hungarian.

The final chapter (Chapter 5) elaborates on the differentiation of the imperative and the subjunctive proper in complement clauses presenting a case study and its statistical analysis aimed at characterising the grammatical and semantic role of two morphologically identical moods in Hungarian, that of the imperative and the subjunctive proper. This is particularly interesting since the status of the subjunctive proper in Hungarian provides a controversial issue; most descriptive grammars do not even recognise it as a formally distinct mood.

## CHAPTER 1

## A CROSSLINGUISTIC OVERVIEW OF MOOD DISTRIBUTION

### 1 Defining mood

Jespersen's study of different moods (1924) serves as a good starting point to our discussion. He is a representative of the traditional view, stating that the indicative, the subjunctive and the imperative "express certain attitudes of the mind of the speaker towards the contents of the sentence, though in some cases the choice of a mood is determined not by the attitude of the actual speaker, but by the character of the clause itself and its relation to the main nexus on which it is dependent. Further it is very important to remember that we speak of 'mood' only if this attitude of mind is shown in the form of the verb: mood thus is a syntactic, not a notional category". (Jespersen 1924: 313)

Thus, traditionally the notion of mood is restricted to a category expressed in verbal morphology. However, Palmer (1986) argues that while verbal inflection is an important formal feature of mood, mood is not only a morphosyntactic category of the verb, but it has certain semantic functions that affect the meaning of the whole sentence.

Accordingly, in what follows two kinds of mood will be differentiated:

- **grammatical (or morphological) mood**: a grammatical category which is defined by morphosyntactic properties, by formal features reflected in verbal inflection
- **notional mood**: a semantic category; grammatical means expressing the same semantic functions that can be fulfilled by the different grammatical moods of individual languages also belong here

The latter notion includes grammatical mood, thus, it covers a larger set of phenomena. As Portner (1999) notes, notional mood comprises every phenomenon that is exploitable on the basis of the same theory that is used to explain the role of the central grammatical moods, such as the indicative or the subjunctive. For instance, modal verbs in English do not belong to the category of grammatical mood, however, many of the functions fulfilled by English modals are related to mood. Consider the following example (adopted from Portner 1999: 4):

(1) I hope that you may be happy.

In (1) *may* does not behave as a true modal verb, and, accordingly (1) receives a different meaning from 'I hope that it is possible that you are happy.', its meaning being something similar to the meaning of *I hope that you will be happy.*, enriched with an added element of blessing.

Having clarified the notion of mood the method of analysis will be the following: we will examine the existing grammatical moods and their distribution in Hungarian. As we will see below, Hungarian has a quite extensive system of grammatical moods (cf. section 3), and

I will focus primarily on these throughout the paper. However, sometimes I will also take into consideration phenomena belonging to the category of notional mood.

Nevertheless, in order to get a broad outline of mood distribution first I will give a crosslinguistic overview of mood related phenomena in the next section before turning to the Hungarian data in section 3.

## 2 Crosslinguistic distribution of moods

### 2.1 Matrix clauses

As we are primarily interested in the indicative/non-indicative opposition, and within the second category we will focus on the subjunctive throughout the discussion, the presentation of mood distribution below concentrates on the indicative/subjunctive distinction, though the conditional will also be mentioned.

It is widely acknowledged that the indicative is the prototypical mood of matrix clauses with affirmative illocutionary force consistently across various languages:

(2) Juan está/*esté de vacaciones. (Spanish)
Juan be.IND/*SUBJ PREP holiday
'Juan is on holiday.'

(3) John is/*be on holiday. (English)

(4) János nyaral/*nyaraljon. (Hungarian)
János holiday.IND/*SUBJ
'János is holidaying.'

As opposed to this, the subjunctive is crosslinguistically restricted to matrix clauses with a special illocutionary force, such as optatives,

(5) ¡Viva el rey! (Spanish)
live.SUBJ the king
'Long live the king!'

(6) Long live the king! (English)

(7) Éljen a király! (Hungarian)
live.SUBJ the king
'Long live the king!'

(8) Essen már az eső! (Hungarian)
rain.SUBJ ADV the rain
'Let it rain!'

or commands[1]:

[1] In Spanish the subjunctive is used to express third person commands and prohibitions (all persons), in the case of second person commands only the imperative is grammatical:

(9) Lo dica pure! (Italian)
it say.SUBJ indeed (Portner 1999)
'Go ahead and say it!'

(10) Să nici nu-l mai vezi. (Romanian)
SUBJ NEG NEG-him again see
'Don't even see him again!' (Farkas 1985)

(11) ¡No me lo digas! (Spanish)
NEG I.DAT it.ACC tell.SUBJ
'Don't tell me!'

(12) Nehogy megmondd nekem! (Hungarian)
CONJ tell.SUBJ I.DAT
'Mind you don't tell me!'

Besides occurring in matrix optatives and commands, the subjunctive may also express supposition or astonishment in matrix clauses in some languages. The following Italian examples are adopted from Moretti and Orvieto (1981) (cited in Portner 1999: 4):

(13) L'avesse anche ditto lui. (Italian)
it-have.SUBJ also said he
'Suppose he had said it too.' (di Lampedusa, *Il gatttopardo*)

(14) Che sia nel bagno? (Italian)
that be.SUBJ in-the bath
'S/he is in the bath?' (Cassola, *Una relazione*)

In Hungarian we find the conditional in similar contexts:

(15) A fürdőszobá-ban lenne? (Hungarian)
the bathroom-IN be.COND
'S/he is in the bath?'

The conditional also surfaces in matrix wishes:

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(i) ¡Dí-me-lo!
tell.IMP-I.DAT-it.ACC
'Tell me!'

In Hungarian, the order of the preverb and the verb differentiates the imperative from the morphologically identical subjunctive proper (cf. Chapter **5**). Accordingly, the verb in (12) above is a subjunctive proper verb form, and it is licensed by the presence of the negative conjunctive, the corresponding imperative form being:

(ii) Mondd meg nekem!
tell.IMP PV I.DAT
'Tell me!

(16) ¡Con qué gusto tomaría una cerveza fría! (Spanish)
with what pleasure drink.COND a beer cold
'If only I could drink a cold beer!'

(17) Bárcsak abbahagyná a dohányzás-t! (Hungarian)
if only give up.COND the smoking-ACC
'If only s/he would give up smoking!'

**2.2 Complement clauses**

Although it may occur in matrix clauses, the main function of the subjunctive in many European languages is that of being 'subordinate', i.e. it is the mood typically used in complement clauses, as it is predicted by the etymology of the term *subjunctive* (< Latin *subiungere* 'submit', which is a translation of the Greek term *hypotaktikē* 'subordinate').

According to Palmer (1986), basically three types of complement clauses can be differentiated, and the subjunctive can be found in each of these.

*2.2.1 Adverbial clauses*

The subjunctive often appears in adverbial clauses, for example in counterfactual conditionals, concessive clauses and purpose clauses, just to mention a few. Consider the following example sentences from Spanish (adopted from Haverkate 2002) and English:

(18) Si Juan viniera, haríamos un picnic.
if Juan come.PAST.SUBJ have.COND a picnic
'If Juan were coming, we would have a picnic.'

(19) Aunque hayan comprado el coche, no me lo he visto.
although have.SUBJ bought the car NEG I.REFL it.ACC have seen
'Although they may have bought the car, I haven't seen it.'

(20) Maria se esconde para que no la vea nadie.
Maria she.REFL hide so that NEG she.ACC see.SUBJ nobody
'Maria is hiding so that nobody could see her.'

(21) If I were rich, I would buy a new car.

(22) Whatever be the reasons for it, we cannot tolerate his disloyalty. (Quirk *et al* 1985)

In Hungarian adverbial clauses all three grammatical moods occur, for instance in counterfactual conditional clauses the conditional mood is used both in the antecedent and the consequent. In concessive clauses all three moods may appear[2], and in purpose clauses we

[2] Other means of notional mood may surface here, too, for instance the affix *–hAt*, which has a modal meaning:
(i) Bármi-t elmond-hat-sz nekem, nem leszek mérges.

find the subjunctive. However, our basic aim is to explore the distribution of moods in lexically selected embedded clauses, thus, studying adverbial clauses lies out of the scope of the present paper, but it might be subject to future research. For the sake of completeness, consider the following examples:

(23) Ha nyernék a lottó-n, világ-körüli út-ra mennék.
if win.PRES.COND the lottery-ON world-ROUND way-ON go.PRES.COND
'If I won the lottery, I would travel around the world.'

(24) Bárki ∅/lenne/legyen is az, ne nyisd ki az ajtó-t.
whoever be.IND/COND/SUBJ CONJ that NEG open.SUBJ PART the door-ACC
'Whoever it is, don't open the door.'

(25) Sietett, hogy idő-ben odaérjen.
hurry.PAST that time-IN arrive.SUBJ
'S/he was in a hurry so as to get there in time.'

*2.2.2 Relative clauses*

The second type of subordinate clauses consists of relative clauses, where triggering the subjunctive is only optional (it can alternate with the indicative). The subjunctive may occur in Hungarian relative clauses, too, however its use is much more restricted as compared to other languages (Romanian, French, Spanish), thus, it will not concern us here. Nevertheless, let us take a look at some examples.

Crosslinguistically, the subjunctive often occurs in relative clauses that are in the scope of an intensional operator. In that case, the use of the subjunctive disambiguates, it signals that the intensional operator has wide scope over the indefinite NP, whereas in the case of an indicative verb form ambiguity would arise (cf. Farkas 1985):

(26) Caut o fată care să stie englezeste. (Romanian)
look for a girl who know.SUBJ English
'I am looking for a girl who knows English.' (Farkas 1985)

In Hungarian, subjunctive relatives do not occur embedded under intensional predicates, hence, the phenomenon just outlined cannot be observed, though the conditional might surface in similar contexts:

(27) Keresek egy lány-t, aki tud/tudna angolul.
look for a girl-ACC who know.IND/COND English
'I am looking for a girl who knows English.'

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whatever-ACC tell-CAN-YOU I.DAT NEG be.FUT.IND angry
'You can tell me anything, I won't be angry.'

Nonetheless, subjunctive relative clauses do exist in Hungarian, though their use is archaic to some extent. This is illustrated by (28) and (29) adopted from Simonyi (1877):

(28) Majd valami-t főzök, ami-vel az éh-ed-et elüsd.
later something-ACC cook.IND that-WITH the hunger-YOUR-ACC appease.SUBJ
'I'll cook something to appease your hunger.'

(29) Az, aki-t én elveszek feleségül, tudjon főzni.'
that who-ACC I marry.IND be able.SUBJ cook-INF
'I expect that the woman I marry will be able to cook.'

Conditional and subjunctive relatives embedded under negated matrices are much more well-spread in present-day Hungarian:

(30) Nincs senki, aki elmosogatna/elmosogasson.
there is not noone who do the washing up.COND/SUBJ
'There is noone who would do the washing up.'

*2.2.3 Lexically selected complement clauses*

Complement clauses belonging to the third group are introduced by a lexical predicate; we are going to discuss this class in a much more detailed fashion. Both the indicative and the subjunctive are often licensed in such environments[3], and it is interesting to see how mood choice varies crosslinguistically, depending on the matrix predicate. First only affirmative matrix clauses are taken into account, the role of matrix negation will be discussed later.

Three types of matrix predicates[4] usually select indicative complements across various languages. More specifically, factive predicates expressing mental judgement, assertives and predicates of mental creation (fiction verbs) tend to license the indicative in their embedded clauses.

*Factive predicates expressing mental judgement:*

(31) Gianni sa che Paolo ha scritto una lettera. (Italian)
Gianni knows that Paolo has.IND written a letter
'Gianni knows that Paolo has written a letter.' (Giorgi and Pianesi 1998)

(32) Maria ştie că Ion ia scris. (Romanian)
Maria knows that Ion has.IND written
'Maria knows that Ion wrote to her.' (Farkas 2003)

[3] As it will be shown later, in embedded clauses the conditional is not lexically selected, it is licensed by a negative operator in the matrix clause (cf section 3.2)
[4] I refer the reader to Chapter **2** for more details on different groupings of matrix predicates.

(33) Hans wisst, dass Paul ein-en Brief geschrieben hat. (German)
Hans knows that Paul a-ACC letter written has.IND
'Hans knows that Paul has written a letter.' (Giorgi and Pianesi 1998)

(34) Jancsi tudja, hogy Pál írt egy level-et. (Hungarian)
Jancsi knows that Pál write.PAST.IND a letter-ACC
'Jancsi knows that Pál has written a letter.'

*Assertives:*

(35) Maria a spus că Ion ia scris. (Romanian)
Maria has said that Ion has.IND written
'Maria said that Ion wrote to her.' (Farkas 2003)

(36) Gianni ha detto che Paolo ha scritto la lettera. (Italian)
Gianni has said that Paolo has.IND written the letter
'Gianni said that Paolo has written the letter.' (Giorgi and Pianesi 1998)

(37) Diu que t'enyora. (Catalan)
say that you-miss.IND
'S/he says that s/he misses you.' (Quer 1998)

(38) Jancsi az-t mondta, hogy Pál írta a level-et.
Jancsi that-ACC say.PAST that Pál write.PAST.IND the letter-ACC
'Jancsi said that Pál has written the letter.' (Hungarian)

*Fiction verbs:*

(39) Ion a visat că Petru a primit premiul Nobel. (Romanian)
Ion has dreamt that Petru has.IND received prize Nobel
'Ion has dreamt that Petru has received the Nobel prize.' (Farkas 1992)

(40) Gianni ha sognato che Pietro ha ricetuvo il premio Nobel. (Italian)
Gianni has dreamt that Pietro has.IND received the prize Nobel
'Gianni has dreamt that Pietro has received the Nobel prize.' (Giorgi and Pianesi 1998)

(41) Soñó que estaba en una casa deshabitada. (Spanish)
dream.PAST that be.PAST.IND in a house uninhibited
'S/he dreamt that s/he was in an uninhibited house.' (Haverkate 2002)

(42) Jancsi az-t álmodta, hogy Péter kapta meg a Nobel-díj-at.
Jancsi that-ACC dream.PAST that Péter get.PAST.IND PV the N-prize-ACC
'Jancsi has dreamt that Péter has received the Nobel prize.' (Hungarian)

In general, predicates tending to license the subjunctive in their complement clauses are directives, desideratives, and those expressing possibility and necessity.[5] Consider the examples below:

*Directives:*

(43) I demand that Anna come with us. (English)

(44) Me pidió que le ayudara a subir el equipaje. (Spanish)
I.ACC ask.PAST that he.DAT help.PAST.SUBJ PREP take upthe luggage
'He asked me to help him to take the luggage upstairs.' (Haverkate 2002)

(45) Megkért, hogy vegyek kenyer-et. (Hungarian)
ask.PAST that buy.SUBJ bread-ACC
'S/he asked me to buy some bread.'

*Desideratives:*

(46) Quiero que sepas la verdad. (Spanish)
want that know.PRES.SUBJ the truth
'I want you to know the truth.'

(47) Vreau ca Ana să vină cu noi. (Romanian)
want that Ana come.PRES.SUBJ with we.ACC
'I want Ana to come with us.' (Farkas 1985)

(48) Az-t akarom, hogy menj el a bál-ba. (Hungarian)
that-ACC want that go.SUBJ PV the ball-TO
'I want you to go to the ball.'

*Predicates expressing possibility and necessity:*

(49) Es posible que vengan este tarde. (Spanish)
be.PRES possible that come.PRES.SUBJ this afternoon
'It is possible that they will arrive in the afternoon.'

(50) E posibil ca Ana să fie acasa. (Romanian)
be.PRES possible that Ana be.PRES.SUBJ home
'It is possible that Ana is at home.' (Farkas 1985)

(51) It is necessary that he come with us. (English)

[5] In Hungarian, we find mood variation under predicates expressing possibility and necessity, for details I refer the reader to Chapter **4**.

(52) E necesar să vină cu noi. (Romanian)
be.PRES necessary come.PRES.SUBJ with we.ACC
'It is necessary that he come with us.' (Farkas 1985)

(53) Szükséges, hogy velünk jöjjön. (Hungarian)
necessary that with us come.PRES.SUBJ
'It is necessary that s/he come with us.'

With factive-emotive predicates and non-factive verbs of mental judgement we find somewhat greater variety across languages.

*Factive-emotive predicates:*

(54) Me alegro de que estés aquí. (Spanish)
I.REFL be glad PREP that be.PRES.SUBJ here
'I'm glad that you are here.'

(55) Jean regrette que Marie est/soit mal. (French)
Jean regrets that Marie be.IND/SUBJ sick
'Jean regrets that Marie is sick.' (Farkas 2003)

(56) Örülök, hogy Jancsi-nak sikerült a vizsgá-ja. (Hungarian)
am glad that Jancsi-DAT pass.PAST.IND the exam-POSS
'I'm glad that Jancsi passed the exam.'

*Non-factive predicates of mental judgement:*

(57) Dudo que venga. (Spanish)
doubt that come.PRES.SUBJ
'I doubt that s/he comes.'

(58) Kétlem, hogy Jancsi beteg ∅/lenne.[6] (Hungarian)
doubt that Jancsi ill be.IND/COND
'I doubt that Jancsi is ill.'

(59) Gianni crede che Maria sia partita. (Italian)
Gianni believes that Maria be.SUBJ left
'Gianni believes that Maria left.' (Portner 1999)

(60) Jancsi úgy véli, hogy Mari elment. (Hungarian)
Jancsi so thinks that Mari leave.PAST.IND
'Jancsi believes that Mari has left.'

[6] In (57) and (58) above the matrix predicate has an inherently negative meaning.

(61) Juan cree que María es capaz de hacer-lo. (Spanish)
Juan believes that María be.IND able PREP do-it.ACC
'Juan believes that María is able to do it.'

As we have seen, a great deal of crosslinguistic variation is present in certain constructions, for instance, while the predicate *believe* licenses the subjunctive in its complement clauses in Italian, the indicative is selected in Spanish and Hungarian.

### 2.3 Mood alternation in complement clauses

It is also interesting to note that intralinguistic variation also exists with respect to mood choice. In that case, mood choice often reflects some semantic or pragmatic contrast. As an example, consider the following pair of sentences from Spanish (Mejías-Bikandi 1996: 173):

(62) Juan no cree que tu hijo está enfermo.
Juan NEG believes that you.POSS son be.PRES.IND ill
'Juan doesn't believe that your son is ill.'

(63) Juan no cree que tu hijo esté enfermo.
Juan NEG believes that you.POSS son be.PRES.SUBJ ill
'Juan doesn't believe that your son is ill.'

As Mejías-Bikandi states the main difference between the indicative/subjunctive pair is that the speaker uttering (62) commits himself to the truth of the embedded proposition, while the speaker uttering the subjunctive sentence does not. Thus, an important semantic difference exists between (62) and (63) that is signalled by the choice of mood. It has to be noted here that matrix negation often results in mood alternation in the complement clause. We will turn to this phenomenon in the following section.

Farkas (1992a) mentions another example of mood variation under a given predicate, when mood choice reflects meaning shift of the embedding predicate. This phenomenon can often be observed with predicates referring to various communicative acts. For instance, in Romanian, *a spune* 'say' can take both an indicative and a subjunctive complement, but with a change of meaning (Farkas 1992a: 70):

(64) Ion a spus că Maria a plecat. (Romanian)
Ion has said that Maria has.IND left
'Ion has said that Maria has left.'

(65) Ion a spus ca Maria să plece imediat. (Romanian)
Ion has said that Maria leave.PRES.SUBJ immediately
'Ion has said that Maria should leave immediately.'

We can find similar examples in English and Hungarian:

(66) Joe insisted that Bill finishes dinner by 10.00. (English)

(67) Joe insisted that Bill finish dinner by 10.00. (Huntley 1984)

(68) Mondtam, hogy majd felhív. (Hungarian)
tell.PAST that soon call up.PRES.IND
'I told you that he would call you soon.'

(69) Mondtam, hogy majd hívjon fel. (Hungarian)
tell.PAST that soon call up.SUBJ PV
'I told him to call you soon.'

If we consider examples (68) and (69), or any other predicate that allows two different moods in its subordinate clause in an affirmative context, it is obvious that there are no syntactic or other grammatical factors that could explain the change of mood in the subordinate clause. Thus, it seems right to suppose that there is semantic motivation behind mood choice and/or mood variation in the complement clauses. It is usually assumed that the matrix predicate influences the mood of the embedded sentence. Now, if each predicate had exactly one meaning and governed only one mood, we could argue that mood choice in the subordinate clause is governed lexically, i.e. certain lexical features of the verb that are listed in the lexicon define which mood is grammatical. However, as we have seen, there are predicates licensing more than one grammatical mood in their subordinate clauses, and lexical features alone cannot explain this fact. Thus, mood alternation in complement clauses points to the necessity of a semantic and not purely lexical semantic analysis. In Chapter **2** we will return to this problem.

### 2.4 The role of matrix negation: intensional vs. polarity subjunctive

As it was mentioned above the subjunctive is often licensed when the embedding clause is negated. Likewise, other special features, such as the presence of a question operator or an impersonal subject in the matrix clause may also trigger the subjunctive in the complement clause. Consider the following examples from Spanish and Italian:

(70) Noté que la plataforma se estaba/*estuviera derrumbando.
notice.PAST that the platform it.REFL AUX.IND/*SUBJ collapsing
'I noticed that the platform was collapsing.' (Haverkate 2002)

(71) ¿Notaste que la plataforma se estaba/estuviera derrumbando?
notice.PAST that the platform it.REFL AUX.IND/SUBJ collapsing
'Did you notice that the platform was collapsing?' (Haverkate 2002)

(72) Si dice che Maria fosse incinta. (Italian)
one say that Maria be.SUBJ pregnant
'It is said that Maria is pregnant.' (Portner 1999)

Let us focus now on matrix negation. Negation may trigger the subjunctive in complements of assertives, predicates expressing mental judgement and predicates expressing certainty. In the corresponding affirmative clauses the indicative would be selected:

(73) Mario non ha detto che Gianni è/sia impazzito. (Italian)
Mario NEG has said that Gianni be.IND/SUBJ crazy
'Mario never said that Gianni has gone crazy.' (Giorgi and Pianesi 1997)

(74) Juan no cree que Maria sea capaz de hacer-lo. (Spanish)
Juan NEG believes that Maria be.SUBJ able PREP do-it.ACC
'Juan doesn't believe that Maria is able to do it.'

(75) Jean no croit pas que Marie soit parti. (French)
Jean NEG believes that Marie be.SUBJ left
'Jean doesn't believe that Marie has left.'

(76) Gianni non sapeva che Maria fosse incinta. (Italian)
Gianni NEG know.PAST that Maria was.SUBJ pregnant
'Gianni didn't know that Maria was pregnant.' (Portner 1999)

(77) No es verdad que hayas estado aqui. (Spanish)
NEG be.IND true that have.PRES.SUBJ been here
'It is not true that you were here.'

Predicates with an inherently negative meaning also often license the subjunctive in their complement clauses:

(78) Dudo que llege a tiempo. (Spanish)
doubt that arrive.PRES.SUBJ in time
'I doubt that he arrives on time.'

(79) Es improbable que tengas razón. (Spanish)
be.PRES improbable that have.PRES.SUBJ reason
'It is improbable that you are right.'

(80) Lehetetlen, hogy Budapest-en van/legyen. (Hungarian)
impossible that Budapest-ON be.IND/SUBJ
'It is impossible that he is in Budapest.'

As Quer (1998) notes, clauses with these special features (matrix negation, question operator, impersonal subject) in Catalan contain a subjunctive form that shows remarkable differences as compared to the one selected lexically. Thus, two kinds of subjunctive can be differentiated in Catalan, and these are called the polarity and the intensional subjunctive, respectively. The former is licensed under operators, such as matrix negation (including inherent negation)[7] or the question operator, while the latter is triggered lexically, by intensional matrix predicates, such as *want*. However, the distinction refers only to the relation that the subjunctive mood bears to its licensing category, not to the subjunctive itself. Thus, the intensional subjunctive and the polarity subjunctive are not two formally distinct categories, but they exhibit different behaviour with respect to the properties listed below (cf. Quer 1998).[8]

*1. Constraints on the sequence of tenses*

Polarity subjunctive forms have a greater variety with respect to tense, whereas intensional subjunctive undergoes the following constraint: *PRESENT[PAST] This restriction follows from the intensionality of the predicates licensing the intensional subjunctive, since the predicates in question are future-oriented, and consequently, they do not allow complements referring to anterior state of affairs.

*2. Alternation with the indicative*

Polarity subjunctive forms alternate more freely with the indicative, but in the case of intensional subjunctive alternation is not allowed. This pattern is not unexpected, since the intensional subjunctive is lexically selected, thus mood variation cannot arise.

*3. Locality of triggering*

Polarity subjunctive forms may be licensed from more than one clause away, however, intensional subjunctive forms are triggered only in the immediate embedding. Quer argues that this follows from the fact that lexical selection is local, while operator licensing is not.

*4. Obviation effects*

Polarity subjunctives allow their subject to be co-referential with the matrix subject, but in the case of intensional subjunctive disjoint reference effects between the embedded and the

[7] If one checks the constraints listed below, it is fairly obvious that inherent negation shows the same behaviour as matrix negation.

[8] NB: these features are related to the triggering elements, not to the subjunctive itself.

matrix clauses arise: co-reference between the matrix subject and the embedded subject is not allowed.

The observations listed above are obviously interesting and may have far reaching consequences for research on mood, however so far (to my knowledge) other languages (though Quer claims that the same generalisations hold for Spanish and other Romance languages, too) have not been included in the investigation. In the following section I will examine whether a similar contrast can be observed in Hungarian.

## 3 The Hungarian data

### 3.1 The grammatical mood system of Hungarian

The majority of Hungarian grammars (for instance, Tompa 1962; Keszler 2000) differentiate three grammatical moods: the indicative, the conditional and the subjunctive. However, there is a debate related to the status of the subjunctive: some authors (cf. Kálmán 2001; Kenesei 1992; Pataki 1984; Prileszky 1974) argue that the subjunctive comprises two morphologically identical grammatical moods that can be differentiated only with the help of syntactic criteria. The grammatical moods in question will be called later the imperative and the subjunctive proper, since in Chapter **5** I will argue that there are semantic factors motivating this distinction. However, until the final chapter we will treat the imperative and the subjunctive proper as constituting one grammatical mood, and this grammatical mood will be labelled as the subjunctive.

The present tense paradigms[9] of the grammatical moods listed above are presented in Tables **1-6** below.[10] (É. Kiss, Kiefer, Siptár 1998: 212–222) Each paradigm is accompanied by an example paradigm, where the phenomena of assimilation and vowel harmony can be observed.

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *-Vk* | *-Vm* | **1st person** | *-Unk* | *-jUk* |
| **2nd person** | *-(A)sz, -Vl* | *-Vd* | **2nd person** | *-(V)tVk* | *-játok, -itek* |
| **3rd person** | *-∅* | *-ja, -i* | **3rd person** | *-(A)nAk* | *-ják, -ik* |

**Table 1 - The present tense paradigm of the indicative in Hungarian**

[9] The subjunctive has only a present tense paradigm in Hungarian, thus, we will not deal with other tenses of the indicative and the conditional, either. (The indicative also has past and future paradigms, while the conditional has only a past tense paradigm besides the one presented above.)

[10] Capital letters signal vowel harmony as it follows: *A – a, e; U – u, ü; Á – á, é; O – o, ö; V – a, o, ö, e.*

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *olvasok* | *olvasom* | **1st person** | *olvasunk* | *olvassuk* |
| **2nd person** | *olvasol* | *olvasod* | **2nd person** | *olvastok* | *olvassátok* |
| **3rd person** | *olvas* | *olvassa* | **3rd person** | *olvasnak* | *olvassák* |

**Table 2 - The indicative paradigm of *olvas* 'to read'**

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *-nék* | *-nÁm* | **1st person** | *-nÁnk* | *-nÁnk* |
| **2nd person** | *-nÁl* | *-nÁd* | **2nd person** | *-nÁtVk* | *-nÁtVk* |
| **3rd person** | *-nA* | *-nÁ* | **3rd person** | *-nÁnAk* | *-nÁk* |

**Table 3 - The present tense paradigm of the conditional in Hungarian**

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *olvasnék* | *olvasnám* | **1st person** | *olvasnánk* | *olvasnánk* |
| **2nd person** | *olvasnál* | *olvasnád* | **2nd person** | *olvasnátok* | *olvasnátok* |
| **3rd person** | *olvasna* | *olvasná* | **3rd person** | *olvasnának* | *olvasnák* |

**Table 4 - The conditional paradigm of *olvas* 'to read'**

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *-jAk* | *-jAm* | **1st person** | *-jUnk* | *-jUk* |
| **2nd person** | *-j/jÁl* | *-(jA)d* | **2nd person** | *-jAtVk* | *-jÁtVk* |
| **3rd person** | *-jOn* | *-jA* | **3rd person** | *-jAnAk* | *-jÁk* |

**Table 5 - The present tense paradigm of the subjunctive in Hungarian**

| *Singular* | ***indefinite*** | ***definite*** | *Plural* | ***indefinite*** | ***definite*** |
|---|---|---|---|---|---|
| **1st person** | *olvassak* | *olvassam* | **1st person** | *olvassunk* | *olvassuk* |
| **2nd person** | *olvass /olvassál* | *olvasd/ olvassad* | **2nd person** | *olvassatok* | *olvassátok* |
| **3rd person** | *olvasson* | *olvassa* | **3rd person** | *olvassanak* | *olvassák* |

**Table 6 - The subjunctive paradigm of *olvas* 'to read'**

### 3.2 Is there a polarity vs. intensional subjunctive distinction in Hungarian?

Before we start, we have to reemphasize some crucial remarks with respect to the mood system of Hungarian. First, the Hungarian subjunctive paradigm is much more defective than the one found in Romance languages. For instance, in Hungarian the subjunctive does not have past tense forms, thus the first differentiating property cannot be really examined. Second, the role fulfilled by the subjunctive in Romance languages seems to be split within the non-indicative domain between the subjunctive and the conditional in Hungarian. More specifically, as it will be argued below, the subjunctive corresponds to the intensional subjunctive of Romance, while the conditional can be related to the polarity subjunctive. Thus, in Hungarian there are two, formally distinct categories reflecting the intensional and polarity subjunctive opposition of Romance languages. In order to prove this, we have to examine whether the above listed differentiating properties are also effective in Hungarian. Let us consider the four properties again:

*1. Constraints on the sequence of tenses*

In Hungarian it can be observed that embedding a (present tense) subjunctive verb form under a present tense intensional predicate is unproblematic, and the interpretation of the embedded clause is future-oriented. PRESENT[PRESENT]:

(81) Az-t akarja, hogy Peti elkísérje este a mozi-ba.
that-ACC wants that Peti accompany.SUBJ tonight the cinema-TO
'She wants Peti to accompany her to the cinema tonight.'

Since there is no available past form of the subjunctive, the *PRESENT[PAST] constraint cannot be observed formally.

(82) Az-t akarta, hogy Debrecen-ben járjon egyetem-re a fi-a.
that-ACC want.PAST that Debrecen-IN go.SUBJ university-TO the son-POSS
'S/he wanted her/his son to study in Debrecen.'

is also a well-formed sentence, where the embedded clause is future-oriented with respect to the vantage point expressed by the matrix.

As for the operator licensed conditional, the *PRESENT[PAST] constraint does not hold, both (83) and (84) are grammatical:

(83) Kati nem hiszi, hogy Peti megcsalná/megcsalta volna.
Kati NEG believes that Peti cheat.PRES.COND/PAST.COND
'Kati doesn't believe that Peti would cheat/could have cheated on her.'

(84) Kati nem hitte, hogy Peti megcsalná/megcsalta volna.
Kati NEG believe.PAST that Peti cheat.PRES.COND/PAST.COND
'Kati didn't think that Peti would cheat/could have cheated on her.'

*2. Alternation with the indicative*

As the example below shows the intensional subjunctive cannot be substituted by any form of the indicative:

(85) *Az-t akarja, hogy Peti elkíséri/elkísérte/el fogja kísérni.
that-ACC wants that Peti accompany.IND.PRES/PAST/FUT
'She wants Peti to accompany her.'

As opposed to that the conditional can freely alternate with the indicative:

(86) Kati nem hiszi, hogy Peti megcsalja/megcsalta/meg fogja csalni.
Kati NEG believes that Peti cheat.IND.PRES./PAST/FUT
'Kati doesn't believe that Peti cheats/cheated/will cheat on her.'

Obviously, mood alternation influences the interpretation.

*3. Locality of triggering*

In the case of the intensional subjunctive, the subjunctive may be triggered only in the immediate embedding:

(87) Az-t akarja, hogy elhiggyék, hogy szereti ők-et.
that-ACC wants that believe.SUBJ that love.IND they-ACC
'S/he wants them to believe that s/he loves them.'

(88) *Az-t akarja, hogy elhiggyék, hogy szeresse ők-et.
that-ACC wants that believe.SUBJ that love.SUBJ they-ACC
'S/he wants them to believe that s/he loves them.'

Conditional verb forms may surface not only in the immediate embedding, and due to the free alternation with the indicative all possible forms are grammatical:

(89) Kati nem hiszi, hogy az-t gondolnák, hogy Peti megcsalja.
Kati NEG believes that that-ACC think.COND that Peti cheat.IND
'Kati doesn't believe that they would think that Peti cheats on her.'

(90) Kati nem hiszi, hogy az-t gondolnák, hogy Peti megcsalná.
Kati NEG believes that that-ACC think.COND that Peti cheat.COND
'Kati doesn't believe that they would think that Peti should cheat on her.'

(91) Kati nem hiszi, hogy az-t gondolják, hogy Peti megcsalja.
Kati NEG believes that that-ACC think.IND that Peti cheat.IND
'Kati doesn't believe that they think that Peti cheats on her.'

(92) Kati nem hiszi, hogy az-t gondolják, hogy Peti megcsalná.
Kati NEG believes that that-ACC think.IND that Peti cheat.COND
'Kati doesn't believe that they think that Peti would cheat on her.'

*4. Obviation effects*

Co-reference of the matrix subject and the embedded subject is not allowed in the case of the intensional subjunctive:

(93) *Akarom, hogy meghívjam a bál-ba.
want that invite.SUBJ the ball-TO
'*I want me to invite him to the ball.'

(94) ?Akarom, hogy elérjem a vonat-ot.
want that catch.SUBJ the train-ACC
'*I want me to catch the train.'

No such problems arise with the conditional:

(95) Nem hiszem, hogy meghívnám a bál-ba.
NEG believe that invite.COND.PRES the ball-TO
'I don't think that I would invite him to the ball.'

(96) Nem emlékszem, hogy meghívtam volna a bál-ba.
NEG remember that invite.COND.PAST the ball-TO
'I don't remember inviting him to the ball.'

We can conclude that the conditional in Hungarian is selected by an operator, namely, matrix negation. This claim can be further strengthened by examining predicates with an inherently negative feature. Such predicates exhibit the same behaviour as the operator licensed conditional with respect to the properties above:

*1. Constraints on the sequence of tenses*

(97) Kétli/valószínűtlen, hogy Peti dolgozna/dolgozott volna.
doubts/unlikely that Peti work.COND.PRES/PAST
'S/he doubts/it is unlikely that Peti would work/would have worked.'

*2. Alternation with the indicative*

(98) Kétli/valószínűtlen, hogy Peti dolgozik/dolgozott/dolgozni fog.
doubts/unlikely that Peti work.IND.PRES/PAST/FUT
'S/he doubts/it is unlikely that Peti works/has worked/will work.'

*3. Locality of triggering*

(99) Kétli, hogy az-t gondolnák, hogy ez megfelel a számára.
doubts that that-ACC think.COND that this suit.IND the for him
'S/he doubts that they think that this suits her/him.'

(100) Kétli, hogy az-t gondolnák, hogy ez megfelelne a számára.
doubts that that-ACC think.COND that this suit.COND the for him
'S/he doubts that they think that this would suit her/him.'

(101) Kétli, hogy az-t gondolják, hogy ez megfelel a számára.
doubts that that-ACC think.IND that this suit.IND the for him
'S/he doubts that they think that this suits her/him.'

(102) Kétli, hogy az-t gondolják, hogy ez megfelelne a számára.
doubts that that-ACC think.IND that this suit.COND the for him
'S/he doubts that they think that this would suit her/him.'

*4. Obviation effects*

(103) Kétlem, hogy meghívnám a bál-ba.
doubt that invite.COND.PRES the ball-TO
'I doubt that I would invite him to the ball.'

Hence, though these predicates seem to lexically select the mood of their complement, their inherent negative feature dominates, and accordingly, the conditional is also grammatical besides the indicative. This observation has far-reaching consequences: having shown that the conditional is selected by a negative operator, the fact that the conditional is triggered only by predicates with a negative feature can be straightforwardly explained (cf. the list of conditional governors in section 3.3).

The observed differences between the subjunctive and the conditional in Hungarian are summed up in Table **7**:[11]

| | **Subjunctive** | **Conditional** |
|---|---|---|
| **Licensed by** | Matrix predicate | Negative operator |
| **Tense restriction** | + | – |
| **Alternation with indicative** | – | + |
| **Non-local triggering** | – | + |
| **Obviation effects** | + | – |

**Table 7 - The subjunctive and the conditional**

### 3.3 Mood distribution in Hungarian: an overview

The use of the subjunctive in Hungarian appears to be strongly restricted both semantically and structurally. As we have seen above, the indicative is the mood of assertion, thus it surfaces in matrix assertions, whereas matrix subjunctive is the mood of imperative utterances, and together with the conditional it is used to express wishes. Consider the following example (Keszler 2000):

(104) Ott essem el én/ A harc meze-jé-n!
there fall.SUBJ PART I the battle field-POSS-ON
'Let me fall there, on the battlefield.' (Petőfi, *Egy gondolat bánt engemet*)

The subjunctive in Hungarian – leaving aside for the moment matrix imperatives, certain matrix forms of wishes and certain types of adverbial clauses (see above) – only appears

[11] The intensional subjunctive also surfaces in purpose clauses, since all the distinguishing properties are satisfied.

embedded in the specific clause-type called "*hogy* kötőszós mellékmondat'' (HKM) 'clause introduced by the complementiser *hogy* 'that'.[12] Obviously, in certain HKMs other verb forms may surface. Embedded subjunctives and indicatives are lexically governed[13], while the conditional is licensed by a negative operator. The main classes of verbs licensing the indicative or the subjunctive in complement clauses are presented below, verbs triggering the conditional under negation are also listed:[14]

**Indicative governors:** [15]

- **assertives**: *mond* 'say', *megállapít* 'state', *felel/válaszol* 'answer', *kijelent* 'declare', *állít* 'claim', *kifejt* 'expound', *elmesél* 'relate'*, fejteget* 'explain'

- **predicates of knowledge**: *tud* 'know', *emlékszik* 'remember', *visszaemlékszik* 'recall', *megesküszik rá* 'swear', *felfed* 'reveal', *bebizonyít* 'prove', *eszébe jut* 'come to one's mind'

- **predicates of acquisition of knowledge**:

  - **perception verbs:** *lát* 'see', *hall* 'hear', *érez* 'feel', *észrevesz* 'notice', *érzékel* 'perceive'

  - **mental act predicates**: *felfog* 'grasp', *megért* 'understand', *rájön* 'realise', *felfedez* 'discover'

**- predicates of certainty**: *biztos vmiben* 'sure', *kiderül* 'be found out', *tudomására jut* 'come to sy's knowledge', *meggyőz* 'convince'

**- predicates of likelihood**: *lehetséges* 'be probable', *valószínű* 'be likely', *rémlik* 'seem', *feltételez* 'assume', *megkockáztat* 'put forward the view'

**- predicates of mental judgement**: *hisz* 'believe', *vél* 'think', gondol 'think'

[12] Sometimes the complementiser *hogy* may be deleted, for details cf. Chapter **5**.
[13] I will not attempt to give a semantic characterisation of the embedding predicates here; this will be done in Chapter **2**. Accordingly, the groups of predicates mentioned above and the labels they bear will also be revised.
[14] Predicates allowing mood variation in their complements will be discussed later.
[15] The lists of embedding predicates have been compiled with the help of the following materials: Bartos 2005; Hadrovics 1969; Kálmán 2001; Keszler 2000; Klemm 1931; Molnár 1995; Pataki 1986; Prileszky 1974; Simonyi 1877; Tompa 1962.

- **predicates expressing attitudes**: *meglepődik* 'be surprised', *panaszkodik* 'complain', *dicsekszik* 'boast', *csodálkozik* 'be astonished', *megbán* 'be sorry', *furcsáll* 'find sg peculiar', *megdöbben* 'be startled', *elítél* 'condemn', *sérelmez* 'have a grievance', *kifogásol* 'criticize', *érdekes* 'interesting', *gyanús* 'suspicious', *furcsa* 'strange'

- **factive-emotive predicates**: *utál* 'hate', *gyűlöl* 'loathe', *élvez* 'enjoy', *szomorkodik* 'be sad', *sajnál* 'regret', *örül* 'be glad', *bosszankodik* 'be annoyed', *ki nem áll* 'can't stand', *dühös* 'be angry', *aggaszt* 'worry'

- **fiction verbs**: *álmodik* 'dream', *képzel* 'imagine', *hazudik* 'lie', *jósol* 'predict', *tervez* 'plan', *ábrándozik* 'daydream'

**- commissives**: *megígér* 'promise', *megesküszik vmire* 'swear', *elvállal* 'undertake'

**Conditional governors:**[16]

**- predicates with an inherent negative feature:** *kétli* 'doubt', *tagad* 'deny', *vitat* 'dispute', *megkérdőjelez* 'query', *kétkedik* 'be sceptical', *valószínűtlen* 'be unlikely', *kétséges* 'be doubtful', *tévedés* 'be a mistake'

**- assertives under matrix negation:** *nem állít* 'not state', *nem fejteget* 'not explain', etc.

- **some predicates of knowledge and some predicates of acquisition of knowledge under negation**[17]: *nem emlékszik* 'not remember', *nem bizonyít be* 'not prove', *nem lát* 'not see', *nem hall* 'not hear', *nem fog fel* 'not grasp', *nem fedez fel* 'not realise', etc.

**- predicates expressing informational uncertainty under matrix negation:** *nem véli úgy* 'not believe', *nem biztos* 'not sure', *nem feltételezi* 'not suppose', *nem valószínű* 'not likely', etc.

[16] As it was argued, the conditional in embedded clauses is licensed by a negative operator: either by an inherent negative feature of the predicate or by matrix negation. However, the conditional is usually only optional; the indicative is also grammatical in these contexts.
[17] However, factivity is lost in most of these cases, for details I refer the reader to Chapter **4**.

**Subjunctive governors:**[18]

- **desideratives**: *akar* 'want', *kíván* 'wish', *óhajt* 'desire', *szeretné* 'long', *vár* 'look forward', *drukkol* 'keep fingers crossed', *vágyik* 'long for', *vágyakozik* 'yearn for', *áhítozik* 'desire', *ácsingózik* 'crave', *szomjazik* 'be eager for'

- **directives**: *parancsol* 'order', *megparancsol* 'give orders', *javasol* 'suggest', *utasít* 'instruct', *felszólít* 'summon', *kér* 'ask', *megkér* 'request', *kíván* 'demand', *elrendel* 'direct', *biztat* 'encourage', *rábeszél* 'persuade', *rávesz* 'persuade', *buzdít* 'prompt', *követel* 'seek', *ajánl* 'suggest', *tanácsol* 'recommend', *könyörög* 'implore', *kényszerít* 'compel', *kötelez* 'oblige', *meghagy* 'bid', *rászorít* 'force', *rimánkodik* 'beseech', *ragaszkodik hozzá* 'insist', *meggyőz* 'convince', *szorgalmaz* 'urge'

**- assertives (with a directive meaning)**: *mond* 'tell', *megmond* 'tell', *figyelmeztet* 'warn', *üzen* 'send a message', *ír* 'write', *szól* 'say', *kiált* 'shout', *felhatalmaz* 'authorize', *felkér* 'request'

**- rational evaluation predicates:**

- **qualitative:** *fontos* 'important', *hasztalan* 'useless', *felesleges* 'needless', *értelmetlen* 'senseless', *alkalmas* 'suitable', *alkalmatlan* 'unsuitable', *távol áll tőle* 'wouldn't dream of', *tűrhetetlen* 'insupportable', *butaságnak tart* 'think it nonsense', *megérdemel* 'deserve'

- **deontic:** **positive**: *kell* 'must', *szükséges* 'necessary', *nélkülözhetetlen* 'essential', *elkerülhetetlen* 'inescapable', *elengedhetetlen* 'indispensable', *kötelesség* 'duty', *feladat* 'task'

**negative**: *szükségtelen* 'unnecessary', *megengedhetetlen* 'inadmissible', *szó sem lehet róla/szóba sem jöhet* 'it is out of the question'

**- epistemics expressing remote possibility**: *lehetetlen* 'impossible', *valószínűtlen* 'not likely', *nem tudja elhinni* 'can't believe', *kizárt* 'out of the question', *elképzelhetetlen* 'unimaginable', *kétséges* 'doubtful', *hihetetlen* 'unbelievable'

**- permissives: positive:** *megenged* 'allow', *hagy* 'let', *lehetővé tesz* 'render sg possible', *beleegyezik* 'consent', *lehetőség/alkalom van rá* 'have an opportunity', *alkalmat ad* 'provide an opportunity', *megbíz vmivel* 'trust', *elvár* 'expect', *joga van rá* 'have the right to', *nincs ellene kifogása* 'have no objections against'

[18] Please note that the subjunctive comprises the imperative and the subjunctive proper. Predicates governing the imperative and predicates licensing the subjunctive proper will be differentiated only in Chapter **5**.

**negative:** *megtilt* ‘forbid’, *akadályoz* ‘inhibit’, *megakadályoz* ‘prevent’, *lehetetlenné tesz* ‘make sg impossible’, *gátol* ‘hinder’, *visszatart* ‘keep back’, *óv* ‘protect’, *megóv* ‘safeguard’, *lebeszél* ‘dissuade’, *óva int* ‘warn’, *int* ‘caution’, *kímél* ‘save’, *megkímél* ‘spare’, *véd* ‘protect’, *oltalmaz* ‘shield’, *tiltakozik ellene* ‘protest’, *mentesít* ‘exempt’, *ellenez* ‘object’

**- purposives: positive:** *rászánja magát* ‘make up one’s mind’, *törekszik* ‘strive’, *igyekszik* ‘endeavour’, *vállalkozik* ‘undertake’, *tesz róla/gondoskodik róla* ‘take care/see’, *hajlandó* ‘willing’, *elszánja magát* ‘make up one’s mind’, *az a célja* ‘his aim is’, *az a szándéka* ‘his intention is’, *azon van* ‘be after’

**negative:** *fél* ‘be afraid’, *letesz* ‘give up’, *visszariad* ‘shrink from sg’, *irtózik* ‘dread’, *képtelen vmire* ‘not capable’, *letesz/lemond vmiről* ‘give up the idea’, *tartózkodik vmitől* ‘refrain’

## 4 Summary

In this chapter the notion of mood was introduced, then a crosslinguistic overview of mood choice in complement clauses has been presented, including a detailed, but preliminary description of the relevant Hungarian data. Besides, it was argued that there is an important difference between the subjunctive and the conditional in Hungarian, i.e. the former is lexically selected, whereas the latter is operator licensed. In the next chapter I will review several theoretical accounts of mood distribution, and I will examine whether these accounts can explain mood choice in Hungarian complement clauses. Theories to be considered first are related to a systematic analysis of embedding predicates, since it is widely acknowledged that the meaning of the embedding predicate is responsible for mood choice to a great extent.

## CHAPTER 2

## EXPLAINING MOOD CHOICE 1: A SYSTEMATIC ANALYSIS OF EMBEDDING PREDICATES

### 1 Introduction

The aim of this and the next chapters is to provide critical discussion, revision and elaboration of previous semantic approaches pertaining to explaining mood choice in complement clauses, with particular emphasis on the applicability of the various analyses to mood phenomena in Hungarian. Hence, in each case it will be thoroughly examined whether the theory in question can satisfactorily explain and predict the distribution of moods in complement clauses in Hungarian. First we will discuss different analyses of complement taking predicates, since these were the earliest approaches related to mood choice that were semantic in nature. Accordingly, in this chapter several **taxonomies of complement taking predicates** are considered, including Bolinger's (1968) pioneering study, Terrell and Hooper's work on assertive and non-assertive predicates (1974), its revision by Hooper (1975) and by Mejías-Bikandi (1994), who gives a pragmatic definition of assertion, and Haverkate's (2002) more recent, cognition-based classification of clause-embedding predicates.

Before turning to the taxonomies mentioned above I think it is useful to argue briefly that semantic factors are indeed indispensable to finding a reasonable explanation for mood choice in complement clauses.

### 2 Arguing in favour of a semantic analysis

Traditionally it has always been assumed that mood choice in complement clauses is determined, at least partially, by the meaning of the embedding predicate. Predicates governing the indicative and the subjunctive have always been grouped into various groups under semantic labels, for example the indicative is usually said to be licensed by assertives (*say*, *assert*), factives (*regret*), predicates of certainty (*be certain*) and fiction verbs (*dream*, *imagine*), while the subjunctive appears across various languages in the embedded clauses of directives (*order*) and desideratives (*want, wish*). Thus, it may be said that the semantic characteristics of the matrix predicates help us to understand the syntactic distribution of mood. It would be a welcome result to be able to predict the mood of the embedded clause on the basis of semantic (and perhaps some other) factors which are related to the matrix predicate.

As we will see below, on the basis of semantic (and/or syntactic) criteria several classifications of predicates have been suggested with the aim of explaining mood choice and

mood variation in complement clauses. One of the earliest studies, that of Terrell and Hooper (1974) argues in favour of a semantic analysis stating that the syntactic behaviour of embedded complements is determined by semantic properties, thus the latter are primary.

In Chapter **1** it was mentioned that mood alternation is a well-known phenomenon related to mood choice. It was also pointed out that there are no syntactic or other grammatical factors that could explain the change of mood in the complement clause independently of semantic considerations. For instance, one could claim that mood variation in complement clauses can be explained on the basis of the semantic behaviour of the matrix predicate, and then it is reasonable to assume that some predicates may belong to more than one semantically motivated classes, and hence they may take different complements. However, this assumption still leaves some problematic cases – where mood alternation depends on some other, perhaps pragmatic, factors – unexplained (cf. examples (62), (63) in Chapter **1**). Throughout the discussion we will have to keep in mind that an adequate theory of mood choice should be able to explain mood alternation, too.

As we have seen in Chapter **1**, negation of the main verb (and inherent negative features of the matrix predicate) may also influence mood choice in the complement clause, which provides further evidence in favour of a semantic analysis. Consider the following French example sentences adapted from Palmer (1986: 145) citing Bloomfield (1933: 273):

(1) Je pense qu'il vient.
I think that come.PRES.IND
'I think he will come.'

(2) Je ne pense pas qu'il vienne.
I NEG think NEG that come.PRES.SUBJ
'I don't think he will come.'

Mood alternation under negation can also be observed in Hungarian:

(3) Lehetséges, hogy idő-ben hazaér/*hazaérjen.
possible that time-IN arrive.IND/*SUBJ
'It is possible that s/he will arrive on time.'

(4) Nem lehetséges, hogy idő-ben hazaér/hazaérjen.
NEG possible that time-IN arrive.IND/SUBJ
'It is not possible that s/he will arrive on time.'

We will return to the analysis of such examples in Chapter **4**.

As Farkas (1992a) notes, it is also possible to list some objections against a semantic analysis of mood phenomena. Firstly, one can find examples of intralinguistic variation of

mood choice without observing any corresponding meaning shift of the matrix predicate. Then, according to Farkas (1992a), the following questions have to be examined:

- Which predicates exhibit this property?
- Do they form a semantically homogeneous class?

If the answer is yes, then probably this is also a semantic phenomenon that can be explained in semantic terms. One should also remember that the observed phenomenon may be the manifestation of an ongoing change in the language considered.

Secondly, it may occur that negation should affect the mood of the complement, but it remains unaltered under negation. For example, in Hungarian we expect the indicative after predicates expressing certainty, and the conditional or the subjunctive after those expressing uncertainty.

(5) Biztos vagyok benne, hogy eljön a bál-ba.
certain am in it that come.IND the ball-TO
'I'm sure that he will come to the ball.'

(6) Nem vagyok biztos benne, hogy eljön/*eljönne/*eljöjjön a bál-ba.
NEG am certain in it that come.IND/*COND/*SUBJ the ball-TO
'I'm not sure that he will come to the ball.'

Contrary to expectations we do not experience mood change under negation here, however, there is still a semantic link between predicates expressing certainty and uncertainty; at least this relation can be captured in semantic terms.

Finally, there may be cases of arbitrary mood selection, cases that are not predictable. However, as Farkas (1992a) claims these cases should show crosslinguistic, historical, dialectal or idiolectal instability.

## 3 Different classifications of matrix predicates

### 3.1 Overview

In this section a systematic analysis of embedding predicates follows based on various classifications of matrix predicates, since it is traditionally assumed in the literature that the meaning of the embedding predicate is responsible for mood choice to a great extent.

For instance, Haverkate (2002) notes, that the only factor responsible for the different choice of mood in the sentences below is the lexical meaning of the matrix predicate:[19]

[19] It is important here that both matrix clauses are affirmative, since negating the matrix predicate in (7) would influence the mood of the complement:

(i) No me parece que el director esté present también.
NEG I-DAT seems that the director be.SUBJ present too
'It doesn't seem to me that the director is present, too.'

Thus, later on in the discussion the role of other factors, such as matrix negation will have to be explored.

(7) Me parece que el director está presente también.
I-DAT seems that the director be.IND present too
'It seems to me that the director is present, too.'

(8) Me gusta que el director esté presente también.
I-DAT like that the director be.SUBJ present too
'I'm glad that the director is present, too.' (Haverkate 2002: 49)

Hence, recent accounts of mood choice in complement clauses are often rooted in the analysis of the lexico-semantic properties of matrix predicates, these being recognised as the basic parameters involved in mood choice. First, we will present a critical overview of various studies related to the analysis of mood distribution. Since the mood system of Spanish is quite rich compared to other languages (consider for instance that of English), it is not surprising that most of the analyses in question were originally worked out for Spanish. Finally, we will examine Hungarian matrix predicates and try to adapt the most suitable approach to the classification of predicates that will serve as the starting point for our analysis of mood choice in complement clauses in Hungarian.

### 3.2 Bolinger's (1968) pioneering study

Bolinger's analysis (1968) is the first attempt to characterise mood distribution in Romance languages on the basis of semantic characteristics of the matrix predicate. Though the analysis is motivated by syntactic observations, it cannot be overlooked if we want to have an overview of theories of mood distribution. Moreover, Bolinger's article can be seen as a forerunner of related analyses, thus, we cannot ignore it.

Bolinger claims that the same semantic distinctions surface in two different forms on the one hand in English and on the other hand in Romance languages in general (Spanish, French, Romanian and Italian). Namely, "if in English it is possible to drop *that* and move the main verb phrase away from its position in front of the clause, then the verb in the corresponding Romance noun clause will be indicative; if not, it will be subjunctive." (Bolinger 1968: 4) This parallel can be observed in:

(9) I believe he is at home.

(10) He is at home, I believe.

(11) Creo que está en casa.
believethat be.IND in home
'I believe he is at home.'

where postposition of the main verb is grammatical, and accordingly, the corresponding Spanish clause contains an indicative verb, and in:

(12) I'm glad you are here.

(13) *You are here, I'm glad.

(14) Me alegro de que estés aquí.
I-DAT am happy PREP that be.SUBJ here
'I'm glad you are here.'

where postposition results in an ungrammatical sentence, and we find the subjunctive in the Spanish clause.

Bolinger observes that postposition of main phrases is not grammatical with

1. verbs of emotion (verbs of approving and disapproving): *be sorry, be good/bad, worry*
2. verbs of doubting and denying: *doubt, not suppose*
3. verbs of causing: *insist, be inevitable, urge*

and accordingly, the subjunctive is expected in corresponding Spanish complement clauses.

However, the parallel is not so straightforward if we take into consideration the fact that it is not possible to list all the verbs that permit postposition. Nevertheless, the following verb classes cannot be neglected:

1. verbs of saying: *say, claim*
2. verbs of thinking: *think, believe, imagine*

The behaviour of these verbs with respect to postposing is sometimes also problematic, since some allow nominal replacement for clauses but others do not, and the positions where the postposed main phrase lands may also vary. Discussing all these details lies out of the scope of the present analysis, I refer the interested reader to Bolinger's article.

However, the explanation of the parallel outlined above is rather interesting from the point of view of the present discussion. Bolinger claims that different languages categorise reality in the same way, and the "fundamental meaning of a declarative sentence" also plays a role here. Instead of using the traditional term 'factuality' he suggests that verbs of saying and thinking should be characterised in terms of "a mental picture or a representation to the mind". More specifically, he suggests that postposed main phrases serve as "a way of TEMPERING the representation: expressing varying degrees of firmness in relation to any participant in the situation."[20] (Bolinger 1968: 16) Sentences satisfying this constraint can be postposed in English and have an indicative verb form in Spanish.

As opposed to that, there are also sentences that are non-representational, i.e. their function is not to convey a mental picture. Rather, they may fulfil one of the following two functions:

[20] Compare Bolinger's 'representativeness' and 'varying degrees of firmness' to the notion of assertivity surfacing in later analyses. (Cf. Terrell and Hooper 1974; Hooper 1975; Mejías-Bikandi 1994)

- to apply the polarity of two opposing attitudes: acceptance and rejection, approval and disapproval, an attitudinal plus or minus.
- to influence an outcome (suasion, causation). (Bolinger 1968: 17)

Examples of attitudinal plus are:

(15) I'm glad you feel better.

(16) It's nice you are here.

Attitudinal minus can be exemplified by:

(17) I'm sorry you failed your exam.

(18) It's too bad you cannot come to the theatre with us.

Influencing an outcome is illustrated by:

(19) I urge that you give up smoking.

Non-representational sentences do not allow postposition in English and the subjunctive will be licensed in Spanish.

Obviously, the function of the embedded clause is dependent upon the matrix verb. Bolinger's classification of sentences according to their function is presented in Figure **1**.

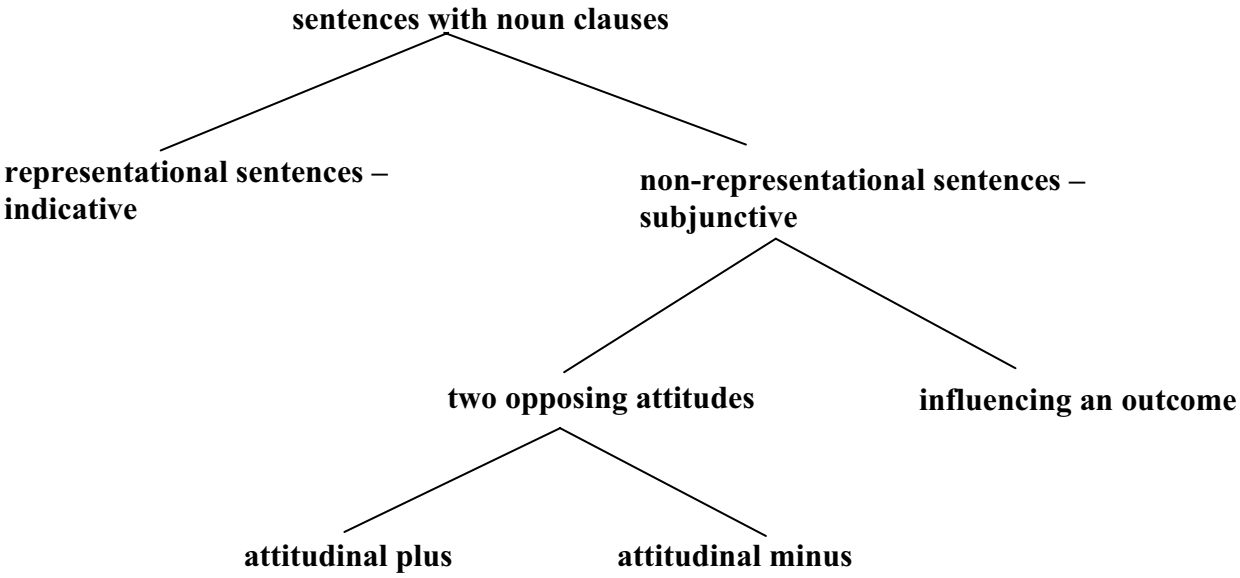


**Figure 1**

He summarizes his findings as: "It is evident that both the Romance languages and English make a distinction on the one hand between presentments, representations to the mind, mental pictures – however one wants to characterise them – whether intense or dim, dreamlike or real – and, on the other hand, the volitional involvement of the participant, which in turn can have to do with a willingness or unwillingness to accept, or with a desire to influence." (Bolinger 1968: 29)

Moreover, he also notes that the embedded representational sentence in English is usually foregrounded, that is why main phrases can be postposed. Accordingly, "in Romance the representational sentence assumes the MODE of independence, which is the indicative." (Bolinger 1968: 29)

Recapitulating on what has been said so far, we can state that Bolinger was the first who tried to relate mood distribution in Romance to some semantic characteristics of the matrix predicate. His analysis is based on syntactic observations, on a parallel between postposition in English and mood choice in Romance, which can be motivated by certain semantic factors. However, though his observations seem to be on the right track, the notions involved are not defined precisely.

I would also like to point out some advantages of the analysis. First of all, in Bolinger's analysis factive verbs of emotion (*be glad, be sorry*) are predicted to govern the subjunctive in Spanish, because these cannot be postposed in English. Similarly, fiction verbs (*imagine, dream*) are expected to govern the indicative in Romance languages, since postposition is possible in English (*I was in Paris, I dreamt/imagined.* is grammatical) and the prediction is again correct. As we will see later this is a crucial point, since many of the analyses to be presented run into difficulties here, and the verb classes just mentioned present serious empirical difficulties for them.

### 3.3 Terrell and Hooper's proposal (1974)

Terrell and Hooper's study (1974) of the role of mood (more specifically, that of the subjunctive) in Spanish compares a pure syntactic analysis with a semantic approach. According to the former, the mood of the embedded clause is not meaningful, while the latter proposal states that the mood of the embedded clause is meaningful, since it can be chosen, the speaker can adopt various attitudes towards a proposition, and these attitudes influence both the selection of the matrix predicate and mood choice in the embedded clause. Arguing for the second option Terrell and Hooper differentiate three kinds of complement clauses:[21]

(i) asserted (not presupposed) complements

(ii) neither asserted nor presupposed complements

(iii) presupposed (not asserted) complements

[21] Terrell and Hooper provide a definition of presupposition relying on Kiparsky and Kiparsky's study on factivity (1970), however, they do not give an adequate definition for assertion, which is a serious shortcoming of the analysis. To overcome this Mejías-Bikandi (1994) re-examines Terrell and Hooper's initial claim about the distribution of moods and proposes an analysis based on a pragmatic notion of assertion. We will return to Mejías-Bikandi's alternative analysis in section 3.5.

Having established the classes above, Terrell and Hooper define six types of complement taking predicates, relating in turn two of these to each category of complements. The suggested classes of matrix predicates are the following:

*(i) Assertive matrices:*

1. BELIEF predicates (ranging from strong insistence to weak belief) take assertions as their complements: *es seguro* 'it is sure', *me parece* 'I think'.

(20) Es seguro que María está en casa.
is certain that María be.IND in home
'It is certain that María is at home.'

2. REPORT predicates describe the manner in which the asserted information was conveyed in the reported conversation: *decir* 'say', *contestar* 'answer'.

(21) Me dijo que María viene maňana.
I.DAT said that María come.IND tomorrow
'He said to me that María comes tomorrow.'

*(ii) Non-assertive (not presupposed) matrices*

3. COMMAND predicates consist of matrices expressing volition, suasion or influence: *preferir* 'prefer', *permitir* 'permit', *querer* 'want'.

(22) Quiero que me digas la verdad.
want that I.DAT tell.SUBJ the truth
'I want you to tell me the truth.'

4. DOUBT predicates convey the speaker's doubt about the validity of the embedded proposition: *dudar* 'doubt', *ser posible* 'be possible'.

(23) Dudo que María esté en casa.
doubt that María be.SUBJ in home
'I doubt that María is at home.'

*(iii) Matrices with presupposed complements*

5. COMMENT predicates express

- a value judgement, a reaction to the embedded proposition: *ser interesante* 'be interesting'

(24) Es interesante que se vayan a casar.
is interesting that they.REFL go.SUBJ PREP marry
'It is interesting that they are getting married.'

- or a subjective judgement, the subject of the matrix clause is affected psychologically or physically by the event of the embedded proposition: *alegrarse* 'be glad'.

(25) Me alegro de que estés aquí.
I.DAT am glad PREP that be.SUBJ here
'I'm glad that you are here.'

6. MENTAL ACT predicates describe a mental process, but this process is not caused by the complement: *darse cuenta* 'realise'.

(26) Se dio cuenta de que María tiene razón.
he.REFL realised PREP that María have.IND reason
'He realised that María is right.'

With respect to mood choice the following generalisations hold:

1. Belief and report predicates take indicative complements, however, negated belief predicates express doubt, thus, they belong to another class and will take subjunctive complements. Terrell and Hooper note that this fact forms evidence in favour of the semantic analysis.

2. Predicates expressing command and doubt always trigger the subjunctive in their complements, thus it is concluded that the indicative is the mood of assertion, while the subjunctive can be associated with non-assertion. This is Terrell and Hooper's first possible conclusion.

3. The remaining classes of matrices, those with presupposed complements, behave in an unstable way; comment predicates select the subjunctive, but mental act predicates trigger the indicative, so elements of this latter class form an exception to the general rule.

4. Moreover, as Terrell and Hooper note, in the case of predicates with presupposed complements often speaker variation can be attested, i. e. both moods may be licensed. Consider the following examples (Terrell and Hooper 1974: 488):

(27) Me sorprendió que vino/viniera.
I.DAT surprised that come.PAST.IND/SUBJ
'It surprised me that he came.'

(28) Es bueno que Ud. llega/llegue a tiempo.
is good that you arrive.IND/SUBJ PREP time
'It's good that you arrive in time.'

Commenting on the examples above, Terrell and Hooper note that if the mood system of Spanish is undergoing a change, then, according to their hypothesis, comment predicates will license only the indicative. In that case the indicative would be the mood of assertion and presupposition, while the subjunctive would be associated with the lack of these attitudes. This is Terrell and Hooper's second possible conclusion.[22]

The suggested classification of complement clauses, matrix predicates and their relation to mood choice is summed up in Table **1**.[23]

<table>
<tr><th>Semantic notion</th><th>Type of matrix predicate</th><th colspan="2">Mood selected</th></tr>
<tr><td rowspan="2">assertion</td><td>belief</td><td colspan="2" rowspan="2">indicative</td></tr>
<tr><td>report</td></tr>
<tr><td rowspan="2">presupposition</td><td>mental act</td><td>indicative</td><td rowspan="2">mood variation</td></tr>
<tr><td>comment</td><td>subjunctive</td></tr>
<tr><td rowspan="2">neither</td><td>command</td><td colspan="2" rowspan="2">subjunctive</td></tr>
<tr><td>doubt</td></tr>
</table>

**Table 1 - Mood choice in Spanish**

Terrell and Hooper's analysis of mood choice in Spanish is extremely remarkable, since it is the first attempt to relate the mood of the complement to various semantic characteristics of the embedding predicate, it is the first study arguing that mood choice is meaningful. However, there are some qualitative and quantitative shortcomings of the analysis that need to be mentioned here:

1. The most serious empirical difficulty is that predicates expressing mental acts form an exception to the generalisation that the indicative is the mood of assertion, while the subjunctive can be associated with the notion of non-assertion.

2. As Mejías-Bikandi (1994) notes, relying on Schane (1994), commissive predicates also present a problem for Terrell and Hooper's analysis. Namely, such predicates (for instance *prometer* 'promise') take indicative complements, while, obviously, these complements are

[22] However, no such change has been observed in Spanish, comment predicates in present day Spanish tend to license subjunctive complements, thus, Terrell and Hooper's prediction has not been borne out. Hence, the analysis runs into empirical difficulties here. In the light of present day data the original assumption (that the indicative is the mood of assertion, while the subjunctive can be associated with non-assertion) seems to be more viable, though it is not void of empirical difficulties either, as we have seen above. This line of thought is examined and developed further by Mejías-Bikandi (1994), which will be taken up in section 3.5.

[23] It has to be noted here that Terrell and Hooper argue that semantic notions have an effect both upon the choice of the matrix predicate and the syntactic characteristics of the embedded clause, mood choice being only one of these. Thus, there is independent syntactic evidence to differentiate the semantic classes listed above.

neither asserted, nor presupposed, thus, they should contain a subjunctive verb form. Consider the following example:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| (29) | Prometo | que | maňana | te | llamaré | por | teléfono. |
| | promise | that | tomorrow | you.ACC | call.FUT.IND | PREP | phone |

'I promise that I will call you tomorrow.'

The same problem arises if we consider fiction predicates.

3. While relying on Kiparsky and Kiparsky's (1970) study on factivity Terrell and Hooper give a definition of presupposition, they do not provide an adequate definition for assertion, moreover, some classes of predicates, for instance that of belief or command predicates, are not well-defined, the use of the term 'imperative' in defining the latter class is highly confusing.

4. Haverkate (2002) notes that some predicates are classified inappropriately, for instance *negar* 'deny' belongs to doubt predicates, whereas Haverkate argues that it should be classified as a report predicate, being an antonym of *afirmar* 'affirm'.

5. Terrell and Hooper do not explain the role of matrix negation in mood choice, they merely note that some predicates will belong to another class when negated.

6. The taxonomy outlined above is incomplete, for instance perception verbs and other semifactives, such as *remember* and *prove,* are not included in the classification, though they form a significant group of complement taking predicates.

7. Mejías-Bikandi (1994) points out that the claim that complements of belief predicates are asserted seems to be counterintuitive, taking into consideration the fact that such predicates express some kind of uncertainty about the truth of the complement proposition, thus, they show remarkable similarities to doubt predicates taking subjunctive complements.

If we turn to the analysis of mood distribution in Hungarian, we find that the above classification of clause-embedding predicates is not fine-grained enough to explain mood choice in complement clauses and some of the predictions are not borne out, either. This is not so surprising, since the study was made for Spanish; it is based on Spanish data and other points of view are highlighted. Nevertheless, it is correctly predicted that predicates with asserted complements will govern the indicative, but the behaviour of predicates embedding the remaining kinds of complements is quite different from that observed in Spanish.

More specifically, mood choice under doubt predicates is quite diverse: for instance *lehetséges* 'possible' licenses only the indicative in Hungarian, however, as epistemic uncertainty is getting stronger, the subjunctive may also be selected, for example *valószínűtlen* 'improbable' and *lehetetlen* 'impossible' may trigger both the indicative and the

subjunctive.[24] Thus, we would need to differentiate several subgroups within this class to be able to capture the mood-selecting properties of doubt predicates adequately.

As Terrell and Hooper note there is a link between doubt predicates and predicates with an asserted complement, for example negating a belief predicate results in a composite predicate expressing doubt, and vice versa.[25] Hence, it will be necessary to revise the existing categories.[26]

Predicates with presupposed complements exhibit a more uniform pattern in Hungarian. Such matrices, i.e. comment and mental act predicates always trigger the indicative. This fact is a welcome result for Terrell and Hooper, since it seems to support their second possible conclusion that the indicative is the mood of assertion and presupposition, while the subjunctive is licensed in complements that are neither asserted, nor presupposed. However, as pointed out above, the behaviour of doubt predicates poses a serious problem for the analysis.

We also have to admit that defining only six classes of predicates seems to be not plausible enough to cover all phenomena related to mood distribution in complement clauses. It is obvious that since lexical expression can be very subtle, choice out of a few predicate classes cannot cover it all.

### 3.4 Hooper's classification (1975)

Hooper (1975) aims to give an exhaustive classification of predicates with full sentential complements. In order to achieve that she adopts the traditional factive/non-factive distinction based on Kiparsky and Kiparsky's work (1970), and introduces another criterion to distinguish assertive predicates from non-assertives, that of postposing (following Bolinger 1968), arguing that assertive predicates can be postposed, while non-assertives cannot:

(30) The wizard will deny your request, I think.

(31) *Many of the applicants are women, it's likely. (Hooper 1975: 94)

Thus, we arrive at four groups of predicates:[27]

---

[24] Obviously, *valószínűtlen* 'improbable' and *lehetetlen* 'impossible' have an inherent negative feature; we will return to this phenomenon when the role of matrix negation with respect to mood choice in complement clauses is explored.

[25] Again, a similar connection can be established on the basis of inherent lexical negation.

[26] For a detailed discussion of epistemic predicates (I will use this more appropriate term in the rest of the paper to cover predicates of certainty, likelihood and mental judgment) and their mood choice in complement clauses cf. Chapter **4**.

[27] Hooper provides a number of syntactic characteristics (following Bolinger 1968) that differentiate the classes above, however, we will not go into the details here. It was Karttunen (1971) who postulated the existence of two different kinds of factive predicates and Hooper showed how these categories correspond to assertivity. I will adopt Karttunen's original labels in the rest of the dissertation. Hence, predicates labelled as assertive factives will be called later on semifactive predicates, while non-assertive factives will bear the name true factives.

1. assertive factives: *know, remember*
2. assertive non-factives: *seem, suggest*
3. non-assertive factives: *regret, be interesting*
4. non-assertive non-factives: *doubt, be possible*

Within the class of assertive non-factive predicates Hooper also differentiates weak assertive predicates, such as *believe* and *think* from strong assertives, such as *assert* and *report*, reflecting the distinction between two kinds of mental attitudes toward the embedded proposition, i.e. between utterances where the matrix predicate weakens "the claim to truth made by the complement" (Hooper 1975: 101) and reported assertions where the commitment to the truth of the complement is much stronger.

Hooper's classification is quite extensive; nevertheless there are still some predicates that are not included in it, though they should not be omitted from an adequate analysis of mood choice. For instance, fiction verbs and desideratives are not mentioned in her paper, though such predicates take a full sentential complement (at least in some languages). As Farkas (1992a) notes there are also problems regarding the use of the term 'assertive', since Hooper defines assertives (apart from their syntactic characteristics) as predicates committing the speaker to the truth of their complement. This raises the question whether non-assertivity can be independently defined, or it is only a complement class to assertives. Palmer (1986) also criticizes the use of the term 'assertive', arguing that both *think* (classified as assertive) and the negative of *say* (classified as non-assertive) express an opinion about the embedded proposition, while neither predicate asserts that the complement is true.

With respect to mood choice Hooper predicts that complements of assertive predicates will be indicative, while non-assertive predicates license the subjunctive in their complements. However, Palmer (1986) notes that an explanation of mood distribution in terms of 'assertion' would require a very loose definition of the term. He also observes that "the claim that these mood distinctions can be accounted for in terms of assertion and non-assertion is not very meaningful, and may even be circular, unless an independent definition of 'assertion' is given." (Palmer 1986: 145)[28] Moreover, even if we hypothesize that the assertive/non-assertive distinction influences mood choice we should examine whether this is the only relevant factor.

Apart from the notional problems outlined above further difficulties arise when Hooper's classification is applied to mood phenomena:

[28] Circularity arises when Hooper defines weak assertives as predicates that take subjunctive complements when negated, while negated strong assertives license the indicative.

1. Fiction verbs are not included in the analysis, but they should be classified as weak assertive non-factives, since they do allow postposing. However, we must keep in mind that no one (neither the speaker, nor the matrix subject) would be committed to the truth of the complement clause of a fiction verb, not even to a slight degree, so classifying them as assertive is somewhat counterintuitive. Nevertheless, fiction verbs would be predicted to take indicative complements, and this indeed turns out to be the case crosslinguistically.

2. Hooper's analysis predicts that non-assertive factive complements (*regret, be happy)* will govern the subjunctive. While this prediction is borne out in Spanish, the majority of languages exhibit a different pattern, i.e. non-assertive factives are associated with the indicative.

3. In various languages, for example in German, mood variation is attested with respect to a subclass of strong assertive predicates, i.e. predicates of reported conversation, such as *say*, can select both an indicative and a subjunctive complement:

(32) Hans sagte, dass Paul ein-en Brief geschrieben hat/habe.
Hans said that Paul a-ACC letter written has.IND/SUBJ
'Hans said that Paul has written a letter.'

This is left unexplained in Hooper's analysis where strong assertive predicates should govern only the indicative.

4. Weak assertive predicates, such as *believe,* are also problematic. In certain languages, for instance in French and Spanish, these verbs select the indicative, but in Italian and German both the indicative and the subjunctive may be licensed in their complement clauses. To explain intralinguistic mood variation in this framework one has to assume that predicates allowing different moods in their complement clauses belong to different groups of predicates under different readings, however, this method does not work in the case of *believe*.

Thus, the only class of predicates in Hooper's taxonomy that exhibits a uniform way of behaviour crosslinguistically from the point of view of mood choice is the class of assertive factive predicates; these predicates always select the indicative (at least when they are not negated). The other classes show a much more diverse pattern, as indicated above.

With respect to mood choice in Hungarian similar problems can be observed. For instance, non-assertive factive complements are predicted to govern the subjunctive, but the indicative is triggered. As dubitative predicates turned out to be problematic in Terrell and Hooper's taxonomy, again mood variation is attested in their equivalent group of predicates, that of non-assertive non-factives, though these should license only the subjunctive.

### 3.5 Mejías-Bikandi (1994): redefining assertivity

Mejías-Bikandi (1994) redefines the notion of assertion; he introduces a relativised notion of assertion taking into consideration both the speaker and the context of the utterance. More specifically, Mejías-Bikandi states that "… whether a proposition is asserted or not depends not so much on whether that proposition is true or false, but on what the intentions of the speaker are when s/he decides to present the information expressed by the proposition to a particular audience. […] A speaker asserts a proposition p when the speaker intends the audience to believe that the speaker holds the belief expressed by p, […] i.e. a speaker asserts a proposition p when the intention of the speaker is to indicate that p describes the world as s/he or some other individual perceives it." (Mejías-Bikandi 1994: 892)

Accordingly, assertion is defined as follows: a speaker asserts a proposition *p* when the speaker intends to indicate that *p* provides information about some individual's view of reality (in other words, when *p* is anchored to some individual's view of the world).[29] It is assumed that the matrix clause decides what kind of intentions the speaker uttering the sentence has. The analysis based on this definition of assertion can not only maintain Terrell and Hooper's initial claim that the indicative can be associated with asserted complements, whereas the subjunctive will be licensed in non-asserted complements, but it is also able to overcome the empirical difficulties pointed out above.

Let us turn now to the individual groups of predicates and see whether Mejías-Bikandi's framework is really suitable to explain mood distribution in Spanish. For the sake of convenience I repeat the table summarizing Terrell and Hooper's findings here:

[29] More precisely, assertion is defined as follows: a complement clause is asserted if the speaker intends to indicate that the complement proposition is contained in some space R. Some words are necessary about **mental spaces** here to make the discussion more precise. Mental spaces, introduced by Fauconnier (1994, 1997), are defined as constructs distinct from linguistic structures but built up in any discourse according to guidelines provided by linguistic expressions. Mental spaces (*M, N, ...*) can be represented as structured, incrementable sets, i. e. sets with elements ( *a, b, c,...*) and relations holding between them ($R_1ab$, $R_2ac$, *...*), such that new elements can be added to them and new relations established between their elements. A partial ordering relation, **inclusion** ($\subset$) is defined on mental spaces, but unlike set inclusion, it does not carry any entailments for the elements within the spaces. The spaces are entirely distinct. Linguistic expressions can establish new spaces, elements within them, and relations holding between the elements. Expressions that may establish a new space or refer back to one already introduced in discourse are called **space-builders**. Thus, space-builders either open a new space or shift focus to an existing one. Space-builders may be prepositional phrases *(in the picture*), adverbs (*probably*), connectives (*if A then ...*), and underlying subject-verb combinations (*John believes, John wants*). Space-builders are followed by clauses, which typically specify relations holding between the elements of the established space. The space-builder establishing space *M* always establishes *M* as included in some other, already existing space, its **parent space**. This may be indicated explicitly by syntactic embedding of space-builders, or it may be inferred pragmatically from previous discourse.

<table>
<tr><th>Semantic notion</th><th>Type of matrix predicate</th><th colspan="2">Mood selected</th></tr>
<tr><td rowspan="2">assertion</td><td>belief</td><td colspan="2" rowspan="2">indicative</td></tr>
<tr><td>report</td></tr>
<tr><td rowspan="2">presupposition</td><td>mental act</td><td>indicative</td><td rowspan="2">mood variation</td></tr>
<tr><td>comment</td><td>subjunctive</td></tr>
<tr><td rowspan="2">neither</td><td>command</td><td colspan="2" rowspan="2">subjunctive</td></tr>
<tr><td>doubt</td></tr>
</table>

**Table 1 - Mood choice in Spanish**

Complements of belief and report predicates will be asserted under the definition given above, since the speaker intends to present the embedded proposition as true for the matrix subject (the matrix subject may also be identical to the speaker), thus it is correctly predicted that the indicative will appear in the complement clauses.

Turning to mental act predicates recall that such predicates were problematic for Terrell and Hooper's analysis, since their complements were not asserted, but presupposed in that framework. However, under the present analysis assertivity and presupposition are defined independently, and they are not in complementary distribution. Hence complements of mental act predicates are asserted in the same sense as complements of belief or report predicates. When uttering the following sentence,

(33) María se ha dado cuenta de que Pedro está enfermo.
María she.REFL has realised PREP that Pedro be.PRES.IND ill
'María has realised that Pedro is ill.'

the speaker intends to signal that the embedded proposition is true both for María and for the speaker himself. The only difference between (33) above and

(34) María cree que Pedro está enfermo.
María believes that Pedro be.PRES.IND ill
'María believes that Pedro is ill.'

is that in the latter case the speaker does not commit himself to the embedded proposition, but he still intends to signal that it is true for the matrix subject. Thus, the complements are asserted in the present framework and are expected to have an indicative verb form.

As opposed to that, complements of comment predicates are not asserted, since such complements are part of the common ground, they are presupposed both by the speaker and the hearer. Hence, when uttering (35):

(35) Me alegro de que estés aquí.
I.REFL am glad PREP that be.PRES.SUBJ here
'I'm glad that you are here.'

the speaker simply comments on a proposition that contains shared information and is not asserted.

In the case of command and doubt predicates the complement is obviously not part of anyone's view of the world, thus, such complements are not asserted, and accordingly the subjunctive is expected in the complements.

Thus, Mejías-Bikandi's analysis captures mood distribution in Spanish straightforwardly in the case of all verb classes defined by Terrell and Hooper. However, the article in question does not mention other classes of predicates (apart from commissives), for instance fiction verbs or perception verbs are not examined, thus, it remains to be checked whether the predictions made about these groups of verbs are correct or not.

If we consider perception verbs (and other semifactives) it is obvious that since the complement clause is presupposed and it is part of the matrix subject's reality, the speaker intends to signal that it is true for the matrix subject (that may be co-referential with the speaker), thus, the complement is asserted and the indicative is expected to appear, which is indeed the case.[30]

Fiction verbs turn out to be much more difficult to analyse. First of all, the complement proposition is not true either for the matrix subject, or for the speaker, it is not part of anyone's view of reality. However, the matrix predicate, for instance *dream* introduces a space, a space modelling the world of the dream, which is embedded in the space representing reality. According to Mejías-Bikandi a complement clause is asserted if the speaker intends to indicate that the complement proposition describes the world as he or she or some other individual perceives it.[31] Obviously, this is not the case here, hence, the subjunctive is expected, and this prediction is wrong, so fiction verbs again present a problem for the analysis.[32]

Verbs of prediction and verbs of fear are similarly puzzling; no one is committed to the truth of their complement proposition, but they can be perceived as contained in a space representing future reality embedded in the space representing the matrix subject's reality. Accordingly, they are expected to govern the indicative and this is a very welcome result if

[30] However, mood variation under negated semifactives is left unexplained.

[31] Sometimes Mejías-Bikandi uses a weaker definition of asserting a proposition, namely he says that "a speaker asserts a proposition *p* when the speaker intends to indicate that *p* is contained in some space *R*, that is, when the speaker intends to indicate that *p* provides information about some individual's view of reality." (Mejías-Bikandi 1994: 895) If asserting *p* depends only on being contained in a space, then complements of fiction predicates are asserted, since are contained in the dream space introduced by the matrix verb. However, such complements do not describe anyone's view of reality.

[32] Mejías-Bikandi (1996) claims that "the indicative mood opens a particular space *M*, so that information contained in it can be passed on to a higher space. The subjunctive mood on the other hand closes a space *M*, so that information contained in it cannot flow to higher spaces." (Mejías-Bikandi 1996: 175) This suggestion becomes particularly interesting when we turn to discourse anaphora (cf. Chapter **4**), since fiction verbs turn out to be rather peculiar from that point of view.

we compare it with other analyses that usually run into difficulties when trying to predict mood choice under verbs of predicting and fear.

As we have seen, Mejías-Bikandi has indeed proposed a more adequate definition of assertion relating it to speaker intention and the speaker's representation of reality in the framework of mental spaces. Thereby his analysis is able to maintain Terrell and Hooper's generalisation about mood choice in Spanish. His findings are summarized in Table **2**:

| Semantic notion | Type of matrix predicate | Mood selected |
|---|---|---|
| asserted | belief | indicative |
| | report | |
| | mental act | |
| non-asserted | comment | subjunctive |
| | command | |
| | doubt | |

**Table 2 - Mood choice in Spanish – revised**

Turning to mood distribution in Hungarian, we can again state that the above classification of clause-embedding predicates is not fine-grained enough to explain mood choice in complement clauses and some of the predictions are not borne out, either. It is correctly predicted that predicates with asserted complements will govern the indicative, but comment predicates do not license the subjunctive in Hungarian, i.e. the hypothesis relating mood choice to asserted and non-asserted complements has to be rejected. Doubt predicates, as it was already pointed out, license the indicative in Hungarian, however, as epistemic uncertainty is getting stronger, the subjunctive may also appear. Thus, mood choice under comment and doubt predicates is not captured in this framework; perhaps there are other factors that determine mood choice in non-asserted complements. As fiction verbs (having non-asserted complements) also govern the indicative in Hungarian, they also turn out to be problematic in this framework.

### 3.6 Haverkate's taxonomy (2002)

Haverkate (2002) also aims to characterise mood choice in subordinate clauses in Spanish. In order to account for the distribution of the indicative and the subjunctive in embedded clauses and to be able to make reliable predictions about mood choice he proposes a new classification of complement taking predicates. His taxonomy tries to avoid the problems outlined above, and it strives to be maximal and optimal. The framework chosen is based on

the assumption that all the predicates related to mood choice "share the property of providing information on the set of processes that typify intentional human behaviour. […] from a psychological point of view, the human mind can be conceived of as being composed of three modules, i.e. thought, feeling, and will." (Haverkate 2002: 51)

Hence, three main classes of complement taking predicates can be differentiated, each providing information on one module mentioned above, and each being related to the acquisition of knowledge, the storing and assessing of acquired knowledge, and the categories determining the output of intentional behaviour, respectively. The arising taxonomy is semantic in nature and has psychological and cognitive bases, in that way Haverkate aims to get an exhaustive classification of predicates.

An overview of the main classes with their corresponding modules and their subclasses is given below:

I. acquisition of knowledge predicates – THOUGHT
   a. perceptual knowledge: *ver* 'see'
   b. conceptual knowledge
      i. internal stimulus: *venir al pensiamento* 'cross one's mind'
      ii. external stimulus: *enterarse* 'find out'

II. predicates describing the storing and assessing of the input information: cognition and evaluation predicates – FEELING
   a. cognition predicates
      i. epistemic knowledge: *saber* 'know', *ser cierto* 'be sure'
      ii. doxastic knowledge: *creer* 'believe', *pensar* 'think'
      iii. dubitative knowledge: *dudar* 'doubt', *ser posible* 'be possible'
   b. evaluation predicates
      i. rational evaluation: *ser lógico* 'be logical'
      ii. emotional evaluation: *alegrarse* 'be glad'

III. predicates describing the output of intentional behaviour: action predicates – WILL
   a. causative acts: *provocar* 'provoke'
   b. mental acts
      i. thinking: *inferir* 'infer'
      ii. predicting: *pronosticar* 'predict'
      iii. world-creating: *imaginarse* 'imagine'
   c. speech acts
      i. assertives: *decir* 'say'
      ii. directives: *mandar* 'order'
      iii. comissives: *prometer* 'promise'
      iv. expressives: *perdonar* 'forgive'

Let us consider now the proposed taxonomy in a more detailed fashion.

*3.6.1 Acquisition of knowledge predicates*

Predicates belonging to this class are related to the processing of perceptual and conceptual information, hence we arrive at two subclasses:

- perception predicates describe the primary, sensory source of information about the world: *ver* 'see', *oír* 'hear'
- conceptual knowledge predicates describe certain mental stimuli, which can be
    - internal: *soñar* 'dream', *venir al pensiamento* 'cross one's mind' or
    - external: *aprender* 'learn', *enterarse* 'find out'

Haverkate predicts that since members of this class all describe perceivable states of affairs in the world[33] they will license the indicative in their complement clauses, however, matrix negation may influence the mood of the embedded clause.

*3.6.2 Cognition and evaluation predicates*

Predicates related to storing information are labelled as cognition predicates, members of this subclass express the attitude of the matrix subject towards the truth value of the embedded proposition. Cognition predicates can be subdivided into three subgroups, according to the degree of the matrix subject's commitment to the truth of the embedded proposition:

- epistemic predicates – certainty: *saber* 'know', *ser cierto* 'be sure', *recordar* 'remember'
- doxastic predicates – belief: *creer* 'believe', *pensar* 'think', *parecer* 'seem'
- dubitative predicates – doubt: *dudar* 'doubt', *ser posible* 'be possible'

A common semantic characteristic of predicates belonging to the groups above is that their meaning may shift under negation, for instance *not believe* is conceptually equivalent to *doubt*.

Complements of epistemic predicates describe a state of affairs related to factual reality, which forms a part of the matrix subject's cognitive experience. This can be clearly shown by the inappropriateness of a subsequent *why*-question:

(36) Sé que el presidente fue asesinado.
know that the president be.PAST.IND murdered
'I know that the president was murdered.'

[33]I disagree with Haverkate on classifying *soñar* 'dream' as a verb describing internal mental stimuli; it is highly counterintuitive to say that we can dream only perceivable state of affairs. I would rather say that *dream* belongs to mental act predicates, just as *imaginar* 'imagine'.

(37) #¿Por qué sabes que el presidente fue asesinado?
why know that the president be.PAST.IND murdered
'Why do you know that the president was murdered?' (Haverkate 2002: 59–60)

As regards mood choice, epistemic predicates license the indicative in their complement clauses, since the matrix subject takes it for granted that the embedded proposition is true. Under matrix negation, in accordance with the meaning shift of the predicate, mood variation appears, thus, both the indicative and the subjunctive may be selected. Haverkate argues that in Spanish the indicative is selected when the speaker commits himself to the truth of the embedded proposition, while the use of the subjunctive signals that the speaker cannot assess its truth value.

Let us turn now to the subgroup of doxastic predicates. Haverkate defines the lexical content of predicates belonging to this group as follows: "the grammatical or notional subject of the predicate has reasonable grounds for believing that the state of affairs expressed by the embedded proposition corresponds with factual reality." (Haverkate 2002: 68) Thus, the matrix subject does not commit himself to the truth of the embedded proposition, but is supposed to be fairly sure that a real state of affairs is described by the embedded clause. This explains the tendency that in Spanish the indicative is preferred to the subjunctive in embedded clauses:

(38) Juan cree que María está enferma.
Juan believes that María is.PRES.IND ill.
'Juan believes that María is ill.'

Turning to negative matrices we again find mood variation, both the indicative and the subjunctive may be selected, and, just as in the case of epistemics, the use of the subjunctive signals that the truth-value of the embedded proposition cannot be ascertained.[34] For instance, consider the following sentences (Haverkate, 2002: 74):

(39) Carmen no cree que el terrorista mató a su amigo.
Carmen NEG believes that the terrorist murder.PAST.IND PREP her friend
'Carmen doesn't believe that the terrorist killed her friend.'

(40) Carmen no cree que el terrorista matara a su amigo.
Carmen NEG believes that the terrorist murder.PAST.SUBJ PREP her friend
'Carmen doesn't believe that the terrorist killed her friend.'

The speaker uttering (39) believes the embedded proposition to be true and is merely reporting the fact that Carmen does not believe that it is true. As opposed to that when a

[34] Mejías-Bikandi (1994, 1996) also argues for this in terms of space accessibility in the framework of mental spaces.

speaker utters (40) he signals by the use of the subjunctive that he does not know whether the embedded proposition is true or not.

As opposed to epistemic and doxastic predicates the matrix subject of a dubitative predicate is not able to assign an absolutely or relatively positive truth value to the embedded proposition. As pointed out above, elements of this class are conceptually equivalent to negated epistemic or doxastic predicates. Thus, it is not surprising that such predicates tend to license the subjunctive in their embedded clause.[35] Negated dubitative predicates have an epistemic or doxastic meaning, thus, the indicative is expected in the complement clause. This prediction is borne out, but subjunctive complementation may also occur.

Though Haverkate does not discuss impersonal structures in detail, he notes that *ser posible* 'be possible' and *ser (im)probable* 'be (im)probable' also belong to the group of dubitative predicates, since the speaker cannot judge the truth value of the embedded proposition. Such expressions denote different degrees of potentiality, hence the subjunctive is triggered in the complement clause.

The second subclass, that of evaluation predicates, consists of predicates focusing on the possible ways of qualifying the state of affairs described by the embedded proposition, and it can be divided into subgroups on the basis of the type of assessment involved:

- rational evaluation predicates: *ser lógico* 'be logical', *ser preciso* 'be necessary'
- emotional evaluation predicates: *irritar* 'irritate', *gustar* 'like'

Rational evaluations may involve qualitative (*ser extraño* 'be strange'), quantitative (*ser raro* 'be rare') or deontic evaluations (*ser preciso* 'be necessary'); deontic evaluations can be contrasted with the former types, since deontic judgements concern desirable state of affairs as opposed to real state of affairs. All three kinds of predicates license subjunctive complements. Haverkate argues that complements of qualitative and quantitative evaluations are presupposed, but backgrounded, their information value is low and that motivates the use of the subjunctive.[36] In the case of deontic evaluations the complements are not presupposed, they express only anticipated states of affairs, they are rather marked for a negative truth value, thus, the use of the subjunctive is more easily predicted. Desiderative predicates show

[35] The indicative may also appear in dubitative complements, however in that case a kind of factual presupposition is involved on the part of the speaker. Consider:

| | | | | | | |
|---|---|---|---|---|---|---|
| (i) | Mi | novia | duda | que | soy | millonario. |
| | my | girlfriend | doubts | that | be.PRES.IND | millionaire |

'My girlfriend doubts that I am a millionaire.'

Here the speaker implies that in fact he is a millionaire. (Haverkate 2002: 83)

[36] I find this explanation rather ad hoc, since it brings in pragmatic features into the discussion, while it was initially claimed that the classification and explaining the distribution of moods would be based on the lexico-semantic properties of the predicates. Notice that Mejías-Bikandi (1994) provides a more straightforward explanation for the same set of phenomena with the help of a pragmatic definition of assertion.

remarkable similarities to deontic evaluations, and again, the use of the subjunctive is obligatory.[37]

Emotional evaluation predicates express the matrix subject's positive (*alegrarse* 'be glad') or negative (*sentirse* 'be sorry') feelings towards an experienced state of affairs as described by the embedded clause. According to Haverkate (2002) emotional evaluation predicates usually license the subjunctive in their complement clauses, but for instance in cleft constructions the indicative may also appear. Haverkate argues that the main difference between the moods selected has to do with information prominence. When the indicative is used the information content of the complement is foregrounded, while use of the subjunctive indicates that the attitude expressed by the predicate is foregrounded, and the complement backgrounded.[38]

Let us see now the general conclusions that Haverkate draws from a more detailed discussion of cognition and evaluation predicates: "In sentences containing an evaluation predicate, backgrounding of the content of the embedded proposition requires the use of the subjunctive, whereas foregrounding of the content, which is triggered by specific syntactic or contextual factors, requires the use of the indicative. As for the expression of cognitive meaning, epistemic and doxastic predicates select the indicative mood, since they focus attention on different degrees of positive truth value. Dubitative predicates select the subjunctive mood in their complement clauses when neither the subject nor the speaker is able to judge whether the embedded proposition is true or false. The indicative is used when the speaker presupposes this proposition to be true." (Haverkate 2002: 104)

These generalisations can be summarized in the table below:

| **Semantic feature of the complement** | **Mood selected** |
|---|---|
| positive truth value | indicative |
| negative or indeterminate truth value | subjunctive |
| + foregrounded information | indicative |
| – foregrounded information | subjunctive |

**Table 3 – Haverkate's suggestion about mood choice in Spanish**

[37] It is rather surprising that Haverkate mentions desideratives and discusses their characteristics briefly here, however, desideratives are not included in the taxonomy. This is a remarkable shortcoming of the analysis, since desideratives can take sentential complements in a number of languages, even in Spanish.

[38] Again the same problem arises, pragmatic features are used to explain mood choice. Obviously, using pragmatic features would be unproblematic in itself, however here it is not clear whether these features are dependent on various characteristics of the matrix predicate, or they are purely features of the embedded clause. In the latter case it should be clarified how it is possible that the features in question do not come into play in the case of other matrices. Thus, the discussion mixes semantic and pragmatic features in an unsatisfactory way.

As we can see, neither of the features mentioned above is related to the lexico-semantic characteristics of the matrix predicate, but rather to various features of the complement clause, especially to those concerning the nature of information structure. Terrell and Hooper (1974) based their classification of predicates on the type of complement selected, however, Haverkate follows a different strategy, as a starting point he considers the cognitive properties of the matrix predicates, and then, when necessary, he brings in characteristics of the complement clause, too. Thus, his analysis turns out to be somewhat more complex, he takes into consideration not only characteristics of the matrix predicates, but of the complements as well. However, it is not stated explicitly what the relation between various features of the matrix predicate and the nature of the complement clause is.

*3.6.3 Action predicates*

Predicates describing the output of intentional human behaviour belong here, the relevant subclasses and subgroups are:

- causative acts: *causar* 'cause', *provocar* 'provoke', *impedir* 'prevent'
- mental acts:
    - acts of thinking: *pensar* 'think'
    - predicting acts: *pronosticar* 'predict'
    - pretence predicates: *imaginarse* 'imagine'
- speech acts:
    - assertives: *decir* 'say', *susurrar* 'whisper'
    - directives: *mandar* 'order', *prohibir* 'forbid'
    - comissives: *prometer* 'promise', *jurar* 'swear'
    - expressives: *perdonar* 'forgive', *agradecer* 'thank'

Let us consider each of these subclasses in turn. According to Haverkate, causative predicates have an inherent perfective aspect, related to the completion of the causative process. He predicts that the subjunctive will be used in complements of causative predicates, since such complements are of an *irrealis* character describing future states of affairs from the vantage point of the matrix predicate. This feature makes them similar to desideratives.

Predicates expressing mental acts focus on various processes of human thinking. Haverkate defines three different subgroups, depending on the type of mental act manifested.

Elements of the first subgroup express acts of thinking; these predicates describe mental processes in general or specific terms. Prototypical members of the class are: *pensar* 'think', *considerar* 'consider', *inferir* 'infer' and *darse cuenta* 'realise'. Acts of thinking

result in a proposition considered to be true by the matrix subject, the thinker. In accordance with the tendencies described above (cf. Table **3**), Haverkate argues that positive truth value triggers the indicative in the complement clauses of mental act predicates. As in the case of doxastic predicates, negating the matrix predicate will result in mood variation, both the indicative and the subjunctive may appear.

Members of the second subgroup express predicting acts, characteristic examples are: *pronosticar* 'predict', *adivinar* 'guess'. Predictions are statements about possible states of affairs, they are *irrealis* propositions, hence the subjunctive is expected in predictive complements. However, contrary to expectations, the indicative is licensed under predictive predicates. Haverkate explains away this problem, in a rather ad hoc manner, by stating that the matrix subject's prediction is always based on some kind of existing fact, thus "the prediction anticipates, as it were, the transformation of unreality into reality". (Haverkate 2002: 111)

The third subgroup consists of pretence predicates describing a fictitious or imaginary world, including predicates such as *imaginarse* 'imagine', *fingir* 'pretend'. Haverkate argues that participants of a conversation can easily conceive states of affairs of an imaginary world as real states of affairs, this motivates the use of the indicative. It is interesting to note that matrix negation does not result in change of mood, negated matrix predicates also trigger the indicative.[39]

As for speech acts predicates, Haverkate suggests that four major types of Searle's speech acts (Searle 1976) are relevant to explaining mood choice in Spanish, each of these being related to indirect speech. The subgroups in question are repeated here for the sake of convenience:

- assertives: *decir* 'say', *susurrar* 'whisper'
- directives: *mandar* 'order', *prohibir* 'forbid'
- comissives: *prometer* 'promise', *jurar* 'swear'
- expressives: *perdonar* 'forgive', *agradecer* 'thank'

Let us go through each of these subgroups. First, consider assertive predicates. In general, assertive speech acts form the core of question-answer sequences. Fraser (1975) lists a great number of assertive predicates in English, such as *acknowledge, argue, confirm, inform, mention,* and *remark,* just to mention a few. Haverkate notes that in Spanish the mood of the original assertion is preserved in the complement, but usually the indicative is governed. This

[39] I do not see any reason for not including *dream* among the elements of this group, since it satisfies all the characteristics given above.

must be a consequence of the fact that the original utterances are assertions and main assertions in Spanish are associated with the indicative.

Let us turn to directives now. In Spanish, directive predicates (*mandar* 'order', *prohibir* 'forbid'), not unexpectedly, trigger the subjunctive in their complement clause, since the complements always describe an unreal state of affairs with respect to reference time or coding time, in other terms they have world-to-words direction of fit (cf. Chapter **3**).

Haverkate defines commissives "as speech acts performed by the speaker to commit him/herself, primarily for the benefit of the addressee, to do the act expressed by the proposition". (Haverkate 2002: 125) *Prometer* 'promise' and *jurar* 'swear' are typical examples describing a commissive speech act. These predicates, just as directives, can be characterised by the world-to-words direction of fit, hence we expect the subjunctive to be licensed in their complement clauses. However, contrary to our expectations, commissive predicates select the indicative. Haverkate argues that the basic difference between directives and commissives is that in the case of directives it cannot be guaranteed that the unreal state of affairs described by the complement clause will become real, since one cannot predict the hearer's reaction, while the subject of a commissive predicate takes the responsibility to perform the act expressed by the subordinate clause. However, when the speaker is not co-referential with the matrix subject no responsibility is attached to the speaker, which makes the explanation above not entirely convincing.

Expressive speech acts serve to describe "a psychological state brought about by an event causally involving the hearer". (Haverkate 2002: 126) Characteristic examples of expressive predicates are *agradecer* 'thank', *perdonar* 'forgive' and *deplorar* 'deplore'. Complements of expressives are presupposed to be true, since they usually describe a past event with respect to coding time and, according to Haverkate, they are also backgrounded. Thus, the subjunctive is triggered in the complements of expressives.

### *3.6.4 Summary and discussion*

Haverkate claims that his own classification of clause embedding predicates is semantic in nature, and is based on a psychological model of intentional human behaviour. As a result the taxonomy is expected to be optimal and maximal. Optimal in the sense that it reflects in a consistent and coherent way underlying human behaviour described by the predicates in question. It is also maximal, since it includes all clause-embedding predicates of Spanish, at least Haverkate states that he has not found any counterexample to demonstrate that there are predicates that could not be included in his list.

His analysis is summed up as: "By virtue of the lexical class to which it belongs, the use of the embedding predicate creates, in strict correlation with the affirmative or negative structure of the main clause, a truth-functional space or domain in which the complement proposition is attributed a *realis, potentialis* or *irrealis* interpretation. […] it was found that *realis* propositions trigger the use of the indicative, and *potentialis* and *irrealis* propositions the use of the subjunctive mood, the remarkable exception being propositions that express presupposed or backgrounded information. In these cases, the use of the subjunctive is required. It was claimed that the explanation for these phenomena has to be sought at the level of pragmatic analysis. More precisely, one can formulate the general rule that the subjunctive mood marks propositions expressing low or relatively low truth-functional information. Low information value is characteristic of *irrealis* propositions; relatively low information value typifies *potentialis* propositions." (Haverkate 2002: 197–98)

If we compare the taxonomy to the previous analyses it is clear that this is a much more detailed and much more extensive classification with precise definitions of the individual groups of predicates. Just to mention one example, the present classification treats belief predicates and dubitative predicates as subgroups of cognitive predicates, and mood choice and their mutual relation under negation are accounted for in a straightforward way.

Mood variation under certain matrices can be explained by referring them to two classes of predicates at the same time, for instance *advertir* 'warn' and *insistir* 'insist' can express two kinds of speech acts: an assertive and a directive one, thus the predicates in question belong both to assertives and directives. Thus, certain cases of intralinguistic mood variation can be easily justified. However, it must be also noted that mood variation under matrix negation (as exemplified by (39) and (40) above) is not explained in a satisfactory manner.

On the whole we can conclude that the classification has greater explanatory power, however, it is not devoid of problems. The major defect of the analysis seems to be that it mixes a semantically based explanation with pragmatic features. The taxonomy is semantically motivated, the lexico-semantic characteristics of the predicates are claimed to be the decisive factors in determining the mood of the complement clause, however, when mood choice cannot be explained on the basis of these features, various pragmatic characteristics of the embedded clause are said to be responsible for mood choice, without making it clear how the relation between the matrix predicate and various characteristics of the embedded clause can be characterised.

Further shortcomings of the analysis are discussed below:

1. According to Haverkate fiction verbs belong to predicates describing conceptual knowledge, and specify certain internal mental stimuli that are inherent in spontaneous, unintentional mental processes (typical examples are *soñar* 'dream', *venir al pensiamento* 'cross one's mind' and *occurrírsele a uno* 'occur to one'). The main function of such predicates is to comment on perceivable states of affairs in a conceivable world, and Haverkate argues that in that way they behave in the same way as perception verbs when describing factual reality. Thus, it is not surprising that both groups of predicates govern the indicative. If we accept this line of argumentation, then it is not clear why *imaginarse* 'imagine', *figurarse* 'imagine' and *fingir* 'pretend' are classified as pretence predicates, whose function is to describe states of affairs in a fictitious or imaginary world, thus, these are world-creating predicates. At this point we must consider the question whether one imagines things intentionally, since this would be the only differentiating factor between *dream* and *imagine*. In my opinion this would be a very subtle difference and since all the predicates mentioned above describe alternative worlds, the different classes could be collapsed into one class: into the class of predicates specifying internal mental stimuli.[40] This change in the classification would be welcome since each of the predicates in question governs the indicative in the case of affirmative matrix clauses, but negation may result in a change of mood in the complement clause.

2. It is rather surprising that though Haverkate mentions desideratives and discusses their characteristics briefly, desideratives are not included in the taxonomy. This is a remarkable shortcoming of the analysis, since desideratives are remarkable members of the class of complement taking predicates.

The reason he provides for not treating desideratives as a separate group of predicates is that desideratives can be treated as directives, since the speaker gives an indirect order to the hearer, for instance in:

(41) Quiero que me digas tu dirección.
want that I.DAT tell.SUBJ your address
'I want you to tell me your address.'

However, this is not the only usage of desideratives, the essential difference between desideratives (*want, wish*) and directives (*order, demand*) being that the former may embed propositions describing unrealisable states of affairs. Consider the following examples:

(42) John wants Mary to fly to the moon.

(43) #John demands that Mary fly to the moon.

[40] Another way to save the classification would be simply to place *dream* to the group of pretence predicates.

Hence, desideratives should be treated separately from directives.[41]

3. Haverkate notes that existential predicates, such as *occurir* 'occur', *pasar* 'happen' cannot be included in his taxonomy, however, he argues that these predicates do not have a lexical meaning, they only indicate that a certain state of affairs holds. Nevertheless, these predicates take a sentential complement, and under matrix negation mood variation occurs, thus, they should not be left unaccounted for.

4. Predicates of fear and permissives do not appear explicitly in the list, though they are also related to intentional human behaviour, just like desideratives.

### 3.7 A note on mood choice in Spanish

Let us stop here for a moment to ponder on mood distribution in Spanish. We have seen several approaches, and all of these argued that mood choice depends on some characteristics of the matrix predicate. Bolinger observed that representational sentences (complements of verbs of saying and thinking) select the indicative, while non-representational sentences (complements on the one hand of verbs of emotion, denial and doubt, and on the other hand of verbs trying to influence an outcome) opt for a subjunctive verb form. If we re-examine his categories it is obvious that this opposition is basically the same as the assertive, non-assertive distinction introduced later: representational sentences are asserted, while non-representational sentences are not. Within the latter category Terrell and Hooper motivated a further opposition: complements of verbs of emotion (comment predicates) are presupposed, while complements of predicates trying to influence an outcome (command predicates) and complements of doubt predicates are neither presupposed nor asserted. Thus, the categories surfacing in later approaches to mood choice were already present in Bolinger's pioneering study. These original assumptions are maintained by all the analyses considered above, while the classification of predicates is getting more and more precise and subtle.

If we want to summarize the findings of the studies discussed we can state that in Spanish the indicative is licensed in asserted[42] complements, and there are two kinds of non-assertiveness that result in selecting the subjunctive. First, the subjunctive surfaces in presupposed complements (and these complements are never asserted since they form part of the mutual knowledge of the participants in a given conversation, and accordingly, the speaker is committed to their truth), second, the subjunctive appears in the complements of

[41] For a detailed discussion of the differences between *want, wish* and *demand* I refer the reader to Portner (1992).

[42] Here I rely on Mejías-Bikandi's (1994) definition of assertion which is the most unproblematic out of the ones discussed above.

directive and desiderative verbs where no such commitment on the part of the speaker is present.

As for the advantages and disadvantages of the various approaches considered above it is important to note that most of the taxonomies examined are too coarse-grained to capture all phenomena related to mood distribution adequately. Moreover, one can always find predicates that are not included in the analysis in question, the only exception being perhaps Haverkate's grouping. It also has to be mentioned that all analyses run into some kind of empirical difficulties, i.e. there are always some groups of predicates that serve as counterexamples to the theoretical assumptions. For instance, only Bolinger's study predicts successfully that fiction verbs govern the indicative in Spanish. Another common characteristic of these theories is that their generalisations are always language specific; one has to be cautious when applying them to crosslinguistic data.

In the next section I will establish a taxonomy of Hungarian matrix predicates relying on the groupings presented so far and keeping in mind the problems outlined above. This taxonomy will serve as the basis for the language specific analysis of mood distribution in Hungarian.

## 4 A revised taxonomy of matrix predicates

Since it is Haverkate's taxonomy of matrix predicates that is the most detailed, in what follows I will rely mainly on that when trying to set up a grouping that is suitable to study mood distribution in Hungarian. I will also strive to include those groups of predicates that cannot be neglected if one wants to account for mood choice (cf. the crosslinguistic overview of mood choice in Chapter **1** and the list of indicative, conditional and subjunctive governors in Hungarian); however, in order to get a taxonomy which is relatively easy to handle, several of Haverkate's groups will be collapsed.

Considering first predicates with presupposed complements, some notes on Karttunen's postulated categories within the class of factive predicates[43] are due here. (Karttunen 1971b) True factives, for instance *be glad, regret*, are somehow emotive in nature (such predicates are often called emotive factives in the literature), they express the subjective attitude of the matrix subject to the complement proposition. These predicates presuppose the truth of their complement under any condition, even when they are negated, questioned or embedded under *it is possible that*. Hence, I see no reason for treating evaluation predicates

[43] Differentiating true factives from semifactives has been suggested by the anonymous reviewer of the paper which is to be published in *Approaches to Hungarian. Vol. **10***. In earlier versions of the paper in question only factives and perception verbs had been considered. As we will see later the distinction turns out to be fruitful from the point of view of mood selection.

and expressives as distinct groups, as Haverkate does, since such predicates are true factives if we test them relying on Karttunen's criteria. Hence, I will call these true factives.

Turning to semifactives (*remember, see*), such predicates describe various processes of knowing or coming to know. As opposed to true factives, the truth of their complement cannot be taken for granted in the cases described above, i.e. negating or questioning the matrix predicate or embedding it under *it is possible that* will result in loss of factivity. Predicates of perceptual knowledge and conceptual knowledge are semifactive predicates, verbs expressing acts of thinking and Haverkate's epistemic predicates (the first subgroup of cognition predicates)[44] also belong here. It is obvious that true factives and semifactives correspond straightforwardly with Haverkate's categories mentioned above, therefore in what follows these more traditional labels will be used.

The other two subgroups of cognition predicates in Haverkate's system comprise predicates which do not presuppose their complements. In what follows doxastic and dubitative verbs will be labelled as epistemics, since such predicates are related to epistemic knowledge. This group will also contain impersonal constructions connected to epistemic knowledge, such as *be impossible*.

As it was mentioned above, there were several problems with the supposed membership of *dream* in various classes of Haverkate's taxonomy. I prefer having only a uniform group to Haverkate's world creating and predicting predicates; and this group will bear the label 'fiction verbs'.

Turning to Haverkate's speech acts predicates, we have seen above that the notion of assertivity is crucial in analysing mood distribution, therefore I will have a separate class of assertive predicates, which will include commissives, too, since a common characteristic of such predicates is that they serve to transfer information, the illocutionary force of the original statement is coded by the predicate itself.[45]

Directive predicates will also be treated as a distinct group.

I will label causative predicates as purposives and this group will also include predicates with a negative sense, such as *be afraid*.

[44] My use of the term 'epistemic' will be different from that of Haverkate, cf. Table **4** and Table **5**.

[45] Obviously, there are certain differences between simple assertives like *say* and comissives like *promise*. Complements of the former have independent time reference, i.e. the time reference of the complement is independent from that of the matrix predicate, while complements of comissives are future-oriented with respect to the time reference of the matrix. Nevertheless, there are certain similarities, too, on the basis of which for instance Noonan (1985) treats assertives and permissives together and labels them as 'utterance predicates'. Even expressives could be included in the class of assertives, however, since these predicates presuppose the truth of their complement I classify them as true factives.

Permissive and desiderative predicates are not included in Haverkate's taxonomy, but in my opinion these are important from the point of view of mood choice, and cannot be neglected.

Table **4** below represents the introduced classes of predicates and shows how these are related to Haverkate's groups.

| **Groups introduced** | **Haverkate's groups** |
|---|---|
| 1. True factives | Evaluation predicates<br>Expressives |
| 2. Semifactives | Perceptual knowledge<br>Conceptual knowledge<br>Acts of thinking<br>Epistemic predicates |
| 3. Epistemics | Doxastic predicates<br>Dubitative predicates |
| 4. Assertives | Assertives<br>Comissives |
| 5. Fiction verbs | World-creating predicates<br>Predicting verbs |
| 6. Directives | Directives |
| 7. Permissives | |
| 8. Purposives | Causative acts |
| 9. Desideratives | |

**Table 4 – Two taxonomies 1**

For the sake of convenience, the tentative list of matrix predicates given in Chapter **1** is also placed in the taxonomy just introduced, cf. Table **5**. In what follows this grouping of matrix predicates will serve as the starting point for the discussion of mood choice in Hungarian. However, it must be noted here that this taxonomy of Hungarian matrix predicates is not maximal, it strives to be representative only. Since the taxonomy is aimed to capture main tendencies regarding mood phenomena in Hungarian complement clauses, one may find complement taking predicates that do not fit into any of the groups introduced. Obviously, there are also predicates that belong to more than one group. For instance, *figyelmeztet* 'warn' has both an assertive and a directive meaning, and, accordingly, it can belong to both relevant groups (depending on the context of use).

| Groups introduced | Groups of Chapter 1 |
|---|---|
| 1. True factives | Factive-emotive predicates<br>Predicates expressing attitudes |
| 2. Semifactives | Predicates of knowledge<br>Predicates of acquisition of knowledge |
| 3. Epistemics | Predicates of certainty<br>Predicates of likelihood<br>Predicates of mental judgement<br>Epistemics expressing remote possibility |
| 4. Assertives | Assertives<br>Comissives |
| 5. Fiction verbs | Fiction verbs |
| 6. Directives | Directives<br>Assertives (with a directive meaning) |
| 7. Permissives | Permissives |
| 8. Purposives | Purposives<br>Rational evaluation predicates[46] |
| 9. Desideratives | Desideratives |

**Table 5 - Two taxonomies 2**

## 5 Summary

In this chapter we examined various theories that focus on the selection of finite verb forms in complement clauses depending on certain characteristics of the embedding predicate. Each of the analyses considered classify matrix predicates taking into account their semantic characteristics. Relying on their findings I have established a grouping of Hungarian matrix predicates and in the following chapters we are going to examine several hypotheses about the mood selecting properties of the emerging classes. Throughout the rest of the dissertation we are going to rely on this taxonomy of matrix predicates, and we will try to provide an adequate analysis of mood choice in their complement clauses in Hungarian.

[46] Rational evaluation predicates triggering the subjunctive are usually future-oriented, that is why they are treated here together with predicates expressing a purposive meaning.

## CHAPTER 3
## EXPLAINING MOOD CHOICE 2: TRADITIONAL APPROACHES

### 1 Overview

In this chapter two traditional accounts of mood choice are examined and applied to Hungarian data. These are the following:

- **the traditional realis/irrealis opposition:** traditionally, the indicative/subjunctive dichotomy is taken to be a manifestation of the realis/irrealis opposition (Klemm 1931; Tompa 1962; Pataki 1984)
- **direction of fit:** according to this theory the indicative is licensed in complement clauses with words to world direction of fit, and the subjunctive appears in complement clauses with world to words direction of fit (Searle 1976; Farkas 1992a).

### 2 The traditional realis/irrealis opposition – why is it not satisfactory?
### 2.1 Crosslinguistic data

One of the earliest theories about mood distribution takes the indicative/subjunctive dichotomy to be a manifestation of the realis/irrealis opposition. More specifically, it is usually assumed that the indicative is licensed in clauses representing the actual world, while the subjunctive usually appears in clauses that are not true of the actual world, thus, in clauses describing unreal states of affairs. In the present section I will argue that this assumption is not subtle enough to explain mood choice in complement clauses. As we will see below, the distribution of moods in certain languages seems to strengthen this hypothesis, but numerous counterexamples can also be presented. Hence, the above assumption might serve only as a first approximation of the difference between the indicative (representing reality) and non-indicative moods, including the subjunctive (representing non-reality). Other factors must also be taken into consideration in order to explain more subtle differences in meaning. Thus, the realis/irrealis distinction proves to be too coarse-grained to explain the distribution of moods in complement clauses.

If we examine matrix clauses, the realis/irrealis hypothesis seems to capture the crucial factor determining mood distribution. As we have seen in Chapter **1**, the indicative surfaces in affirmative matrix clauses, i.e. in those that are true of the actual world. As opposed to that, the subjunctive is restricted to optatives and directives, i.e. to clauses with a special illocutionary force that do not represent real states of affairs.

Turning to our main concern, to the analysis of complement clauses, we can find various cases that seem to violate the realis/irrealis hypothesis. For instance, under this view

the indicative is predicted to be licensed in the complements of factive predicates. Some languages, for instance Romanian and Hungarian, fulfil this expectation, however, there are languages, for example Spanish, where factive predicates license the subjunctive in their subordinate clause. Consider again the following examples:

(1) Ion regreta că Maria e bolnavă. (Romanian)
Ion regrets that Maria is.IND ill
'Ion regrets that Maria is ill.' (Farkas 2003)

(2) Pedro lamenta que Elena esté enferma. (Spanish)
Pedro regrets that Elena is.SUBJ ill
'Pedro regrets that Elena is ill.'

(3) Jean regrette que Marie est/soit mal. (French)
Jean regrets that Marie is.IND/SUBJ ill
'Jean regrets that Marie is ill.' (Farkas 2003)

As we can see, the factive predicate *regret* requires an indicative complement in Romanian, a subjunctive one in Spanish, and both moods are grammatical in French.

Another phenomenon that refutes the hypothesis in question was mentioned in Farkas (1992a). She notes that counterfactive predicates, which presuppose the falsity of their embedded proposition – predicates expressing for instance dreams and other hypothetical states of affairs – tend to license the indicative in their embedded clauses, though according to the hypothesis the subjunctive should be grammatical. This is the case for example in Spanish, French and Hungarian, just to mention a few languages:

(4) Pedro soñó que estaba/*estuviera en casa. (Spanish)
Pedro dreamt that be.PAST.IND/*SUBJ in home
'Pedro dreamt that he was at home.'

(5) Jean a reve que Pierre a/*ait reçu le Nobel. (French)
Jean has dreamt that Pierre have.IND/*SUBJ received the Nobel Prize.
'Jean dreamt that Pierre has received the Nobel Prize.' (Giorgi and Pianesi 1997)

(6) János az-t álmodta, hogy megjelent/*megjelenjen a
János that-ACC dreamt that was.IND/*SUBJ published the
könyv-e.
book-POSS
'János dreamt that his book was published.' (Hungarian)

With respect to the problem of counterfactive predicates, Noonan (1985) notes:
"The reason for the indicative in these cases seems to derive from the fact that the pretence predicate [a predicate describing a fictitious or imaginary world] establishes an alternative

reality and the complement constitutes an assertion within that alternative reality." (Noonan 1985: 116)

A further problem for the realis/irrealis hypothesis is that there are some predicates that are capable of licensing more than one mood in their subordinate clause. Consider the French example, (3) above, or the following Spanish sentence:[47]

(7) No es cierto que María está/esté enferma.
NEG is certain that María is.IND/SUBJ ill
'It is not certain that María is ill.'

As for the difference between the two sentences, some (for instance Haverkate 2002) would argue that using the indicative indicates higher degree of information value, thus the indicative signals higher degree of certainty, however Mejías-Bikandi (1996) states that in both cases the speaker is sure that the complement clause is not true.

Nevertheless, there are also some cases confirming the hypothesis. For instance, mood variation under polysemous predicates can be explained. More specifically, as we have seen, there are predicates both with an assertive and directive sense, such as *mond* 'say/tell' in Hungarian, or *insist* in English. When such predicates are used as assertives, their complement expresses a proposition about reality, thus, the indicative is expected;[48] when they are used as directives, their complement is of an irrealis character, and, accordingly, a non-indicative mood is licensed. Consider the following examples:

(8) Mondtam, hogy János otthon van.
tell.PAST that János home is.IND
'I said that János was at home.'

(9) Mondtam, hogy maradj otthon.
tell.PAST that stay.SUBJ home
'I told you to stay at home.'

[47] Mood variation more often occurs under matrix negation.

[48] Here the question can be raised whether these predicates select both the indicative and the subjunctive or we are dealing with two distinct predicates governing their own mood. Considering *mond* 'say/tell' we can state that one of its functions is to report utterances, and in that case it does not select any mood, the mood of the reported utterance is preserved (this use is not too interesting from the present point of view):

(i) Mondtam, hogy szívesen elmennék/elmentem volna mozi-ba.
say.PAST that with pleasure go.PRES.COND/PAST.COND cinema-TO
'I said that I would like/would have liked to go to the cinema.'

Therefore, it would be highly counterintuitive to introduce distinct lexical entries for all the uses of *mond* 'say/tell'; for that reason such predicates can be classified as members of different groups, depending on the context of use.

## 2.2 Hungarian data

Relevant literature assumes that the subjunctive mood is licensed in Hungarian subordinate clauses (HKMs) if the embedded clause "expresses something that does not hold of reality; a fact that does not exist, a procedure that does not happen: something that is unarguably nonexistent."[49] (Pataki 1984: 210) i.e. the function of the subjunctive is defined as expressing unreality.[50] In this section we will examine whether the realis/irrealis hypothesis can explain mood choice in Hungarian complement clauses.

Obviously, there must be some kind of relation between the truth-functional modality of the subordinate clause and the matrix predicate. Descriptive grammars acknowledging the existence of the subjunctive proper in Hungarian (cf. for instance Kálmán 2001) state that matrix predicates expressing ambition, desire, willingness, permission and prohibition expect a subordinate clause in the subjunctive proper. Directive predicates (expressing recommendation, demand, command, order, request, advice, etc.) require the imperative in their subordinate clause. Kenesei (1992) contrasts the indicative with the non-indicative moods, i.e. with the imperative, the subjunctive proper and the conditional in subordinate clauses, stating that though sometimes the use of the indicative includes describing events that have not happened, the use of the other three moods in subordinate clauses always indicates an unreal or posterior event.

Let us consider now some examples. As it was mentioned above, in the case of factive predicates (comprising true factives and semifactives) it seems reasonable to suppose that they expect the use of the indicative in their subordinate clause, since they presuppose the truth of their embedded proposition, which must be then realis in nature. In Hungarian, factive predicates in affirmative matrix sentences license only the indicative. For example:

(10) Sajnálom, hogy János és Mari összevesztek.
regret that János and Mari quarrel.PAST.IND
'I regret that János and Mari have quarrelled.'

It is interesting to note that if we introduce the *úgy* referring word into the matrix clause (which is optional in the case of factive predicates), in the case of semifactives factivity will be lost, elements of uncertainty appear.[51] This is clear from the fact that

(11) Úgy emlékszem, hogy János és Mari összevesztek.
so remember that János and Mari quarrel.PAST.IND
'I remember that János and Mari have quarrelled.'

[49] My translation.
[50] The same view is expressed in Klemm (1931) and Tompa (1962).
[51] This observation does not hold for true factives, introducing *úgy* into the matrix clause only emphasizes the strength of emotion expressed.

could be continued by *de nem vagyok biztos benne* 'but I'm not sure about that'. However, the subordinate clause still contains an indicative verb form.[52]

So in the case of factive predicates there is no one to one correspondence between realis complements and the indicative, since it is not the case that the indicative (in affirmative contexts) appears only in those cases where the embedded proposition is considered by the speaker to describe a real state of affairs, though the reverse seems to be true.

If the matrix verb is negated, the situation becomes even more complex, since sometimes the conditional is also grammatical (besides the indicative) in the subordinate clause. When the conditional is licensed under negated semifactive matrices, factivity is lost. For instance, in

(12) Nem emlékszem, hogy János és Mari veszekedtek volna.
NEG remember that János and Mari quarrel.PAST.COND
'I don't remember that János and Mari have quarrelled.'

the embedded proposition is not presupposed to be true. It can be argued that negation, just like the introduction of the *úgy* referring word into the matrix clause, modifies the meaning of the main verb, which results in loss of factivity.[53]

As we have seen, there is some relation between the indicative and realis complements, but the subjunctive is never licensed in the complements of factive predicates. However, other factors, such as matrix negation and the presence of the referring word *úgy* also have an effect upon mood choice.

All epistemic predicates in affirmative matrix sentences allow the indicative in their complements, and some of them (those with an inherent negative feature) can govern the conditional, too. It is difficult to say what the difference is between the indicative and the conditional, and this question lies outside the scope of the present paper, but on the basis of native speakers' intuition it can be assumed that the use of the conditional implies a higher degree of uncertainty about the truth of the embedded proposition. Consider the following examples:

(13) Kétlem, hogy Mari szereti János-t.
doubt that Mari love.IND János-ACC
'I doubt that Mari loves János.'

---

[52] Uncertainty becomes much stronger when the conditional surfaces in the complement clause introduced by *mintha* 'as if':

(i) Úgy emlékszem, mintha összevesztek volna.
so remember as if quarrel.PAST.COND
'I thought they quarrelled.'

It is to be explained which element triggers the conditional here.

[53] In Chapter **4** we will return to the analysis of mood choice under factive predicates.

(14) Kétlem, hogy Mari szeretné János-t.
doubt that Mari love.COND János-ACC
'I doubt that Mari (really) loves János.'

In both cases the proposition *Mari loves János.* is not true in the world of the speaker, thus it is not realis, but it is not false, thus irrealis, either.

Among epistemic verbs we can find many examples of propositional attitude predicates (Kiefer 1986), and the question arises whether all of these allow both the indicative and the conditional in their subordinate clauses. In accordance with the claim made in Chapter **1** about conditional licensing, propositional attitude verbs allow both moods only if they have an inherent negative semantic feature, those that do not have such feature require matrix negation to be able to govern both grammatical moods. For example,

(15) Az-t hiszem, hogy János feleség-e férfi-ak-kal találkozik.
that-ACC believe that János wife-POSS man-PL-WITH meet.IND
'I believe that John's wife meets with (other) men.'

If we negate the matrix predicate, both the indicative and the conditional become grammatical.

(16) Nem hiszem, hogy János feleség-e férfi-ak-kal találkozik/találkozna.
NEG believe that János wife-POSS man-PL-WITH meet.IND/COND
'I don't believe that John's wife meets/would meet with (other) men.'

A very interesting case is the one when an intervening relative clause appears in the subordinate clause, making it clear that the speaker considers the embedded proposition almost certainly to be false, i.e. irrealis, then three different moods become grammatical.

(17) Nem hiszem, hogy egy ilyen jó ember, mint János
NEG believe that a such nice man as János
elveszi/elvenné/elvegye az-t a nő-t.
marry.IND/COND/SUBJ that-ACC the woman-ACC
'I don't believe that such a nice man, as János marries/would marry that woman.'[54]

Thus, we have not gained a clear picture about the relation of the indicative and realis complements, but it seems to be the case that non-indicative moods, namely the conditional and the subjunctive are somehow related to propositions about the truth of which the speaker is not so sure, hence, these latter moods are related to irrealis complements. However, fiction predicates seem to refute the hypothesis, since these license only the indicative in their subordinate clause. At this stage we can only state that the realis/irrealis hypothesis allegedly is on the right track, though more subtle factors might be intervening as well.

[54] This is also possible with the inherently negative predicate: *kétli* 'doubt'.

In order to be able to reconsider the supposed correlation between realis/irrealis and the distribution of moods first we will need a precise definition of the notions in question, then, if necessary, other notions will have to be introduced to account for various mood phenomena.

## 3 Discussion

### 3.1 Givón (1994)

As we have seen, it is possible to find numerous examples across various languages refuting the realis/irrealis hypothesis. In the next section we will examine whether it is possible to modify the hypothesis in order to get a satisfactory, but slightly modified account of mood distribution that is still based on the realis/irrealis opposition.

Givón (1994) offers a communicative definition of realis and irrealis assertion, as forming parts of epistemic modality (the other relevant parts being presupposition, and negative assertion). Each of the notions mentioned are communicative equivalents of traditional epistemic modalities:

factual truth – realis assertion
possible truth – irrealis assertion
necessary truth – presupposition
non-truth – negative assertion

According to Givón, in the case of realis assertion "the proposition is strongly asserted to be true; but challenge from the hearer is deemed appropriate, although the speaker has evidence or other grounds to defend their strong belief." (Givón 1994: 268) As opposed to this, in the case of irrealis assertion "the proposition is weakly asserted as either possible, likely or uncertain (epistemic sub-modes), or necessary, desired or undesired (valuative deontic sub-modes). But the speaker is not ready to back up the assertion with evidence or other strong grounds; and challenge from the hearer is readily entertained, expected or even solicited." (Givón 1994: 268) Accepting these more fine-grained definitions instead of the traditional contrast between propositions describing real and unreal states of affairs has the advantage of incorporating subjective certainty into the theory: instead of talking about realis and irrealis only, we will be able to take into consideration different points of view, such as the speaker's, the matrix subject's or the hearer's. The definitions presented above can be easily applied to complement clauses as well (exact definitions will be given later on).

Givón claims that the subjunctive in complement clauses is closely related to the irrealis modality, more specifically it occupies two coherent regions along the two sub-dimensions of irrealis, these being:

- within the epistemic sub-dimension: the subjunctive of lower certainty
- within the deontic sub-dimension: the subjunctive of weaker manipulation.

Crosslinguistically, the subjunctive may express both functions in a given language (as in Spanish), or there may be two different forms corresponding to the two functions (as in Bemba, a Bantu language). Thus, Givón predicts that "if a language has a grammaticalized subjunctive, then it is most likely to appear at those two foci along the two irrealis sub-dimensions." (Givón 1994: 278)

Givón also proposes a complementation scale, i.e. an ordering of matrix predicates along two parallel dimensions: the semantic dimension of event integration and the syntactic dimension of clause integration. The main semantic categories of the resulting scale are represented in Figure **1** below:

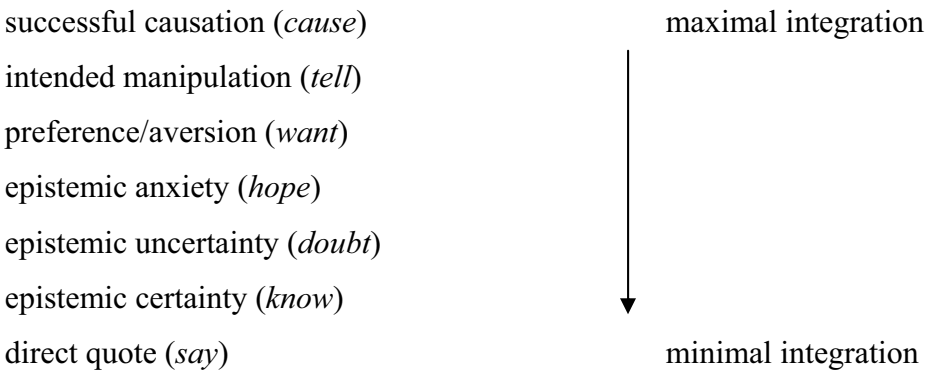


**Figure 1**

Predicates appearing on the scale tend to have infinitive, subjunctive or indicative complements across various languages. The most likely occurrence of the subjunctive is in complements of predicates located in the modal domains of:

- weak intended manipulation (*tell, ask, suggest*)
- preference/aversion (*want, wish, prefer, reject*)
- epistemic anxiety (*hope, fear*)
- epistemic uncertainty (*doubt, suspect*)

Givón notes that the subjunctive is always triggered by weak manipulation verbs, however, the specific verb on the above scale where the subjunctive takes over the role of the infinitive and the one where the indicative appears may change from one language to another.

To make the discussion simpler, we will consider two languages: Spanish and English (based on Givón's analysis) to illustrate the exact location of the cut-off point between

infinitive and subjunctive[55], and between subjunctive and indicative complements on the scale. Then we will examine whether the scale can adequately capture mood distribution in Hungarian, i.e. whether the different moods occupy coherent regions on the scale.

As Givón observes, in Spanish the predicates *mandar* 'order' and *aconsejar* 'advise' allow both infinitive and subjunctive complements, the former coding stronger manipulation, the latter weaker. In English, *order* takes only infinitive complements, it expresses stronger manipulation than *mandar* in Spanish. However, *advise* allows both types of complements in English. If we move lower on the scale, *decir* 'tell' and *pedir* 'ask' do not select infinitive complements, the subjunctive is required in Spanish, hence, this is the cut-off point in Spanish. However, in English weak manipulation verbs may select both types of complements, thus, in English the cut-off point between infinitive and subjunctive complements appears at a lower point of the scale, with predicates expressing preference/aversion, such as *prefer* and *wish*, since *wish* expresses primarily a desire, and only marginally a demand (and in the latter case it can have an infinitive complement).

The cut-off point between indicative and subjunctive complements in both languages is to be found between predicates of low epistemic certainty (*no creer* 'not believe', and *think* may take subjunctive and indicative complements), while predicates expressing epistemic certainty (*saber* 'know', and *know*) take indicative complements.

Infinitive complements are allowed in Hungarian under certain predicates of the scale to be presented below, however, infinitive complements are grammatical only under special circumstances: co-reference of the matrix subject and the subject of the subordinate clause is required. Since the present analysis focuses on finite subordinate clauses, the only cut-off point to be examined is the one between the subjunctive and the indicative. Nevertheless, it would be interesting to include infinitives in the discussion; this could be the task of future research.

Givón's semantic scale with Hungarian predicates is represented below:

successful causation (*megparancsol* 'order', *rávesz* 'persuade', *megenged* 'allow')
intended manipulation (*javasol* 'suggest', *megkér* 'ask', *tanácsol* 'advise')
preference/aversion (*kíván* 'wish', *elutasít* 'reject')
epistemic anxiety (*remél* 'hope', *fél* 'fear', *tart vmitől* 'be afraid of')
epistemic uncertainty (*kétli* 'doubt', *úgy véli* 'believe')
epistemic certainty (*biztos* 'be sure', *tud* 'know')
direct quote (*mond* 'say')

[55] In English we can talk about a kind of notional subjunctive here.

Above the dividing line we find subjunctive proper and imperative complements, and below the dividing line the indicative is licensed. Thus, both non-indicative moods and the indicative occupy a continuous region. However, we have not taken into consideration the conditional (and infinitive complements have also been excluded from the investigation), but a detailed analysis of these phenomena lies out of the scope of the present study. The role of matrix negation is also to be considered later.

Givón's analysis outlined above can also capture mood variation under a given predicate, if we suppose that different senses of the predicate in question licensing different moods in the complement occupy different places on the scale. A further advantage is that a more fine-grained definition of the realis/irrealis opposition has been introduced. Accordingly, it is possible to make more successful predictions about mood distribution in various languages.

### 3.2 Noonan's analysis (1985)

It is interesting to compare the approach outlined above with another one, that of Noonan (1985). Noonan's analysis, while its basics are quite similar to Givón's approach, does not focus on the subjunctive, but tries to capture the indicative-subjunctive opposition. According to Noonan, subjunctive[56] complements are usually somehow dependent on the matrix predicate, i.e. their meaning is closely related to that of the matrix predicate. If a language has an indicative-subjunctive contrast, it may reflect three kinds of dependency between the matrix predicate and its complement. Languages may vary in the type of dependency that is coded by the subjunctive. The following kinds of dependencies have to be taken into consideration (Noonan 1985: 92):

**(i) time reference dependency**

a complement has dependent time reference if its time reference is a consequence of the meaning of the matrix predicate, typically the complement is future oriented with respect to the matrix clause, but other kinds of dependency also exist.

e.g. directive predicates: *order*, *convince*, desiderative predicates: *want*

(ii) **epistemic (truth-value) dependency**

a complement exhibits epistemic dependency when it is embedded under a predicate expressing the subject's commitment to the truth of the embedded proposition

e.g. propositional attitude predicates: *believe*, *doubt*

[56] Noonan (1985) uses 'subjunctive' as a neutral term covering any opposing mood to the indicative in complement clauses.

(iii) **discourse dependency**

a complement is discourse dependent if the propositional content of the complement is part of the common ground (i.e. of the mutually presupposed propositions) of the discourse participants

e.g. factive predicates: *regret*, *be glad*

The dependencies mirror Givón's complementation scale, though some of the semantic categories are collapsed here, cf. Figure **2**.

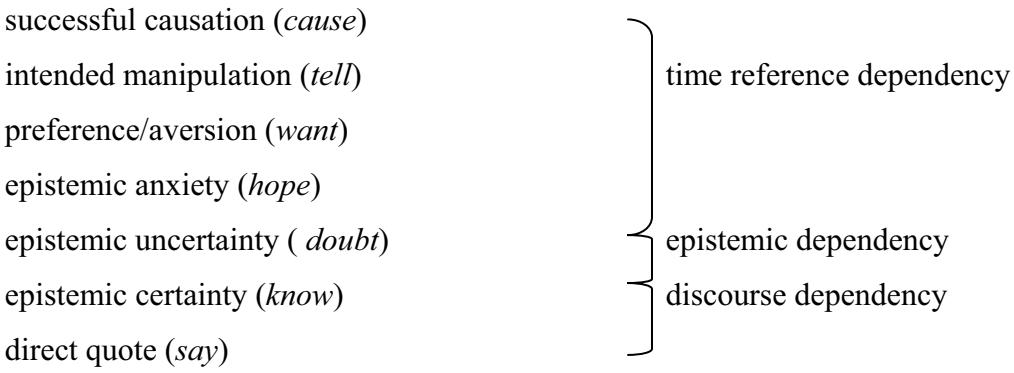


**Figure 2**

The following predictions are made by the analysis in question:

1. Crosslinguistically, complements with dependent time reference typically have future time reference with respect to the time reference of the matrix clause and are usually coded by the subjunctive. Directives, desideratives, permissives, purposives belong to the group of predicates with time dependent complements. As opposed to this, predicates taking complements with independent time reference in general belong to the group of assertives or epistemics, thus, they tend to license the indicative in their complements.

2. Turning to complements with epistemic dependency, it is obvious that these often have independent time reference, since it is possible to think, believe or doubt things about the past, the present or the future. Thus, complements of these predicates usually contain an indicative verb form.

3. Discourse dependent complements express propositions about actual events or facts, they are presupposed to be true, thus, we expect such complements to be in the indicative.

As Noonan notes, Lori (a dialect of Persian) and Bulgarian are languages in which the cut-off point between subjunctive and indicative complements is located exactly on the boundary between time reference dependency and epistemic dependency (cf. Figure **2**). Consider the following Bulgarian examples adopted form Noonan (Noonan 1985: 94–95) with independent time reference having an indicative verb form:

(19) Misli, če vie ste umoren.
thinks COMP you be.IND tired
'He thinks that you are tired.'

(20) Dobre, če te sreštax.
good COMP you meet.PAST.IND
'It's good that I met you.'

and complements with dependent time reference that contain a subjunctive verb form:

(21) Iskam da kupja.
want COMP buy.SUBJ
'I want to buy.'

(22) Veče započnaxa da minavat.
already begin.PAST COMP pass by.SUBJ
'They've already begun to pass by.'

Thus, Noonan's and Givón's predictions about the subjunctive are quite similar, both approaches establish a scale/classification of complements (the former of these being more detailed). Accordingly, both analyses capture mood phenomena under the same classes of predicates, and highlight a continuous range where the subjunctive is most likely to appear. However, there is a slight difference with respect to the exact placement of the boundaries of the subjunctive.

Recapitulating on what has been said so far about a complementation scale and various complement dependencies, we can try to provide a more subtle definition of complements with realis modality versus those with irrealis modality. As we have learned from the analysis of mood distribution in subordinate and matrix clauses, these truth-functional categories indeed play a major role in interpreting the distribution of the indicative and the subjunctive, though other factors must also be taken into consideration to be able to explain mood distribution.

Complements with **realis** modality can be characterised by one of the following two parameters:

(i) **real**: complements representing factual states of affairs

e.g. discourse dependent complements and complements of assertives

(ii) **probable**: complements representing probable states of affairs, on the basis of some background information the clause tries to capture factual reality

e.g. complements of positive propositional attitudes

Complements with **irrealis** modality can be characterised by one of the following two parameters:

(i) **possible**: complements representing possible states of affairs; neither the speaker, nor the embedded subject is committed to the truth of the complement, such complements have relatively low information value

e.g. complements of negative propositional attitudes

(ii) **unreal**: complements representing non-factual, hypothetical states of affairs, such complements have low information value, often an element of anticipation is present

e.g. time dependent complements, complements of counterfactive predicates

Individual languages may differ in the cut-off point where indicative complements are replaced by subjunctive ones on the revised realis-irrealis scale above. As Noonan notes in Russian or in Persian the realis/irrealis distinction adequately captures the use of the indicative and the subjunctive: complement clauses are in the indicative when they have realis modality, while the subjunctive appears in complement clauses with irrealis modality (Noonan 1985: 96–97). This is illustrated by the following Russian examples:

(23) Ja govorju, čto Boris pridët.
I say COMP Boris come.FUT.IND
'I say that Boris will come.'

(24) Ja dumaju, čto Boris pridët.
I think COMP Boris come.FUT.IND
'I think that Boris will come.'

(25) Ja somnebajus', čtoby Boris prišël.
I doubt COMP Boris come.SUBJ
'I doubt that Boris will come/came.'

(26) Ja xoču, čtoby Boris prišël.
I want COMP Boris come.SUBJ
'I want Boris to come.'

In Hungarian, the subjunctive seems to be more restricted in its use, within irrealis modality it cannot be used in all cases characterised by the unreal parameter: the indicative may also occur in the irrealis domain[57] besides occupying the entire region of realis modality. However, the subjunctive still occupies a contiguous range within irrealis modality. The most puzzling case is that of the counterfactive complements, which clearly should be placed under the 'unreal' label, thus, subjunctive complements are expected, but, in complements of *álmodik* 'dream' or *képzel* 'imagine' for example, the subjunctive would be ungrammatical.

[57] Here conditional complements also may surface.

Let us return now to the similarly puzzling case of Spanish, where the subjunctive is grammatical in almost all types of complements, i.e. in complements representing unreal, real or possible states of affairs.[58] Thus, the subjunctive in Spanish occupies a discontinuous range on the scale proposed above. To account for this the assertive/non-assertive distinction has been introduced by various scholars (for details cf. Chapter **2**).

**4 Direction of fit**

According to Searle (1976), utterances can be classified depending on the direction of fit between their propositional content and the world referred to. There are cases when the utterance describes a given state of affairs and there are cases when the utterance itself serves to create a world, more specifically

> "some illocutions have as part of their illocutionary point **to get the words** (more strictly – their propositional content –) **to match the world**, others **to get the world to match the words**." (Searle 1976: 3, my emphasis)

Hence, the illocutionary point of assertions is to describe a given state of affairs, thus, their direction of fit is **words to world**, but directives and commissives have **world to words** direction of fit, since the speaker tries to bring about a state of affairs that does not exist at the moment of uttering the words.

Regarding the distribution of moods in matrix clauses this means that in assertions the indicative fulfils a world-describing role, while the imperative in directives and the subjunctive/conditional in optatives have a so called world-changing function (though there is a significant difference between directives, on the one hand, and optatives, on the other hand, since the state of affairs described in a directive utterance is expected to be brought about, but this is not necessarily the case with optatives).

Concerning complement clauses, the following assumption has been made by Farkas (1992a) about the connection between the mood of the complement clause and direction of fit:

indicative – words to world direction of fit

subjunctive – world to words direction of fit

i.e. the indicative is licensed in complement clauses with words to world direction of fit, and the subjunctive appears in complement clauses with world to words direction of fit.

Let us examine now whether the assumption above can adequately predict mood distribution in complement clauses. It is obvious that the semantics of the matrix predicate determines to a large extent the direction of fit of the embedded clause.

[58] In the case of possible complements the speaker avoids committing himself to the truth of the complement.

Under the hypothesis in question clauses embedded under assertive predicates, and in a rather interesting way complement clauses of fiction verbs, are correctly predicted to have an indicative verb form, since their direction of fit is words to world, even if this world-describing function applies in the latter case to an imaginary world. Similarly, factive predicates have a words to world direction of fit, thus, the indicative should appear in their complement clause, which is indeed the case in a number of languages (except for Spanish and French, where true factives select subjunctive complements).

According to the hypothesis, complements of directives, desideratives,[59] permissives and purposives are expected to have a subjunctive verb form, and this expectation is borne out crosslinguistically. However, the hypothesis is not void of some incorrect predictions, as pointed out by Farkas (1992a):

1. predicates of epistemic uncertainty and negative commitment (*doubt, be impossible*)

In some languages (e.g. French, Romanian, Spanish) such predicates take subjunctive complements (but not in Hungarian, where sometimes the conditional may also surface), but their direction of fit is words to world, thus, these predicates serve as counterexamples to the hypothesis. Hence, direction of fit is only one of the factors that influence mood choice.

2. commissives (*promise*)

Commissives, just like directives have a world to words direction of fit, but in most languages they govern the indicative (for example in Hungarian). Haverkate (2002) argues that the crucial difference between directives and commissives is that in a directive speech act the person giving the order needs the cooperation of the hearer in order to bring about the described state of affairs, thus, it is not granted. As opposed to this, in a commissive speech act the speaker[60] himself is responsible for the occurrence of the state of affairs in question. Thus, the speaker can take for granted the reality of the future event he refers to, and this fact motivates the use of the indicative.

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[59] Desiderative predicates have world to word direction of fit, and accordingly, they are expected to govern subjunctive complements:

(i) I wish you were here.

However, this prediction is not borne out in counterfactual contexts, when the wish expressed in the complement clause is anterior to the matrix clause. Consider the following example:

(ii) I wish he had been here yesterday evening.

In Hungarian, the conditional is licensed in similar contexts. It is a question not to be discussed here what kind of direction of fit can be associated with conditional clauses.

[60] In these cases the matrix subject and the subject of the embedded clause are supposed to be co-referential, consider:

| | | | | | | |
|---|---|---|---|---|---|---|
| (i) | Megígérem, | hogy | holnap | visszaadom | a | könyv-ed. |
| | promise | that | tomorrow | give back.IND | the | book-POSS |

'I promise that I will give you back your book tomorrow.'

3. The hypothesis has nothing to say about negation, it is not clear how matrix negation may affect the direction of fit of the embedded clause. There must be some change in direction of fit, otherwise change of mood triggered by matrix negation would be left unexplained.

Despite the aforementioned problems with the direction of fit approach, there are some advantages as well. First of all, the hypothesis can explain adequately why fiction verbs select the indicative, while other approaches usually run into difficulties here. Moreover, mood variation under polysemous predicates is also treated in a straightforward manner (however, other approaches could do it, too). For instance, under the assumption that *pensar* 'think' may denote different mental acts in Spanish it is clear why it can take both indicative and subjunctive complements (Haverkate 2002: 110):

(27) Hemos pensado que la major solución no es ésta.
have thought that the best solution NEG is.IND this one
'We thought that the best solution is not this one.'

(28) Hemos pensado que hables tú primero.
have thought that speak.SUBJ you first
'We thought that you should speak first.'

In the first sentence the direction of fit of the embedded clause is words to world, that is why the complement is in the indicative, while in the second sentence the use of the subjunctive can be motivated by the world to words direction of fit. As we have seen earlier, we can meet the same phenomenon in various languages.

**5 Summary**

Taking into consideration the assertive/non-assertive distinction, too, the table below represents the factors that so far have been found to be relevant to mood distribution in complement clauses. The relationship between the different factors and their predictions are also shown (regions occupied by the indicative are shaded).

| | | | | | | |
|---|---|---|---|---|---|---|
| assertive | independent time reference | realis | real | **factives** assertives | epistemic and discourse dependency | words to world direction of fit |
| non-assertive | | | probable | epistemics | | |
| | | | possible | | | |
| | | irrealis | unreal | **fiction verbs** | | |
| | dependent time reference | | | directives, desideratives, purposives, etc. | | world to words |

**Table 1 – Factors relevant to mood distribution**

The most problematic classes of predicates are marked in bold:

- factives: these are not assertive predicates (but they are not non-assertive in the given sense either), and in some languages they select subjunctive complements
- fiction verbs: though having unreal complements, these predicates crosslinguistically license the indicative in their complements, contrary to expectations.

To sum it up, we can say that approaches aimed at capturing the distribution of mood in complement clauses with respect to the realis-irrealis parameter are not entirely satisfactory, other factors also have to be taken into consideration. Nevertheless, the following tendencies can be observed:

- realis propositions tend to trigger the use of the indicative, except for propositions expressing presupposed backgrounded information (for instance complements of factives); true factive predicates license the subjunctive in some languages
- possible and irrealis propositions usually require the use of the subjunctive, but not in the complements of fiction verbs.

Thus, the subjunctive occurs in complements expressing low (irrealis) or relatively low (possible) truth-functional information.

The direction of fit approach to mood choice is more successful in its predictions, however, as it was pointed out above, it also runs into some empirical problems. With respect to mood distribution in Hungarian, we can state that if we slightly modify the hypothesis, and claim that the indicative is selected in clauses with words to world direction of fit, while non-indicative moods are licensed in the case of world to words direction of fit, the only problematic class is that of epistemics, as it was mentioned above, all other predictions turn out to be correct. However, this approach does not say anything about the role of matrix negation in mood choice, which is a serious drawback.

## CHAPTER 4

## EXPLAINING MOOD CHOICE 3: MOOD AND MODALITY

### 1 Introduction

The fundamental purpose of this chapter is to investigate mood choice and mood variation in complement clauses in Hungarian in a more detailed fashion and to argue that semantic factors play a crucial role in mood selection. The discussion is organized in the following way:

- Section 2 presents an overview of mood phenomena in Hungarian complement clauses as it will be addressed now.
- Since it may be assumed that notional mood is the manifestation of modality, the basic assumptions and the necessity of relativising truth (Farkas 1992a, 1992b) are briefly discussed in section 3.1 and 3.2.
- In the following two sections (3.3 and 3.4) two fundamental questions related to mood phenomena in general will be examined, namely
    (i) what kinds of factors influence mood choice in complement clauses?
    (ii) what is the effect of matrix negation on mood choice?

A potential answer to these questions is outlined in section 3.3 based on the semantic notion of veridicality in a Stalnakerian framework (Giannakidou, 1998). However, the study of veridicality still leaves certain questions about mood variation in complement clauses unanswered. Section 3.4 is concerned with these open problems and explores them in terms of Kratzer's theory of modality (Kratzer 1981, 1991) and its adoption to mood choice by Giorgi and Pianesi (1997).

- a novel account to explain mood choice in complement clauses proposed by Farkas (2003) is outlined in section 3.5 and is applied to Hungarian. This approach is based on the notion of context change potential (Heim, 1992) within an OT framework.
- Finally, section 4 summarizes the findings arguing that semantic factors indeed are crucial to understanding mood distribution in Hungarian complement clauses.

### 2 The data

As we have seen earlier, research on mood traditionally focuses on the selection of finite verb forms in complement clauses depending on various features of the embedding predicate. In Chapter **2** a classification of matrix predicates has been adopted in order to be able to study mood distribution in Hungarian. Now we are going to examine mood selection properties of the emerging classes. The phenomena addressed here can be summarized in the tables below,

representing mood choice under various groups of predicates both in affirmative and negated matrix clauses. Table **1** and Table **2** show indicative and non-indicative licensing in complement clauses in Hungarian.[61] The rows representing the mood selection properties of assertives, epistemics and fiction verbs are marked since, as we will see later, these groups exhibit rather interesting behaviour with respect to mood choice, i.e. under matrix negation mood variation occurs.[62] Consider the following examples:

(1) Peti nem hiszi, hogy Mari
Peti not believes that Mari
meggyógyul/meggyógyulna/*meggyógyuljon holnap-ra.
get well.PRES.IND/COND/*SUBJ tomorrow-BY
'Peti does not believe that Mari will get well by tomorrow.'

(2) Peti nem állítja, hogy tegnap mozi-ban volt/lett volna.
Peti NEG claims that yesterday cinema-IN be.PAST.IND/COND
'Peti doesn't claim that he had gone to the cinema yesterday.'

(3) Peti nem is álmodott ar-ról, hogy eljut/eljusson Ameriká-ba.
Peti NEG even dreamt that-ABOUT that go.IND/SUBJ America-TO
'Peti has never dreamt about going to America.'

| Matrix predicates | Example | Affirmative | Negative |
|---|---|---|---|
| **1. True factives** | *örül* 'be glad' | + | + |
| **2. Semifactives** | *emlékszik* 'remember' | + | + |
| **3. Epistemics** | *hisz* 'believe' | + | + |
| **4. Assertives** | *mond* 'say' | + | + |
| **5. Fiction verbs** | *álmodik* 'dream' | + | + |
| **6. Directives** | *parancsol* 'order' | - | - |
| **7. Permissives** | *megenged* 'allow' | - | - |
| **8. Purposives** | *törekszik* 'strive' | - | - |
| **9. Desideratives** | *kíván* 'wish' | - | - |

**Table 1 – Indicative licensing in complement clauses**

[61] For the sake of simplicity I assume that the embedded clauses are neutral affirmative simple sentences, i.e. for the time being I do not deal with negation in the complement clause or with complement clauses where the focus position is filled.
[62] The fact that matrix negation influences mood choice in complement clauses serves as evidence in support of the assumption that semantic factors play a crucial role in mood selection.

| Matrix predicates | Example | Affirmative | Negative |
|---|---|---|---|
| **1. True factives** | *örül* 'be glad' | - | - |
| **2. Semifactives** | *emlékszik* 'remember' | - | +?[63] |
| **3. Epistemics** | *hisz* 'believe' | -[64] | + |
| **4. Assertives** | *mond* 'say' | - | + |
| **5. Fiction verbs** | *álmodik* 'dream' | - | + |
| **6. Directives** | *parancsol* 'order' | + | + |
| **7. Permissives** | *megenged* 'allow' | + | + |
| **8. Purposives** | *törekszik* 'strive' | + | + |
| **9. Desideratives** | *kíván* 'wish' | + | + |

**Table 2 – Non-indicative licensing in complement clauses**

The data given in Tables **1** and **2** makes it clear (and it was also argued in Chapter **3**) that the traditional realis/irrealis view of mood choice – namely that the indicative is licensed in clauses representing reality, while non-indicative moods are restricted to non-realis clauses (Klemm 1931; Tompa 1962; Pataki 1984) – does not explain mood choice under predicates belonging to groups 3, 4 and 5: the predicates in question do not embed clauses describing real states of affairs, however in case of affirmative matrix clauses the indicative is licensed in their subordinate clause. We have also seen in Chapter **3** that the approach related to direction of fit cannot in itself explain mood choice, either. Thus, the following questions arise:

1. What kinds of factors influence mood choice in complement clauses?
2. How can we explain the effect of matrix negation upon mood choice?

I will investigate two hypotheses in order to address these questions. Both hypotheses explore the relation between certain semantic characteristics of the matrix predicate and the mood of the embedded clause. According to the first hypothesis the veridicality of the matrix predicate is a crucial factor in mood choice (cf. section 3.3), while the second one supposes that the modality of the predicate also has to be taken into consideration (cf. section 3.4). Since both accounts are related to modality and both assume a Stalnakerian model of conversation in the following sections the relevant notions are introduced.

[63] In the case of semifactives matrix negation may result in loss of factivity, and accordingly, mood variation may occur. We will return to this phenomenon later on in the discussion.
[64] As we will see later, non-indicative moods are licensed under epistemic predicates with an inherently negative meaning, cf. example (24), under assertives the same phenomenon may occur, for instance under *tagad* 'deny'.

## 3 Modality

### 3.1 Introduction

Recent accounts of mood choice often consider notional mood to be a manifestation of modality. These theories treat sentence-embedding predicates in a similar fashion to modal operators. Taking an utterance expressing epistemic modality as an example,

(4) John must be unmarried.

can be paraphrased as 'From the information we have I (the speaker) confidently infer that John is unmarried.' or more precisely 'In every world that is compatible with the information available in the current conversation, John is unmarried.'

The following sentence can be interpreted in a similar fashion:

(5) Peter believes that John is unmarried.

Namely, it can be paraphrased as 'In every world compatible with Peter's beliefs, John is unmarried.'

The sets of worlds in question are determined by the so called accessibility relation. The accessibility relation picks out those worlds that are relevant to the interpretation of the clause, i.e. in the above examples it establishes the worlds compatible with the information available in the conversation and with Peter's beliefs, respectively. Now, as Portner notes "modal theories of mood claim that mood marks the properties of the accessibility relation associated with the governing operator." (Portner 1999: 7)

### 3.2 The relativisation of truth

In the framework outlined above Farkas (1992a) first elaborates the traditional idea that the indicative is related to realis assertion, whereas the subjunctive is the mood of irrealis. The starting point of the discussion is the assumption that the truth of the complement clause influences mood selection: the indicative is licensed in complements that are true, while other moods are associated with complements that are not true. However, the truth of an embedded proposition may depend on whose point of view we take: the speaker's or the matrix subject's. For instance, in the example above, it might be the case that the speaker disagrees with Peter and takes the embedded proposition: *John is unmarried.* to be false. Thus, Farkas restricts the notion of truth of a proposition to individuals, she argues that a proposition can be true or false as far as a particular individual is concerned; the individual in question will be the **individual anchor** of the proposition. Technically that can be achieved by assuming that propositions are evaluated with respect to possible worlds, and individual anchoring is attained by relating worlds to individuals. For example,

(6) *x* believes that *p*.

requires that *p* be true in $w_{R(x)}$ i.e. *p* is true in a world that represents the actual world according to *x*, *x* being the individual anchor.

Turning to mood choice in complement clauses it is crucial who the individual anchor is taken to be. This is quite important, since for instance in the case of positive epistemics (*think, believe*) the propositional content of the complement is true of the actual world as far as the matrix subject is concerned (i.e. the matrix subject is the individual anchor), but it is not necessarily true when anchored to the speaker. Crosslinguistically the indicative is grammatical in the complements of assertives (*say, claim, assert*) and positive epistemics, and as we have seen the matrix subject turns out to be the primary anchor. Thus, Farkas claims that the following connection can be established between the evaluation of complements and the mood of the complement clause: if the complement proposition is true as far as the matrix subject, the individual anchor is concerned, the indicative is licensed, in other cases a non-indicative mood is selected.

This assumption seems to be violated by the mood selection properties of fiction verbs (*dream, imagine*), where the matrix subject obviously does not consider the complement proposition to be true, however, in the complement clauses of fiction verbs consistently across various languages the indicative is licensed. According to Farkas, a common property of positive epistemics and fiction verbs is that the propositional content of their complement is true in **a particular world anchored to their subject,**[65] the only difference being that in the former case the world in question represents reality, but in the latter case it is a fictitious world. Farkas argues that mood choice is not sensitive to this difference, the only crucial factor being that the proposition is interpreted with respect to a particular world.[66]

Thus, positive epistemics and fiction verbs (extensional predicates)[67] introducing a single world can be contrasted with predicates that introduce a set of worlds (intensional predicates). Farkas claims that mood choice in complement clauses depends on the modal anchor, i.e. the world or worlds with respect to which a proposition is interpreted. The following notions are introduced:[68]

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[65] However, when the complement clause is not an object but a subject clause, for instance in the case of *it is likely, it is possible*, the complement is true in a world anchored to the speaker.

[66] As Portner (1999) notes, it is problematic to say that any predicate introduces a single world, since one's beliefs for instance are never specific enough to pick out just one world. Nevertheless, in Farkas's approach this characteristic of matrix predicates plays quite an important role, it turns out to be a distinctive feature; that is why it is kept here.

[67] I find this terminology a bit confusing, since *believe* for example is an intensional predicate. I would rather use the more widely accepted terms 'weak intensional predicates' and 'strong intensional predicates', respectively (cf. Farkas 1985; Quer 2001).

[68] I restricted the notions in question to complement clauses.

**Definition 1:**

(i) A proposition is **extensionally anchored** if and only if the modal anchor is a single world, i.e. it is interpreted with respect to a particular world, the one introduced by the extensional predicate.

(ii) A proposition is **intensionally anchored** if and only if the modal anchor constitutes a set of worlds, i.e. it is interpreted with respect to a set of worlds, those introduced by the intensional predicate.

The aforementioned positive epistemics, assertives and fiction verbs all belong to the class of extensional predicates, their complements are extensionally anchored to the world they introduce. For example, positive epistemics introduce a world that represents the actual world as the referent of the matrix subject sees it.

Desideratives and directives are intensional predicates, their complements are intensionally anchored. For instance, directives introduce a set of worlds that are possible futures, and in a particular subset of these possible futures the complement clause of the directive is fulfilled, in its complement set it is not.

Having introduced the above notions Farkas proposes that "there is a correlation between intensional anchoring and the subjunctive and between extensional anchoring and the indicative". (Farkas 1992a: 100)

The analysis seems to be quite promising (though it is not void of problems, either; cf. Footnote 66), since it manages to overcome the difficulties that the traditional realis-irrealis view cannot cope with, namely fiction verbs are distinguished from directives and desideratives on the basis of their anchoring properties, thus it can be explained why the former group takes an indicative complement and the latter a subjunctive one. However, factive predicates neither really belong to the class of intensional, nor to the class of extensional predicates. Farkas argues that true factives do not introduce any world, the embedded proposition is anchored to the actual world, that is why they are compatible with the indicative in the majority of languages. Nevertheless, true factives also resemble directives and desideratives, since the attitude expressed does not anchor the complement proposition to any particular world, and this similarity explains why they can license the subjunctive in some languages.

## 3.3 Veridicality

### *3.3.1 The Stalnakerian model of conversation*

Giannakidou's (1998) analysis of polarity sensitivity in Greek exploits a similar notion, that of veridicality. Veridicality is also based on the relativisation of truth and the classes of predicates that Giannakidou differentiates turn out to be quite similar to the ones introduced in Farkas's work. However, as we will see later, Giannakidou's classification is more adequate and it proves to be more useful from the point of view of mood distribution. Nevertheless, before turning to the issue of veridicality we need to outline the essentials of the theory of assertions (Stalnaker 1979, 2002).

According to Stalnaker (1979), who laid down the foundations of a dynamic model of conversation, "an act of assertion is, among other things the expression of a proposition, something that represents the world as being a certain way." (Stalnaker 1979: 315) A **proposition**, as usual, is identified with the set of possible worlds in which it is true.

**Definition 2:**

Let $W$ be a set of indices of possible worlds, then a proposition $p$ can be defined as: $p \subseteq W$; and $p$ is true in a world $w \in W$ if and only if $w \in p$, otherwise $p$ is false in $w$.

Assertions are made in the context of a conversation, i.e. in a situation including a speaker with his beliefs and intentions and some other participants with their own beliefs and intentions to whom the speaker addresses his assertion. When a speaker utters a sentence, he has certain "presuppositions": propositions whose truth he takes for granted as part of the background of the conversation, i.e. he assumes that these propositions are true and he believes that his audience assumes them to be true as well. The speaker takes these propositions to be the **common ground** of the conversation, i.e. the propositions in question constitute the common or mutual knowledge of the participants.[69]

The common ground determines the **context set** of the conversation – the set of possible worlds compatible with the presupposed propositions in the common ground. Thus, the context set represents "live" options, alternative possibilities relevant to the conversation.

[69] According to Stalnaker (2002), it may be the case that the speaker does not believe the propositions in question, nevertheless he or she acts as if he/she believed them, treats them as propositions forming a common ground and assumes that the other participants do the same.

Stalnaker (2002) also points out that while in the simplest case the common ground is the mutual knowledge of the participants, however, there are "a number of ways in which what is presupposed may diverge from what is mutually known. […] One may make *assumptions*, and what is assumed may become part of the common ground, temporarily. One may *presume* that things are mutually believed without being sure that they are. That something is common belief may be a *pretense* – even a mutually recognized pretense." (Stalnaker 2002: 704) A more flexible definition of common ground is introduced in Stalnaker (2002), which is compatible with these phenomena. However, for our purposes the original definition will be satisfactory.

The more propositions are presupposed in the common ground, the smaller is the set of the candidates characterising the actual world. Each participant has his own common ground and context set, since the common ground contains implicit (not only shared, explicit) presuppositions as well, and obviously the context set may be influenced by these.

**Definition 3:**

(i) the set of propositions that the speaker takes for granted constitutes the common ground: $P \subseteq P(W)$

(i) the set of all possible worlds which are compatible with every proposition in the common ground constitutes the context set: $C(P) = \{w: \forall p \in P : w \in p \} = \cap P$.

As Stalnaker points out, "acts of assertions affect or are intended to affect […] contexts", i.e. making an assertion usually alters the context set in a particular way.[70] (Stalnaker 1979: 315) As conversation unfolds the context set is reduced step by step, by eliminating those possible worlds that are incompatible with what is said.[71] Thus, after asserting a sentence *s* with propositional content *p* in a conversation with *P* as its common ground, the new common ground will be *P'*, the set of propositions that are compatible with the assertion of *s*, $P' = P \cup \{p\}$. Regarding the context set, the participants of the conversation in question have to throw out all the worlds in *C(P)* that are not compatible with *p* (i.e. any world $w: w \notin p$), thus we end up with $C(P') = C(P) \cap \{p\}$, and *C(P')* contains all possible worlds compatible both with the previous assertions (provided that they have been accepted by the participants) and with *p*.

Consider the following example:

(7) Kate climbed Mount Toby. (Kratzer 1991: 645)

When (7) is asserted, its propositional content is added to the common ground, *P*. The intersection of the current context set, *C(P)* and the propositional content of the given utterance may not be empty, since in that case the context set would be eliminated altogether and there would not be any candidate for the actual world. Thus, (7) can be meaningfully asserted in a given conversation only if there are worlds in the context set in which Kate climbed Mount Toby.[72]

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[70] At least when the other participants accept the asserted proposition and it becomes part of their common ground.

[71] Here we have to assume that our way of thinking, when we participate in a conversation, is logical and consequent enough and we do not alter our previous presumptions.

[72] Dynamic theories of meaning, which originate in Stalnaker's work, have much more recent developments that are not touched upon here, since for our purposes the theory outlined above is sufficient. However, in section 3.5

*3.3.2 Defining veridicality*

Having introduced some relevant notions we can return to the issue of veridicality. The concept of veridicality was introduced by Montague (1969), and in its present form was used by Asher (1987), Zwarts (1995), and Giannakidou (1998). The definition below is adapted from Giannakidou's analysis of polarity sensitivity in Modern Greek. Thus, (non)-veridicality can be defined as follows (Giannakidou 1998: 106):

**Definition 4:**

Let $F$ be a monadic propositional operator. $F$ is **veridical** just in case $F(p) \rightarrow p$ is logically valid. Otherwise, $F$ is nonveridical.[73]

For instance, true factive predicates and semifactives (including perception verbs) are typical veridical operators, since

(8) I'm glad that Mary arrived.

(9) I saw that Mary arrived.

both entail the truth of the embedded proposition. As opposed to this, directives and desideratives are nonveridical operators, since they do not entail the truth of their embedded proposition.

In order to be able to capture the veridicality of predicates expressing various propositional attitudes, Giannakidou argues that a proposition can be true or false only with respect to an individual, and defines an individual's various **epistemic models** in the following way:

**Definition 5:** (Giannakidou 1998: 111)

Let $c$=<common ground: $P$, context set $C(P)$, $M$, $s$, $h$, $w_0$, $f$, ...> be a context (assuming a Stalnakerian conversational theory).[74]

A model $M(x) \in M$ is a set of worlds associated with an individual $x$, representing worlds compatible with what $x$ believes/dreams/takes the reported conversation to be.

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we will consider the notion of context change potential, which can be viewed as the common characteristic of the dynamic framework.

[73] It must be noted here that veridicality is a weaker notion than true factivity, since there $\sim F(p) \rightarrow p$ also holds. If one compares the veridical, non-veridical distinction with Karttunen's implicative, non-implicative contrast (Karttunen 1971a), or with his true and- semifactive opposition (Karttunen 1971b), then it is easy to see that veridical predicates contain both factive (including true factives and semifactives) and implicative verbs, while non-veridical and non-implicative verbs coincide. This is obviously the result of regarding matrix negation as a differentiating factor. With respect to matrix negation we must add that since veridicality has nothing to say about it, it is not surprising that when we turn to analysing mood choice under matrix negation we will run into difficulties.

[74] $s$ stands for the speaker, $h$ for the hearer, $w_0$ is the world of the utterance and $f$ denotes a function assigning values to variables. Parameters representing the time and place of the utterance can also be added to the tuple.

Thus, the notion of truth is now relativised to an individual's epistemic state. For instance, an unembedded assertion is true with respect to the speaker's belief state, however, when we deal with embedded propositions more than one models may become relevant, that of the matrix subject, and that of the speaker (cf. Farkas's notion of individual anchoring above).

Against this background the notion of veridicality can also be relativised:

**Definition 6:** (Giannakidou 1998: 112)[75]

Let $c$=<common ground: $P$, context set: $C(P)$, $M$, $s$, $h$, $w_0$, $f$, ...> be a context.

(i) A monadic propositional operator $F$ is **veridical** just in case $F(p) \rightarrow p$ is logically valid.

(ii) A monadic propositional operator $G$ is **relative veridical** if and only if it holds that $[[ G(p) ]]_c = 1 \rightarrow [[ p ]] = 1$ in some epistemic model $M(x) \in c$.

Epistemic models are: belief models, dream models, models of reported conversation, and nothing else.

(iv) Monadic propositional operators that do not satisfy (i) or (ii) are **nonveridical**.

As we have seen above epistemics, assertives and fiction verbs were non-veridical on the basis of Definition 4, however, such predicates turn out to be typical relative veridical predicates now, since the embedded proposition is true only in the model associated with the matrix subject: *su*, the epistemic agent: $[[ x \text{ believes } p ]]_c = 1 \rightarrow [[ p ]]_{MB(su)} = 1$, and it may be false in the model anchored to the speaker: $[[ x \text{ believes } p ]]_c = 1 \not\rightarrow [[ p ]]_{MB(sp)} = 1$.

As we have seen, Farkas and Giannakidou both define various groups of predicates on the basis of taking into consideration certain factors influencing the interpretation of the embedded proposition. Since Giannakidou's classification is more fine-grained and more adequate,[76] I will try to use and adopt her approach to mood choice in Hungarian.

*3.3.3 First hypothesis: indicative licensing*

The first hypothesis states that veridicality is an essential factor that influences mood selection. It is motivated by Giannakidou's (1998) analysis of Modern Greek. Giannakidou is primarily concerned with polarity phenomena, however, she notes that the notion of veridicality can be exploited in analysing mood phenomena, too. She claims that in Modern Greek the subjunctive particle *na* is licensed only by nonveridical predicates, while veridicals

[75] Giannakidou (1998) does not make a tripartite division related to veridicality, she talks about veridicality (including relative veridicality) and nonveridicality. However, the tripartite division introduced above will turn out to be extremely useful when we study mood choice.

[76] Cf. Farkas's treatment of factive predicates, which are neither extensional, nor intensional in her framework.

induce the indicative mood or deictic *na*.[77] The present analysis pursues this line of thought further and shows that in Hungarian there is a correspondence between veridicality, relative veridicality and nonveridicality on the one hand and mood selection in affirmative contexts on the other hand.

As we have seen in Section 3.3.2 above, true factive predicates are typical veridical operators, since the truth of (10) entails the truth of (11):[78]

(10) Peti örül, hogy Mari átment a vizsgá-n.
Peti is glad that Mari pass.PAST.IND the exam-ON
'Peti is glad that Mari passed the exam.'

(11) Mari átment a vizsgá-n.
Marit pass.PAST.IND the exam-ON
'Mari passed the exam.'

Epistemics, assertives and fiction verbs are relative veridical, since the embedded proposition is true in the model associated with the matrix subject: *su*, the epistemic agent:

$[[x \quad \textit{úgy} \quad \textit{véli} \quad p\ ]]_c = 1 \rightarrow [[\,p\ ]]_{M(su)} = 1$

$[[x \quad \textit{so} \quad \textit{thinks} \quad p\ ]]_c = 1 \rightarrow [[\,p\ ]]_{M(su)} = 1$

but it may be false in the model anchored to the speaker. Consider (12):

(12) Peti úgy véli, hogy Mari megérkezett tegnap,
Peti so thinks that Mari arrive.PAST.IND yesterday
de én tudom, hogy téved.
but I know that is wrong.
'Peti thinks that Mary arrived yesterday, but I know that he is wrong.'

As opposed to this, directives, such as *megparancsol* 'order' and desideratives, such as *kíván* 'wish' are nonveridical, since they do not entail the truth of their embedded proposition.

The first hypothesis about mood choice in Hungarian complement clauses based on the notion of veridicality – which focuses on the indicative for the time being – is the following:

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[77] In Modern Greek the indicative is not marked morphologically, the subjunctive is marked by particles: *na, ja na* and *as.* Giannakidou (1998) examines only *na* out of these and argues that it is ambiguous: it can be the subjunctive particle or it can have a special deictic use. For details I refer the reader to Giannakidou (1998). However, it has to be emphasized here that relative veridical predicates are not significant in Greek from the point of view of mood.

[78] In the case of semifactives, the presence of the referring word *úgy* 'so' in the matrix clause causes loss of veridicality. Consider the examples below:

(i) Mari látta, hogy Peti sír. – veridical
Mari saw that Peti cry.PRES.IND
'Mari saw Peti cry.'

(i) Mari úgy látta, hogy Peti sír. – nonveridical
Mari so saw that Peti cry.PRES.IND
'Peti seemed to Mari to be crying.'

**Hypothesis 1: indicative licensing**

(i) the indicative is licensed under veridical and relative veridical predicates

(ii) the indicative is never licensed under nonveridical predicates

The veridicality properties of the predicate groups introduced in Chapter **2** are summarized in Table **3**:

| | |
|---|---|
| 1. True factives | veridical |
| 2. Semifactives | veridical |
| 3. Epistemics | relative veridical |
| 4. Assertives | relative veridical |
| 5. Fiction verbs | relative veridical |
| 6. Directives | nonveridical |
| 7. Permissives | nonveridical |
| 8. Purposives | nonveridical |
| 9. Desideratives | nonveridical |

**Table 3 – Veridicality**

Veridical predicates are indicative inducing, as it is predicted by Hypothesis 1. In the case of relative veridicals, affirmative matrices license the indicative, but non-indicative moods may appear under negation, that is why these groups are marked. Finally, nonveridicals consistently do not select the indicative neither in affirmative, nor in non-affirmative contexts. Thus, we have gained natural classes of predicates with respect to indicative-licensing that can accurately capture the mood selecting properties of the matrices. The classes in question are the following:

*Class 1*: veridicals: true factives and semifactives

*Class 2*: relative veridicals: epistemics, assertives and fiction verbs

*Class 3*: nonveridididicals: directives, permissives, purposives and desideratives

Accordingly, Hypothesis 1 has been retained. In the following subsection further evidence is presented supporting the tripartite division of matrix predicates pursued here.

*3.3.4 Relative veridicality and discourse anaphora*

If we consider data about discourse anaphora (cf. Roberts 1989, 1997; Farkas 1992a) independent evidence is provided to differentiate the classes above, since indefinite NPs within the scope of nonveridical predicates cannot serve as antecedents to a definite NP appearing outside the scope of the predicate, while this observation does not hold for (relative) veridical predicates. Consider the following data:

In the case of the elements of Class 1, *veridicals,* discourse anaphora is always possible as it is illustrated by the examples below:

*True factive predicates:*

(13) Peti örül, hogy Mari vett egy ház-at$_i$.
Peti is glad that Mari buy.PAST.IND a house-ACC
A ház$_i$ szép és nagy.
the house beautiful and big.
'Peti is glad that Mari bought a house. The house is beautiful and big.'

*Semifactives:*

(14) Peti látta, hogy Mari egy új kocsi-val$_i$ jött.
Peti see.PAST that Mari a new car-INST arrive.PAST.IND
A kocsi$_i$ kinn áll a ház előtt.
the car outside is parked the house in front of
'Peti saw Mari arrive in a new car. The car is parked in front of the house.'

Members of the second class, *relative veridicals,* behave in a slightly different way. Let us consider first epistemics.[79] (a), (b) and (c) are possible continuations of (15).

*Epistemics:*

(15) Peti úgy véli/gondolja, hogy Mari vett egy ház-at$_i$.
Peti so reckons/thinks that Mari buy.PAST.IND a house-ACC
'Peti reckons/thinks that Mari bought a house.'

(15) a. #A ház$_i$ szép és nagy.
the house beautiful and big
'The house is beautiful and big.'

(15) b. Peti szerint a ház$_i$ szép és nagy.
Peti according to the house beautiful and big
'According to Peti the house is beautiful and big.'

[79] Obviously, on the reading interesting for us here the indefinite NP has a de dicto reading, i.e. the embedding predicate takes wide scope over the indefinite NP.

(15) c. Peti úgy véli/gondolja, hogy a ház$_i$ szép.
Peti so reckons/thinks that the house beautiful
'Peti reckons/thinks that the house is beautiful.'

Since epistemics do not have discourse scope (cf. Roberts 1989, 1997), the default model, the speaker's belief state is activated in the case of (a), and thus there is no appropriate antecedent for the definite NP. The anaphoric link can only be established if the individual model is explicitly introduced again, i.e. the second proposition is interpreted with respect to the same model, Peti's epistemic state, as in (b) and (c) (Roberts 1989, 1997).

With assertives accommodation can occur, i.e. the embedded proposition can be accommodated into the model of the subsequent utterance, into the representation of the actual world, this is illustrated by (a). Iterating the predicate again results in discourse anaphora, as in (b):

*Assertives:*

(16) Peti az-t mondta, hogy Mari vett egy ház-at$_i$.
Peti it-ACC say.PAST that Mari buy.PAST.IND a house-ACC
'Peti said that Mary had bought a house.'

(16) a. A ház$_i$ szép és nagy.
the house beautiful and big
'The house is beautiful and big.'

(16) b. Peti az-t is mondta, hogy a ház$_i$ szép.
Peti it-ACC also say.PAST that the house beautiful
'Peti also said that the house is beautiful.'

*Fiction verbs* are especially interesting:

(17) Peti az-t álmodta, hogy Mari vett egy ház-at$_i$.
Peti it-ACC dream.PAST that Mari buy.PAST.IND a house-ACC
A ház$_i$ szép volt és nagy.
the house beautiful was and big
'Peti dreamt that Mary bought a house. The house was beautiful and big.'

The indefinite NP introduces its referent only into Peti's dream model; however, the definite NP of the following utterance can still refer back to it, just as in the case of assertives and simple assertions:[80]

[80] However, there is a remarkable difference between fiction verbs and assertives/main assertions with respect to the tense of the second utterance: if we eliminate the past tense copula, the anaphoric link is lost in the case of fiction verbs and the utterances become incoherent. In my opinion the past copula signals that the second

(18) Mari vett egy ház-at$_i$. A ház$_i$ szép.
Mari buy.PAST a house-ACC the house beautiful.
'Mari bought a house. The house is beautiful.'

To sum it up, in the case of veridicals (Class 1), discourse anaphora is always possible, while in the case of relative veridicals (Class 2), either the predicate has discourse scope (fiction verbs) or in some way the construction can be rescued (iterating the matrix predicate, accommodation). *Nonveridical predicates* (Class 3) behave quite differently with respect to discourse anaphora. As the examples below will show, an explicit modal or an opacifying predicate is required to be present in the second utterance in order to establish the anaphoric relation, otherwise the construction is not acceptable.

*Nonveridical predicates:*

(19) Peti utasította Mari-t, hogy írjon egy esszé-t$_i$.
Peti order.PAST Mari-ACC that write.SUBJ a essay-ACC
'Peti ordered Mari to write a composition.'

(19) a. #Az esszé$_i$ öt oldalas lesz.
the essay five pages will be.IND
'The composition will be of five pages.'

(19) b. Az esszé-nek$_i$ öt oldalas-nak kell len-ni-e.
the essay-DAT five pages-DAT must be-INF-3SG
'The essay will have to be of five pages.'

(19) c. #Peti utasítás-a szerint az esszé$_i$ öt oldalas lesz.
Peti order-POSS according to the essay five pages will be.IND
'According to Peti's order the composition will be of five pages.'

(19) d. Peti utasítás-a szerint az esszé-nek$_i$ öt oldalas-nak
Peti order-POSS according to the essay-DAT five pages-DAT
kell len-ni-e.
must be-INF-3SG
'According to Peti's order the composition will have to be of five pages.'

(20) Peti ar-ra vágyik, hogy legyen egy saját autó-ja$_i$.
Peti it-ON desires that have.SUBJ a own car-POSS
'Peti desires to have his own car.'

---

utterance should still be interpreted in Peti's dream model, i.e. it fulfils the same role as iteration of the matrix predicate.

(20) a. #Az-zal$_i$ jár majd munká-ba.
it-WITHgoes then work-TO
'Then he will go to work by car.'

(20) b. Az a szándék-a, hogy az-zal$_i$ jár majd munká-ba.
that the intention-POSS that it-INST goes then work-TO
'He intends then to go to work by car.'

(20) c. *Peti vágy-a szerint, az autó$_i$ új lesz.
Peti desire-POSS according to the car new will be.IND
'According to Peti's desire the car will be new.'

(20) d. Peti vágy-a szerint az autó-nak$_i$ új-nak
Peti desire-POSS according to the car-DAT new-DAT
kell len-ni-e.
must be-INF-3sg
'According to Peti's desire the car will have to be beautiful and new.'

We have seen that based on the notion of (relative) veridicality natural classes of predicates emerge with respect to mood choice. Moreover, the study of discourse anaphora provided independent evidence that further motivates the introduction of the classes in question. Thus, the first question has been answered appropriately, Hypothesis 1 accounts for the phenomena depicted by the affirmative columns of Tables **1** and **2**. The next section is devoted to examining how the second columns of Tables **1** and **2** can be handled; mood selection under negated matrix clauses is examined.

### 3.4 Kratzer's theory of modality (1981, 1991)

*3.4.1 The effect of matrix negation on mood choice*

Let us turn now to the second problem, to the issue of matrix negation. As it is shown in Tables **1** and **2**, true factives license only the indicative under negation, while nonveridical predicates (directives, permissives, purposives and desideratives) license only non-indicative moods when negated. Hence, Hypothesis 1's prediction about these predicates is correct even under negation: true factive predicates (being veridical) select the indicative, while nonveridicals opt for non-indicative moods, thus the first cells and the last 4 cells of the second columns have been accounted for. However, as we have seen, matrix negation may influence the mood of the embedded clause in the case of semifactives, epistemics, assertives and fiction verbs. Let us examine whether this can be explained in the framework outlined above. Consider first semifactive predicates.

If a semifactive predicate is negated, the conditional may also surface besides the indicative in the complement clause (cf. Table **2**). Thus, both (21) and (22) are grammatical:

(21) Peti nem fedezte fel/látta, hogy János és Mari veszekedtek.
Peti NEG realise/see.PAST that János and Mari quarrel.PAST.IND
'Peti didn't realise/see that János and Mari quarrelled.'

(22) Peti nem fedezte fel/látta, hogy János és Mari veszekedtek volna.
Peti NEG realise/see.past that János and Mari quarrel.PAST.COND
'Peti didn't realise/see that János and Mari quarrelled.'

The crucial difference between (21) and (22) is that when the indicative is selected, factivity is preserved, the truth of the complement is still taken for granted.[81] However, when the conditional is licensed under negated semifactive matrices, factivity is lost, the complement is no longer presupposed.[82]

Hence, in the case of factive predicates there is a correspondence with respect to the mood selected under a negated matrix and the issue of factivity. True factives are not altered by matrix negation and, as expected on the basis of the relation just mentioned, only the indicative is grammatical in the complement. Semifactives may lose their factivity under negation, more specifically, licensing the conditional signals that factivity is lost, while selecting the indicative is compatible both with preserving and losing factivity. Nevertheless, loss of factivity can be clearly indicated by the switch from indicative to non-indicative in the complement. This correspondence between factivity and mood selection explains the first two cells of the second columns in Tables **1** and **2**.

Let us turn now to the next three cells of the second columns in Tables **1** and **2**. As an example, consider first the assertive predicate *állít* 'claim', which is relative veridical. It is obvious that under an affirmative matrix the embedded clause is true in the model of the matrix subject:

$[[x \text{ állítja } p\ ]]_c = 1 \rightarrow [[\ p\ ]]_{M(su)} = 1$

However, *nem állít* 'not claim' as a composite operator is essentially nonveridical:[83]

$[[x \text{ nem állítja } p\ ]]_c = 1 \Leftrightarrow [[\sim(x \text{ állítja } p)\ ]]_c = 1 \Leftrightarrow [[x \text{ állítja } p\ ]]_c = 0 \rightarrow [[\ p\ ]]_{M(su)} = 0$

[81] Certain predicates, for instance *emlékszik* 'remember', may lose factivity even when the indicative is selected.
[82] It is worth mentioning that the introduction of the *úgy* referring word into the matrix clause also results in loss of factivity in the case of semifactive predicates, however in such cases only the indicative is grammatical.
[83] It is obvious that the embedded proposition may turn out to be true in the speaker's epistemic model. In that case *nem állít* 'not claim' is relative veridical, and this has to be signalled explicitly by the speaker:

(i) Peti nem állítja, hogy ő ∅/lenne a legjobb teniszező
Peti NEG claims that he be.IND/COND the best tennis player
az iskolá-ban, de …
the school-IN, but…
'Peti does not claim that he is/would be the best tennis player in the school, but…'

i.e. $[[x\ állítja\ p\ ]]_c = 1 \not\rightarrow [[p\ ]]_{M(su)} = 1$

$[[x\ claims\ p\ ]]_c = 1 \not\rightarrow [[p\ ]]_{M(su)} = 1$

Hence, according to the first hypothesis, non-indicative moods are expected to be licensed. This prediction is borne out. However, the indicative is also grammatical under negation, which is problematic in the present framework and needs further explanation.

In a similar fashion, mood variation may occur under negated fiction verbs (consider example (3) above) and negated epistemics (cf. Section 3.4.2 below).[84] The first hypothesis cannot explain mood variation under relative veridicals, that is, it cannot predict when the indicative is the only grammatical mood and when non-indicative moods may also appear in the embedded clause. In order to explore this phenomenon, I examined epistemics to a greater extent.

*3.4.2 Epistemics*

As it can be observed in Tables **1** and **2** above, epistemic predicates allow both indicative and non-indicative moods under negation, moreover, epistemics with an inherent negative feature also allow mood variation. The problem is that these predicates do not differ with respect to veridicality, and mood variation cannot be explained on the basis of Hypothesis 1. Consider the following examples of mood variation in the complement clauses of epistemics (the examples illustrate mood variation both under implicit and explicit negation):

(23) Kizárt, hogy Mari ma megérkezik/megérkezzen.[85]
out of the question that Mari today arrive.PRES.IND/SUBJ
'It is out of the question that Mari will arrive today.'

(24) Nem kizárt, hogy Mari ma megérkezik/megérkezzen.
not out of the question that Mari today arrive.PRES.IND/SUBJ
'It is not out of the question that Mari will arrive today.'

[84] Mood variation under negated epistemics raises a very interesting problem, i.e. whether there is a meaning difference signalled by the choice of the indicative, the conditional or the subjunctive in the subordinate clause. If there is indeed a meaning difference, future research should address the nature of the distinction.
[85] Please note that the meaning of *kizárt* 'out of the question' is inherently negative.

(25) Peti az-t hiszi, hogy Mari meggyógyul/*meggyógyuljon holnap-ra.[86]
Peti it-ACC believes that Mari get well.PRES.IND/*SUBJ tomorrow-BY
'Peti believes that Mari will get well by tomorrow.'

(26) Peti nem hiszi, hogy Mari
Peti not believe that Mari
meggyógyul/meggyógyulna/*meggyógyuljon holnap-ra.
get well.PRES.IND/COND/*SUBJ tomorrow-BY
'Peti does not believe that Mari will get well by tomorrow.'

(27) Lehetséges, hogy időben megérkezik/*megérkezzen.
possible that on time arrive.PRES.IND/*SUBJ
'It is possible that he will arrive on time.'

(28) Nem lehetséges, hogy időben megérkezik/megérkezzen.
not possible that on time arrive.PRES.IND/SUBJ
'It is not possible that will arrive on time.'

Mood selection properties of epistemic predicates are summarized in Table **4**. The order of the predicates in the table is based on the "strength" of epistemic modality expressed by the predicate. Thus, Table **4** represents an epistemic scale, which is based on the results of an experiment I designed to assess the truth likelihood of the embedded proposition according to native speakers' intuitions.[87]

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[86] As Simonyi (1877) and Klemm (1931) note, there is no meaning difference between the indicative and the conditional, however, the use of the subjunctive in the negated example indicates that the speaker expresses a wish in the embedded clause, while the indicative conveys a neutral opinion. Predicates behaving in a similar fashion are: *nem hiszi* 'not believe'*, bajosan hiszi* 'hardly think'*, kétségbe vonja* 'cast doubt on'. The same observation holds for fiction verbs (Klemm, 1931: 30):

(i) Hej! Nem is álmodta a nemzetes asszony,
hey NEG even dream.PAST the lady
hogy neki ez a nap ily örömet hozzon!
that she.DAt this the day such happiness bring.SUBJ
'Hey! The lady hasn't even dreamt that this day would bring such happiness to her.'

(ii) Nincs pénz-e és nem is tudja elképzelni, hogy valaha legyen.
NEG money-POSS and NEG even can imagine.INF that ever will be.SUBJ
'He doesn't have money and he cannot even imagine that ever will have.'

The subjunctive may also appear when the embedded proposition does not convey a wish or desire, then it is claimed to signal posteriority (Hadrovics, 1969: 277):

(iii) Nem hiszem, hogy az-t tegyék velem.
NEG believe that that-ACC do.SUBJ with me
'I don't believe that they would do it with me.'

Native speakers' intuitions about the meaning differences signalled by the choice of mood are not so straightforward as pointed out here. Exploring the exact nature of the differences is left for future research.

[87] As you will see below, the results of the experiment can be questioned from a theoretical point of view, since predicates expressing epistemic necessity and the ones expressing epistemic possibility cannot be differentiated on the basis of the scores received. Nevertheless, I still think that certain tendencies can be observed, and the resulting scale of epistemic predicates is more reliable than one mirroring the author's intuitions only would be.

| Modality | Epistemic predicates |
|---|---|
| Epistemic necessity | *szükségszerű* 'necessary': IND/SUBJ (71) |
| | *kell, muszáj* 'must': SUBJ (81) |
| Epistemic possibility: strong | *biztos* 'certain': IND (24.5) |
| | *nem kétséges, kétségtelen* 'indisputable': IND (34.5) |
| | *nem kétli* 'not doubt': IND (79.5) |
| | *valószínű* 'likely': IND (85) |
| | *lehet, lehetséges* 'possible': IND[88] (150) |
| | *nem kizárt, nincs kizárva* 'not out of the question': IND/SUBJ (151,5) |
| | *hisz* 'believe', *gondol* 'think': IND (154) |
| | *elképzelhető* 'conceivable': IND (158,5) |
| | *hihető* 'believable': IND (164) |
| | *elvileg elképzelhető* 'theoretically conceivable': IND/SUBJ (179) |
| Epistemic possibility: weak | *elvileg lehetséges lenne* 'slightly possible': IND/SUBJ (198) |

**Table 4 - Epistemic scale**

The experiment, which addressed only predicates expressing positive attitudes, was carried out in the following way. I made cards with a single predicate and an example sentence on them[89] and asked native speakers of Hungarian to put the cards into order according to how sure they were in the truth of the embedded proposition. 20 university students participated in the experiment (their average age was 21 years), who were randomly selected. Subjects were allowed to rank the cards[90] as equal if they did not feel any difference

[88] The conditional may also surface under *lehetséges* 'possible', however, with a special, future-oriented reading:

(i) Lehetséges, hogy elmennék.
possible that go.PRES.COND
'It is possible that I would go.'

Hence, this case is not relevant for the present discussion. This was pointed out to me by the anonymous reviewer of the paper to be published in *Approaches to Hungarian. Vol **10***.

[89] An alternate experiment should be carried out that varies the feature of co-reference between the speaker and the matrix subject. In the experiment outlined here I assumed co-reference, and the example sentences were construed accordingly.

[90] The cards that were given to the participants can be found in Appendix A.

between the predicates in question. The first position was that of the "most certain" predicate, that is, predicates expressing the highest epistemic possibility received the smallest scores in the experiment. If two predicates occupied the same position in the list, they received a score equal to the average of their ranks. For instance, if a speaker ranked *nem kétséges* 'indisputable' and *biztos* 'certain' as equal, and he assigned them to the first two positions, then both predicates received (1+2)/2=1.5 points. The scale was established on the basis of the mean of the scores received by the individual predicates, the scores gained in that way are included in Table **4**.[91]

Now, the question to be addressed is the following:

How can we explain mood variation in the embedded clauses of epistemics?

In order to provide an answer to this question I turned to Kratzer's theory of modality; the following analysis of mood choice in Hungarian has been motivated by Giorgi and Pianesi's related work on Italian (cf. Giorgi and Pianesi 1997).

*3.4.3 Conversational backgrounds*

Giorgi and Pianesi (1997) assume that mood choice is related to modality, and adopt a fine-grained theory of modality, the one developed by Kratzer (1981, 1991). Before discussing how this account can explain mood variation we need to outline the relevant notions.

As we have seen above, Stalnaker's conversational model handles "simple" assertions satisfactorily, however, if we want to interpret modalised sentences, other tools have to be introduced. In Kratzer's framework, two kinds of conversational backgrounds are crucial to the interpretation of modalised sentences besides the modal operator.

The notion of a conversational background is quite similar to that of a common ground,[92] it is an entity denoted by phrases like *in view of what we know, in view of what the law provides, etc.* A conversational background is a function specified by the utterance situation, a function that defines a set of propositions containing the premises from which the conclusion is drawn:

$f: W \rightarrow P(P(W)), f(w) \subseteq P(W)$

since for example what the law provides denotes a function, such as *f,* which assigns to every *w* in *W* a set of propositions, the set that the law provides in *w*.

[91] It is rather surprising that *biztos* 'certain' and *nem kétséges* 'indisputable' received higher scores than *szükségszerű* 'necessary' and *muszáj* 'must', however, in Table **4** the linguistic means expressing epistemic necessity and possibility are treated separately.

[92] More specifically, a common ground can be viewed as a special type of conversational backgrounds. We will return to the relation between common grounds and conversational backgrounds later.

In what follows the term conversational background will refer both to the function itself and to the set of propositions it defines. Kratzer (1981: 44–45) differentiates the following types of conversational backgrounds:

- **realistic**: *in view of facts of such and such kind…*

  $f$: $\forall w \in W : w \in \cap f(w)$

  $f$ assigns to every possible world a set of propositions which are true in that world
- **totally realistic**: *in view of what is the case…*

  $f$: $\forall w \in W : w \in \cap f(w) = \{w\}$ a set of propositions: those that are true in $w$

  $f$ assigns to every possible world a set of propositions which characterise it in a unique way
- **epistemic**: *in view of what is known…*

  $f$: $\forall w \in W : f(w)$ contains all those propositions which are established knowledge in $w$ – for a group of people, a community, etc.
- **stereotypical**: *in view of the normal course of events…*

  $f$: $\forall w \in W : f(w)$ contains all those propositions $p$ such that it is the normal course of events in w that $p$ – for someone, for a community, etc.
- **deontic**: *in view of what is commanded…*

  $f$: $\forall w \in W : f(w)$ contains all those propositions p such that it is commanded in $w$ that $p$ – by someone, by the law, etc.
- **teleological**: *in view of what is meant to fulfil a purpose…*

  $f$: $\forall w \in W : f(w)$ contains all those propositions $p$ such that it is meant to fulfil a purpose in $w$ that $p$ – by someone, by a community, etc.
- **bouletic**: *in view of what is desired…*

  $f$: $\forall w \in W : f(w)$ contains all those propositions $p$ such that it is desired in $w$ that $p$ – by someone, by a community, etc.
- **empty**:

  $f$: $\forall w \in W : f(w) = \varnothing$, i.e. $f$ assigns to each world the empty set.

As it was mentioned above, two functions are essential for the interpretation of modalised sentences besides the force of the modal operator in Kratzer's framework: the modal base and the ordering source. Please note that in a given situation both coincide with certain conversational backgrounds, depending on the modal used and on the context of utterance.

The first of these is called the **modal base**, $m: W \rightarrow P(P(W))$.

The modal base determines the set of worlds which are accessible from a given world *w* in the following way: *m* assigns to a $w \in W$ a set of propositions, and since every proposition is a set of worlds, in an indirect way the modal base determines the set of worlds where all propositions of *m(w)* are true, namely $\cap m(w)$.[93] (Kratzer 1981: 46) This set of worlds is usually called the **derived context set** (Roberts, 1989).

Modal bases can be expressed by linguistic means, for instance by phrases like *in view of the available evidence, in view of what we know,* or they can be specified by the utterance situation. Thus, if a modal is used in different contexts, different modal bases can be involved in the interpretation, yielding different readings of the modal operator. The modal base plays the role of an accessibility relation, it determines the set of worlds with respect to which the truth of the modalised proposition is evaluated. For instance, an epistemic modal base determines for a world *w* the set of worlds where what is known in *w* is true. As Roberts (1997) notes, modal bases are given pragmatically, in a given conversation the participants retrieve the modal base with the help of contextual clues and on the basis of their knowledge of the world.

The second is called the **ordering source**, $o: W \rightarrow P(P(W))$.

The ordering source assigns a set of propositions to a world *w*, such that these propositions represent what would be true under ideal circumstances (these can be counterfactual, too). The propositions in question induce an ordering on the set of worlds accessible from *w*, i.e. on $\cap m(w)$ determined by the modal base (Kratzer 1981: 47). As a result, only those worlds of the derived context set that are closest to the ideal given by *o(w)* will be in the domain of the modal operator. Thus, an ordering source makes it possible to compare the accessible worlds, it can be thought of as an entity denoted by phrases like *in view of what is normal/legal/rational, according to the law.* The **ordering** is defined in the following way (Kratzer 1991: 644):

**Definition 6:**

Let *A* be a set of propositions ($A \subseteq P(W)$), this set induces a partial ordering $\leq_A$ on *W* such that $\forall w, w' \in W : w \leq_A w'$ if and only if $\{p: p \in A \text{ and } w' \in p\} \subseteq \{p: p \in A \text{ and } w \in p\}$

[93] A world *w'* is accessible from *w* if and only if $w' \in \cap m(w)$.

Thus, a world *w* is at least as close to the ideal represented by *A* as a world *w'* if and only if all propositions of *A* which are true in *w'* are true in *w* as well. In other words, *w* is closer to the ideal than *w'* if and only if more propositions of *A* are true in *w* than in *w'*.

It is easy to prove that $\leq_A$ is a reflexive, antisymmetric and transitive relation, i.e. $\leq_A$ is a partial ordering on $W \times W$. Thus, worlds are ordered according to how many propositions in the ordering source they realise. As Giorgi and Pianesi put it, if *A* represents some sort of ideal or norm, then the greater is the number of propositions of *A* that are true in a world *z*, the closer *z* is to representing the ideal. Only those worlds of the derived context set that are the closest to the world representing the ideal given by the ordering source will be in the domain of the modal operator involved.[94]

To sum up, we can say that the main role of modal bases and ordering sources is to determine the actual context against which the truth of propositions is to be evaluated. Modal bases play the role of accessibility relations in modal semantics, a modal base specifies the worlds in which the proposition in the scope of the modal is to be evaluated. Ordering sources are related to the idea that a modalised sentence often implies the use of idealised states of affairs describing the way the world should be (*according to the law, according to what is the normal course of events*), they often consist of non-realistic sets of propositions – since norms and ideals are usually not true of the actual world. Thus, the evaluation of the modalised proposition is forced in those worlds of the modal base that capture the given ideal or norm better. (Giorgi and Pianesi 1997: 210) Either parameter may be filled with the empty conversational background. If the modal base is empty, then the derived context set: $\cap m(w)$ contains all the contextually relevant possible worlds, since for any *w*, $\varnothing \in w$ holds. If the ordering source is empty, then all worlds defined by the modal base (i.e. all worlds of the derived context set) are relevant to the interpretation of the modal.

Consider the following examples:

(29) Kate must have climbed Mount Toby. (Kratzer 1991: 645)

(29) receives an epistemic interpretation, the modal base is epistemic (it might be paraphrased as *in view of what is known*), in case of a world *w* it determines the set of worlds where what is known in *w* is true. The ordering source is stereotypical, it assigns to every world the set of propositions which represent the normal course of events in the world in question. Thus, *o(w)* orders the worlds determined by the modal base, i.e. the worlds in the derived context set, the worlds that are accessible from *w*. The proposition expressed by (29) is true in a world *w* if and only if the proposition in the scope of the modal is true in all those worlds of the derived context set that come closest to the ideal established by the ordering source.

[94] Lewis (1973) notes that there may be no such set of worlds, i.e. there may be no closest set of worlds.

(30) John may be sick. (Farkas 1992a)

The modal base is epistemic (*in view of what is known*), and it is realistic in Kratzer's terms, i.e. the actual world must be one of those worlds where all propositions of the modal base are true (the actual world is an element of the derived context set). (30) is true in a given world if and only if *John is sick.* is true in at least some worlds where all propositions of the modal base are true, since the modal force is possibility. The ordering source is empty.

(31) Ella might lift that refrigerator. (Roberts 1989: 688)

The modal force is again possibility, the modal base is circumstantial and realistic, since it is about what is possible in our world given certain kinds of facts. The speaker is making a claim in view of what is physically possible and normal in the actual world. The proposition will be true in a world *w* if and only if *Ella lifts the refrigerator.* is true in at least one possible world where all propositions of *m(w)* (facts about human strength, weight of refrigerators, gravity, etc.) are true. Again, the ordering source is empty.

Finally, let us consider the relationship between modal bases and common grounds. As we have seen, both depend on the context. In particular, as Giorgi and Pianesi note, a modal base can be a subset of the common ground, this is the case of epistemic modality, when the modal base captures portions of reality as described by *P*, but it also contains propositions that are incompatible with facts known about the actual world. According to Giorgi and Pianesi (1997) the following kinds of modal bases can be differentiated:

**(i)totally realistic modal base**: given a common ground *P* and its context set *C(P)* a modal base *m* is totally realistic if and only if $m(w) = P$ for every $w \in C(P)$. (Giorgi and Pianesi 1997: 209) Here the derived context set coincides with the context set: $\cap m(w) = \cap P$.

**(ii)realistic modal base**: given a common ground *P* and its context set *C(P)* a modal base *m* is realistic if and only if $m(w) \subseteq P$ for every $w \in C(P)$. (Giorgi and Pianesi 1997: 208) Now the context set is a subset of the derived context set, since more worlds are compatible with less information: $\cap P \subseteq \cap m(w)$.

**(iii)weakly realistic modal base:** given a common ground *P* and its context set *C(P)*, a modal base *m* is weakly realistic if and only if $m(w) \cap P \neq \emptyset$, for every $w \in C(P)$. (Giorgi and Pianesi 1997: 217) Here the only restriction is that the intersection of the derived context set and the context set be nonempty.

*3.4.4 Second hypothesis: non-indicative licensing*

As we are primarily interested in mood choice in Hungarian complement clauses, let us examine now which parameter is decisive in mood distribution in Hungarian. The discussion below has been motivated by Giorgi and Pianesi's work on Italian. Giorgi and Pianesi (1997) are primarily concerned with the morphosyntax of the Italian subjunctive, but they also touch upon the issue of mood choice in Germanic and Romance languages. More specifically, they claim that essentially two parameters are crucial in mood choice: "one concerning the presence/absence of a non-null ordering source, and the other the status of the evaluation context as to the realistic/non-realistic distinction." (Giorgi and Pianesi, 1977: 217) As Hungarian does not belong to either of the language families mentioned above it was quite an intriguing task to adopt Giorgi and Pianesi's suggestions and work out an adequate analysis of mood choice in Hungarian complement clauses.

As it was discussed above, when the ordering source is nonempty, the worlds of the derived context set are ordered with respect to an ideal defined by the ordering source itself. The ideal can be deontic or bouletic in nature, for instance. Informally, the intuitive relation between non-empty ordering sources and non-indicative moods may be captured if we keep in mind that the biggest difference between worlds of the derived context set and worlds of the context set can be observed when the ordering source is non-empty. This idea can explain why non-indicative moods are licensed cross-linguistically in complement clauses with a non-empty ordering source. Hence, the second hypothesis is the following:

**Hypothesis 2: non-indicative licensing (**1st version)

(i) predicates with a nonempty ordering source license non-indicative moods

(ii) in the case of predicates with an empty ordering source another factor becomes relevant, i.e. the degree of reality of the modal base

Table **5** presents the groups of predicates introduced in Chapter **2** and the nature of their ordering source.

| | |
|---|---|
| 1. True factives | empty |
| 2. Semifactives | empty |
| 3. Epistemics | empty[95] |
| 4. Assertives | empty |
| 5. Fiction verbs | empty |
| 6. Directives | nonempty |
| 7. Permissives | nonempty |
| 8. Purposives | nonempty |
| 9. Desideratives | nonempty |

**Table 5 - Ordering source**

As Table **5** shows, directive, permissive, purposive and desiderative contexts (elements of Class 3) have a nonempty ordering source, and as it is predicted, non-indicative moods are induced uniformly in affirmative and nonaffirmative contexts. However, the nature of the ordering source cannot explain the difference between Class 1 (true factive and semifactive verbs) and Class 2 (epistemics, assertives, fiction verbs): the former license the indicative (more or less) consequently, but the latter exhibit mood variation under negation. In order to provide an explanation for this the other factor has to be taken into account. As we have seen, according to Giorgi and Pianesi (1997) three kinds of modal bases can be differentiated (assuming a Stalnakerian framework of context): weakly realistic, realistic, and totally realistic. Let us consider now each of the predicate groups in turn:

1. and 2. *True factive and semifactive predicates:* Since the complements of such predicates are presupposed under affirmative matrices, they have a totally realistic modal base. More specifically, the modal base assigns to each world in the context set exactly those propositions which are in the common ground, thus $\cap m(w)$ equals the context set: the worlds that are compatible with everything the participants know in the conversation in question. Hence, the indicative is expected in the embedded clauses.

The same observation holds for true factives under negation, the modal base is still totally realistic, the derived context set coincides with the context set, and hence, the

[95] Kratzer (1991) suggests that a stereotypical ordering source may be present in the case of epistemic modals (cf. example (29) above). The account outlined here assumes that the ordering source of epistemics is empty, but argues for introducing a partial ordering on the worlds of the derived context set, yielding an ordering quite similar to the one that would emerge on the basis of a stereotypical ordering source. The crucial difference is in the nature of the set of propositions forming the base of the ordering: a stereotypical ordering source orders worlds with respect to an ideal where things proceed normally, whereas the ordering pursued here orders worlds with respect to their similarity to the actual world. However, both methods of analysis suggest that there would be a crucial difference in the treatment of epistemic and deontic or bouletic modalities. In the case of the latter the ordering source may contain propositions that are not realistic at all, since in theory any propositions might be subject to desires, for instance. As opposed to that, epistemic modalities are never independent of reality.

indicative is licensed in the complement. Semifactives, as we have seen above, may preserve or lose their factivity under negation, and accordingly, may select both the indicative and the conditional. When the conditional is licensed under negated semifactives, the modal base is no longer totally realistic, since the truth of the complement is no longer presupposed. Besides, as it was shown in Chapter **1**, the conditional is selected by an operator – in that case matrix negation –, this motivates triggering the conditional under negated semifactives.

3. *Epistemics* have an epistemic modal base that is usually realistic: *m* assigns to every possible world a set of propositions which are true in that world, thus, the modal base captures portions of reality as described by the common ground. As Quer (1998) notes, the world representing the actual world is an element of the derived context set. However, due to partiality, the modal base may also contain propositions that are incompatible with facts known about the actual world.

Adopting Farkas's proposal (1992b) – which is based on Karttunen (1972) – two subclasses can be differentiated within the epistemic domain:

(i) *narrow epistemic possibility*: Farkas (1992b) claims that in this case the modal base is totally realistic, however, I weaken this claim and suppose only that it is realistic,[96] i.e. the modal base contains almost all propositions that are taken as known of the actual world: $m(w) \subseteq P$. Elements of the derived context set inherit almost all the facts of the actual world, and any of these worlds may turn out to be the actual world. In other words, worlds of the derived context set show a remarkable similarity to the actual world, they are compatible with the actual world.[97]

Predicates expressing positive attitudes with high degree of epistemic possibility belong here (such as *lehetséges* 'possible' etc.), and in the embedded clauses the indicative is expected.

(32) Valószínű, hogy átmegy a vizsgá-n.
likely that pass.IND the exam-ON.
'It is likely that he will pass the exam.'

(ii) *wide (counterfactual) epistemic possibility*: here the modal base is weakly realistic, the embedded proposition is allowed to be true in those worlds of the derived context set that depart from what is known of the actual world. Thus, the derived context set contains worlds

[96] Obviously, there must be a difference between factive predicates presupposing their complement clauses and predicates expressing narrow epistemic possibility. This is mirrored by the difference between their modal bases, and that is why I disagree with Farkas (1992b) on that particular point.
[97] The notion 'compatibility' will be defined below.

that are less similar to the actual world. In the embedded clauses there is a tendency for non-indicative moods:

(33) Alig elképzelhető, hogy átmegy/átmenne/átmenjen a vizsgá-n.
hardly conceivable that pass.IND/COND/SUBJ the exam-ON
'It is hardly conceivable that he could pass the exam.'

**A note on compatibility of worlds**[98]

I see no reason for not using Kratzer's partial ordering that compares worlds with respect to a set of propositions again (cf. Definition 6 above). The partial ordering in question decides whether a world *w* is more compatible to a given set of propositions than *w'*, i.e. *w* is more compatible with a set of propositions if and only if more out of the given propositions are true in *w* than in *w'*. We need to define compatibility with the actual world, in other words we need an ordering of worlds measuring the degree of similarity to the actual world. Since the actual world is itself a set of propositions – it contains all the propositions that are true in it – it is possible with the help of this partial ordering to decide which worlds of the derived context set are more compatible with the actual world. The definition is repeated below for the sake of convenience:

Let $A \subseteq w_a$ be a set of propositions in the actual world ($w_a \in W$), this set induces a partial ordering $\leq$ on the derived context set of the speech act such that $\forall w, w': w \leq w'$ if and only if

$\{p: p \in A \text{ and } w' \in p\} \subseteq \{p: p \in A \text{ and } w \in p\}$

Thus, a world *w* is at least as compatible with a set of propositions in the actual world as a world *w'* if and only if all propositions of the given set of propositions in the actual world, *A* which are true in *w'* are true in *w* as well. In other words, *w* is more compatible with the actual world than *w'* if and only if more propositions of the given set are true in *w* than in *w'*.[99]

*Negative attitudes*

Finally, we have to consider predicates expressing *negative attitudes* (either inherently negative predicates, or explicitly negated predicates). When an epistemic predicate is negated, the embedded proposition is true in the complement set of those worlds where the embedded proposition of the corresponding affirmative sentence is true (in the derived context set).

[98] The necessity of introducing a formal tool to measure the 'distance' of possible worlds surfaces in a number of works, for instance it is mentioned in Farkas (1992b) or in Schlenker (2005), however it is always left undefined. The definition of comaptibility here serves only as a first approximation.

[99] Obviously, the actual world is never well defined in a given communicative setting, we only know that it is an element of the context set. Moreover, compatibility with the actual world itself can be measured if we strive to choose the set of propositions A in the definition above to be maximal.

Accordingly, the modal base is non-realistic. Non-realistic modal bases are defined as follows:

**Definition 7**

Given a common ground *P* and its context set *C(P)*, a modal base *m* is non-realistic if and only if $m(w) \cap P = \varnothing$, for at least one $w \in C(P)$.

In that case the intersection of the derived context set and the context set is empty, this fact explains the appearance of non-indicative moods; the **less compatible worlds** come into play:

(34) Lehetetlen, hogy átmegy/átmenjen a vizsgá-n.[100]
impossible that pass.IND/SUBJ the exam-ON
'It is impossible that he will pass the exam.'

To sum it up: mood choice within the class of epistemics depends on the degree of reality of the modal base, on the compatibility of those worlds where the embedded proposition is true with the actual world. Thus, the epistemic scale of predicates provided by the experiment is reinforced. The indicative is licensed when the relevant worlds are compatible with the actual world; while non-indicative moods can be related to less compatible worlds (cf. Table **6**).

| **Epistemic scale** | | | |
|---|---|---|---|
| **Modality** | **Examples** | **Mood selected** | **Modal base** |
| Narrow epistemic possibility | *biztos* 'certain'<br>*valószínű* 'likely' | INDICATIVE | realistic |
| Wide epistemic possibility | *elvileg lehetséges* 'theoretically possible'<br>*alig elképzelhető* 'hardly conceivable' | INDICATIVE/ NON-INDICATIVE | weakly realistic |
| Negative attitude | *lehetetlen* 'impossible'<br>*elképzelhetetlen* 'inconceivable' | INDICATIVE/ NON-INDICATIVE | non-realistic |

**Table 6 – Epistemic scale**

[100] The fact that the indicative is also grammatical here somewhat weakens the suggestions made above. According to native speakers' intuition the use of the indicative signals that the claim made is more certain, i.e. it is almost sure that the person in question will not pass the exam.

The predicates are located on the epistemic scale according to the degree of reality of their modal bases; predicates expressing narrow epistemic possibility are at the top of the scale. Moving down the scale the embedded proposition turns out to be true in worlds that are less and less compatible with the actual world. At the top of the scale, when worlds that are compatible with the actual world play a role in the interpretation, the indicative is grammatical. As we move down the scale and less compatible worlds come into play, there is a tendency for non-indicative moods to appear (besides the indicative).[101] This is represented by the examples below:

(35) Lehet, hogy még ma megjön, készítsünk neki vacsorá-t!
possible that still today arrives.IND make.SUBJ him.DAT dinner-ACC
'It's possible that he will arrive tonight, let's make him dinner!'

(36) Elvileg lehetséges, hogy még ma megjön/megjöjjön, készítsünk neki vacsorá-t?
theoretically possible that still today arrives.IND/SUBJ make.SUBJ him.DAT dinner-ACC
'It's theoretically possible that he will arrive tonight, shall we make him dinner?'

(37) Lehetetlen, hogy még ma megjön/megjöjjön, ne is készítsünk neki vacsorá-t
impossible that still today arrives.IND/SUBJ NEG also make.SUBJ him.DAT dinner-ACC
'It's impossible that he will arrive tonight, let's not make him dinner!'

The linguistic means of epistemic necessity also have to be mentioned. As we have seen in Table **4** above, *muszáj* 'must' licences only the subjunctive, while *szükségszerű* 'necessary' can select both the indicative and the subjunctive. The fact that the subjunctive is grammatical in such contexts seems to be problematic for the current analysis, since in the case of epistemic necessity the embedded proposition has to be true in every world of the derived context set, thus, we would expect only the indicative in the subordinate clause.

4. *Assertives:* As Giorgi and Pianesi note, report on a conversation recalls another communicative setting where the propositions now embedded under the assertive matrices

[101] I must admit that the prediction made by the second part of Hypothesis 2 is not sharp enough, it is rather a tendency. For instance, as an anonymous reviewer pointed out to me, both *biztos* 'certain' and *bizonytalan* 'uncertain' select the indicative, while the hypothesis would predict that the second should trigger at least IND/NON-IND. Hence, Hypothesis 2 only partially covers the data left unexplained by Hypothesis 1: mood variation under negated epistemics needs further research.

were independent assertions. In the reported conversation the propositional content of these assertions was added to the common ground.

(38) János az-t mondta, hogy Géza meggyógyult.
János it-ACC say.PAST that Géza recover.PAST.IND
'János said that Géza had recovered.'

For that reason, the modal base of the present utterance is realistic to some extent,[102] and as we have seen earlier, accommodation may occur; the propositional content of the embedded proposition may be accommodated into the current common ground. Since the modal base is realistic the indicative is expected in the subordinate clauses, and this prediction is borne out. Under negated matrices non-indicative moods may also surface besides the indicative:

(39) Nem állítja, hogy ott volt/lett volna.
NEG claim.PRES that there be.PAST.IND/COND
'He does not claim that he was there.'

In such cases the modal base is non-realistic, the embedded proposition is not contained in the common ground of another conversation. According to our hypothesis, non-indicative moods are expected, again the less compatible worlds come into play. Native speakers' intuition suggests that when the conditional is used, the truth of the embedded proposition is less taken for granted, whereas the indicative signals that the embedded proposition is true in those worlds that are more compatible with the actual world.

5. *Fiction verbs:* Obviously, modal bases of fiction predicates are non-realistic, however, such predicates under affirmative matrices license the indicative in their embedded clauses.

(40) János az-t álmodta, hogy nyert a lottó-n.
János it-ACC dream.PAST that win.PAST.IND the lottery-ON
'János dreamt that he won the lottery.'

Thus, these predicates are problematic for the present analysis: their ordering source is empty, but the nature of their modal base cannot explain mood choice in complement clauses. As it was pointed out before, fiction predicates show almost the same behaviour with respect to discourse anaphora as simple assertions.[103] As Farkas (1992a) claims, the only difference between simple assertions and utterances containing a fiction predicate is that the propositional content of the former is added to the representation of the actual world, while the propositional content of embedded clauses under fiction verbs is added to the representation of a special, fictitious world.

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[102] Giorgi and Pianesi (1997) argue that the modal bases of assertive predicates are at least weakly realistic, since the intersection of the common ground of the reported conversation and that of the current one cannot be empty.
[103] As we have seen in section 3.3.4, there is a remarkable difference with respect to tense.

As we have seen above, non-affirmative matrices allow both indicative and non-indicative moods in the subordinate clause. Licensing the indicative is again problematic, while non-indicative moods may be motivated by the presence of a non-realistic modal base.

*3.4.5 Summary*

To conclude this section we can state that the second hypothesis predicts mood choice in complement clauses under affirmative matrices in a satisfactory manner, the only exception being the group of fiction predicates. Under non-affirmative matrices mood choice under true factives and nonveridicals has been motivated preoperly. In the case of semifactives and relative veridicals the predictions are less clear. We have seen that when the ordering source is empty the nature of the modal base is a crucial factor in determining mood choice: the less compatible are the worlds where the embedded proposition is true with the actual world, the greater is the tendency for the appearance of non-indicative moods. Nevertheless, Hypothesis 2 has been retained and in the light of the discussion above it has now the following form:

**Hypothesis 2: non-indicative licensing**

(i) predicates with a nonempty ordering source license non-indicative moods

(ii) in the case of predicates with an empty ordering source the reality of the modal base is decisive:

- totally realistic and realistic modal bases: non-indicative moods are not allowed
- weakly realistic modal bases: there is a tendency for non-indicative moods besides the indicative
- non-realistic modal bases: mostly non-indicative moods are licensed

## 3.5 OT

*3.5.1 Introduction*

A recent account of mood choice in complement clauses of affirmative matrix predicates – that of Farkas (2003) –, assumes a dynamic theory of meaning. It is based on a Stalnakerian model of conversation (Stalnaker 1979, 2002) and on Heim's work on context change potential (Heim 1992). The novelty of the analysis is remarkable in itself, however, the fact that it is outlined in an Optimality Theory (OT) framework is also very appealing. Before turning to the analysis itself we need to introduce the necessary tools, first elaborating on Heim's context change potential then providing the basic insights into OT.

*3.5.2 Context Change Potential*

According to Heim (1992), the meaning of a sentence is its own context change potential (CCP). A CCP is a function from contexts to contexts, where contexts are states of information (cf. the notion of common ground in Section 3.3.1) uniquely determining a set of possible worlds: the context set. Heim identifies contexts with their context sets (*c:=C(P)*). The effect of the CCP is updating the information content of the context set by the propositional content of the sentence. As Heim notes, and this is extremely important from the point of view of the present analysis, not only simple sentences but complex sentences also have CCPs and their CCPs are compositionally determined by the CCPs of their constituents. CCP can be defined as below:

**Definition 8: Context Change Potential**: (Heim 1992: 185)

Let $c$ be a context. Performing the CCP of an expression $\varphi$ on $c$ will be denoted as $c + \varphi$.

$c + \varphi$ is defined if $c$ meets the presuppositions of $\varphi$.

Thus, a given sentence determines to which contexts its CCP can be applied, since presuppositions of a sentence are requirements on the context. When a sentence presupposes something it must be evaluated in a context that meets its presupposition. In case of a matrix sentence, its sentential force is crucial to determine the effect of its CCP. However, if we consider the CCP of a complement clause, the effect of the operation depends on the matrix predicate.

Let us illustrate this with the help of main assertions: assuming that the context satisfies $\varphi$'s presuppositions, if $\varphi$ is asserted with propositional content $p$, the speaker is committed to $p$, and as a result, the context set will change, the propositional content of $\varphi$ will be added to the context: $C(P') = C(P) \cap \{p\}$ as it was suggested by Stalnaker (1979). This operation is called **assertive context change** by Farkas (2003):

$c + \varphi$ is assertive if and only if $C(P') = C(P) \cap \{p\}$, where $C(P')$ is the output context set.

What happens when a negative sentence is asserted? According to Heim (1992) the following steps need to be carried out:

1. $c + \sim\varphi$ is defined just in case $c + \varphi$ is, i.e. $c$ must meet the presuppositions of $\varphi$
2. $c + \sim\varphi = c \setminus (c + \varphi)$

Thus, $\varphi$-worlds – worlds where $\varphi$ is true – have been eliminated, the output context set contains those worlds of $c$ where $\sim\varphi$ is true.

To make the discussion simpler consider Heim's original example (Heim 1992: 185-186):

- adding assertively to any context *It is raining.* results in intersecting the context set with the proposition that it is raining: $C(P') = C(P) \cap \{p\}$

- adding assertively to any context *It is not raining.* we get $C(P') = C(P) \setminus (C(P) \cap \{p\})$, i.e. the set of all worlds in which the proposition that it is raining is not true.

Having outlined the basics of CCP theory let us turn now to Farkas's (2003) analysis of mood choice, which relies on the basic notions introduced above. Farkas (2003) offers an appealing study of mood choice where the complement clause properties relevant for the discussion are the various types of CCP characterising them. Let us go through the necessary notions briefly.

*3.5.3 Assertiveness and decidedness*

Farkas explores two characteristics of embedded clauses, that of assertiveness and decidedness. The former one is derived from the definition of assertive context change as introduced above. Relying on that, a binary feature, +/– Assert is introduced.

**Definition 9: assertiveness**:

A complement is +Assert if and only if its CCP is assertive.

The latter notion can be defined through the auxiliary notion of deciding an issue:

**Definition 10: deciding an issue** (Farkas 2003: 6)

Let $C(P)$ be a context set (a set of possible worlds) and $\varphi$ a sentence with propositional content $p$.

(i) $\varphi$ is positively decided in $C(P)$ if and only if $C(P) \subset p$.

(ii) $\varphi$ is negatively decided in $C(P)$ if and only if $C(P) \cap p = \varnothing$

(iii) $\varphi$ is decided in $C(P)$ if and only if $\varphi$ is either positively decided or negatively decided, otherwise $\varphi$ is undecided in $C(P)$.

Thus, as Farkas notes, asserting $\varphi/\sim\varphi$ in $c$ is informative if and only if $\varphi$ is undecided relative to the input context set $C(P)$. If one asserts $\varphi$, $\varphi$ will be positively decided relative to the output context set $C(P')$, if one asserts $\sim\varphi$, $\varphi$ will be negatively decided relative to the output context set $C(P')$.

Now the feature +/– Decided can be introduced as follows:

**Definition 11: decidedness** (Farkas 2003: 6)
A context change decides a sentence $\varphi$ if and only if $\varphi$ is necessarily decided in the output context set but not in the input context set. A sentence will be marked as +Decided if and only if it is decided in the output context.

Before examining various groups of matrix predicates and their behaviour with respect to the notions introduced above, it is inevitable to say some words about embedded contexts. Farkas (following Schlenker, 2003 and Karttunen, 1974) claims that predicates taking complement clauses introduce so called embedded contexts. The propositional content of the complements is then added to this embedded context, and the matrix predicate plays a crucial role in determining the nature of this addition. The examples below will make the discussion more precise.

Let us turn now to the characteristics of various groups of complement taking predicates that are important from the point of view of mood selection.

*Factive predicates (true factives and semifactives):* –Assert, +Decided
Since complements of factive predicates are presupposed, they are positively decided relative to the input context. As we cannot meaningfully add to a context what is presupposed, the complements bear the feature –Assert.

*Epistemics:* + Assert, +Decided
Asserting *x believes that φ.* in a context means adding $\varphi$ to an embedded context representing *x*'s epistemic state, thus, complements of *believe* are positively decided relative to a set of epistemic alternatives; in the output context $\varphi$ is positively decided as far as *x* is concerned. As an example consider adding *John believes that φ* assertively to *c*, here $\varphi$ is assertively added to John's worldview in *c*. In the output context John's worldview has been changed by the assertion of $\varphi$ relative to it, as a result all non-$\varphi$ worlds are removed from John's worldview in *c*.

The CCP of the complement of *believe* is assertive, since it is assertively added to the epistemic worldview of the matrix subject, and as a result it decides the complement sentence relative to the subject's contextual worldview, but it leaves it undecided relative to the immediately superordinate context: *c*. In the output context the referent of the matrix subject is committed to the truth of the complement, but the conversational community or the speaker are generally not.

*Fiction predicates:* +Assert, +Decided

Fiction predicates introduce a fictional embedded context, which does not contain candidates for reality as far as the referent of the matrix subject is concerned. The complement is assertively added to the fictional context introduced by the predicate, it is positively decided relative to this context.

*Assertives:* +Assert, +Decided

Complements of assertive predicates are assertively added to the embedded (reported) speech context and are positively decided relative to this context.

*Directives, Permissives and Purposives:* –Assert, –Decided

The CCP of main clause imperatives and desiderative, purposive and permissive complements is not assertive.

*Desideratives:* –Assert, –Decided

Complements of desideratives are added to the subject's epistemic context, but not assertively. The complement will not be decided relative to any context. The type of change triggered is evaluative: worlds in the embedded context set in which the complement is true are ordered higher (as far as the referent of the matrix subject is concerned) than worlds in the context set in which the complement is not true. Contexts where this ranking does not obtain are eliminated. An evaluative context change does not decide the sentence relative to any context.

After having introduced the necessary notions we are going to outline the essentials of Optimality Theory.

*3.5.4 The basics of OT*

Optimality Theory (OT) evolved in the 90s offering a new perspective on a wide range of linguistic problems.[104] In OT a grammar consists of a set of well-formedness **constraints** which are soft, that is, violable and potentially conflicting. A subset of these constraints can be found in grammars of all languages, thus, it is a part of Universal Grammar. Individual languages differ primarily in the way they rank these universal constraints, thus, all possible rankings of the given constraints correspond to distinct possible grammars. Accordingly,

[104] Here we are dealing only with those characteristics of OT that are essential for the present analysis, thus we are oversimplifying. I refer the reader to the works cited for a fuller characterisation of OT.

language variation is captured in a straightforward manner. (cf. Archangeli *et al* 1997; Dekkers *et al* 2000)

All conceivable linguistic structures violate at least some of the constraints, but violation is tolerated in OT. As it is pointed out by Archangeli *et al* (1997), a constraint may be violated successfully in order to satisfy a higher ranked constraint. Those structures that minimally violate constraint rankings are optimal and these will be grammatical in the language considered.

**Definition 12**: a structure **minimally violates** a ranking if all alternative structures that have an equal or better score on the lowest-ranked constraint score worse on the ranking dominating this constraint. (Dekkers *et al* 2000: 3)

In other words, the optimal candidate is the one with the fewest highest violations.

Tableaux are expository devices representing violations: candidates appear in the leftmost column, the constraints are ranked in the top row from left to right. Subsequent rows indicate constraint violations for each candidate: violations are marked by an asterisk "*", and an exclamation mark signals fatal violation, namely a violation that eliminates the given candidate completely. The optimal candidate is marked with the symbol "☞".

In OT syntax the input is usually a semantic structure, which in principle is associated with an infinite number of syntactic structures. The optimal candidate will be eventually realised as the grammatical structure that syntactically expresses the semantic input. Thus, OT syntax optimizes syntactic structure with respect to a semantic input. As Hendriks and de Hoop note : "One might say that OT syntax takes the perspective of a speaker, therefore, who has a certain thought and wants to express this correctly and optimally in a syntactic structure." (Hendriks and de Hoop 2001: 14)

With regard to mood choice, Farkas (2003) suggests a novel account to explain mood choice in complement clauses using the OT framework outlined above. I will adopt her method of analysis and apply it to Hungarian data with the following modification: instead of talking about the indicative-subjunctive opposition I explore only the choice between the indicative and non-indicative moods in general.

The basic assumptions are the following:

1. There is a universal mood menu with two choices: the indicative and the non-indicative.
2. The list of candidates consists of complement clause characteristics that are of semantic nature (depending on the matrix predicate) paired with all possible moods. The relevant characteristics of complements are the type of CCP characterising them:

(i) a complement is + Assert if and only if its CCP is assertive.

(ii) a complement is +Decided if and only if it is decided in the output context to which it is added.

3. Constraints about the relation of mood choice and the semantic characteristics of complements are provided by the grammar in the following way. First of all, there are two relevant factors: Assertiveness and Decidedness. From these factors markedness scales can be derived, and these scales in turn can be reinterpreted as constraint hierarchies using the harmonic alignment approach. Let us suppose that a binary dimension $D_1$ with a scale X > Y on its elements {X, Y} is given, and there is another dimension $D_2$ with a scale a > b ... > z on its elements. The harmonic alignment of $D_1$ and $D_2$ is the pair of Harmony scales:

$H_X$ : X/a > X/b > ... > X/z

$H_Y$: Y/z > ... >Y/b > Y/a

The constraint alignment is the pair of constraint hierarchies:

$C_X$: *X/z >> ... >> *X/b >> *X/a

$C_Y$ : *Y/a >> *Y/b >> ... >> *Y/z

As Prince and Smolensky (1993) suggest, $C_X$ and $C_Y$ are sub-hierarchies of a language's total constraint hierarchy; namely, $C_X$ asserts that scattered within the constraint hierarchy of a language are the constraints *X/z, …, *X/b, *X/a, and that they fall in that order (from most to least dominant), with other constraints possibly falling above, below, and among these constraints.

According to Farkas (2003) the **markedness scales** relevant for the present discussion are:

Mood: IND > NON-IND

Assertiveness: +Assert > –Assert

Decidedness: +Decided > –Decided

From a pair of scales we can derive harmonic alignments and constraint sub-hierarchies:

| **Pair of scales** | **Harmonic alignment** | **Constraint alignment** |
|---|---|---|
| Mood, Assertiveness | IND/+Assert ⊃ IND/–Assert<br>NON-IND/–Assert ⊃ NON-IND/+Assert | *IND/–Assert » *IND/+Assert<br>*NON-IND/+Assert » *NON-IND/–Assert |
| Mood, Decidedness | IND/+Decided ⊃ IND/–Decided<br>NON-IND/–Decided ⊃ NON-IND/+Decided | *IND/–Decided » *IND/+Decided<br>*NON-IND/+Decided » *NON-IND/–Decided |

**Table 7 - Harmonic alignments and constraint sub-hierarchies**

In harmonic alignments "x ⊃ y" means "x is less marked than/more harmonic than y". Constraint hierarchies derived by harmonic alignment are universal sub-hierarchies. Their rankings are fixed, and thus cannot be the locus of language-particular difference. (Aissen 1999)

The constraints gained can be read as indicated below:[105]

*IND/–Assert: do not use the indicative in a complement that is –Assert.

*NON-IND/+Decided: do not use non-indicative moods in a complement that is +Decided.

4. Individual languages differ in the ranking of the constraints. Hence, re-ranking of constraints – but not of constraints from the same sub-hierarchy – accounts for differences among languages (Aissen 2003).

5. Optimal mood choice is the one found in the highest ranked candidate.

In the following discussion certain high ranking markedness constraints will be considered. Candidates considered (for representatives of the three main classes of matrix predicates introduced earlier) are represented in Table **8**:

| **Matrix verb** | **Mood** | **High constraints violated** |
|---|---|---|
| Factive predicates | IND | *IND/–Assert |
| Factive predicates | NON-IND | *NON-IND/+Decided |
| Epistemics | IND | |
| Epistemics | NON-IND | *NON-IND/+Decided |
| Directives | IND | *IND/–Assert |
| Directives | NON-IND | |

**Table 8 – Constraint violating**

Those grammatical constructions that violate high markedness constraints, need to be explained. Since the last row does not violate any constraint, the fact that in all languages directives select non-indicative (subjunctive) verb forms is motivated. In a similar fashion, there are no constraint violations in the third row; this explains the observation that epistemic predicates crosslinguistically tend to select the indicative in affirmative contexts. However, there are some languages where epistemics select non-indicative moods in affirmative contexts, we can take Italian as an example, this grammatical construction needs to be motivated in OT.

[105] Farkas's second constraint (cf. Farkas, 2003) takes the form: *SUBJ/+Decided.

*3.5.5 Mood choice in OT*

Mood choice can be explained under these assumptions in the following way. In the OT framework constraints may be ranked in different ways. Each ranking characterises the distinctive pattern of a specific language, thus variation between various languages can be captured. Relying on the constraints introduced above, mood choice in Romanian can be predicted under the hypothesis that the constraints in Romanian are ranked as in (41):

(41) *NON-IND/+Decided » *IND/–Assert[106]

The relevant tableaux are shown below. In the complements of epistemics, assertives and fiction predicates, whose CCP is +Assert, +Decided, the optimal candidate is the indicative, because no constraints are violated. The second candidate is eliminated, since it violates the highest ranked constraint. Thus, in Romanian the indicative is expected in +Assert, +Decided complement clauses:

| Epistemics/assertives/fiction predicates | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| ☞+Assert, +Decided: IND | | |
| +Assert, +Decided: NON-IND | *! | |

In an analogous way, non-indicative moods are predicted to be licensed in –Assert, –Decided environments:

| Desideratives/Directives | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| –Assert, –Decided: IND | | *! |
| ☞–Assert, –Decided: NON-IND | | |

In the case of factive predicates the ranking of the constraints has to be taken into consideration. The optimal candidate turns out to be the one violating the lower constraint, i.e. the indicative is the winning candidate.

| Factive predicates | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| ☞–Assert, +Decided: IND | | * |
| –Assert, +Decided: NON-IND | *! | |

[106] Farkas (2003) used the markedness scale IND > SUBJ, hence the constraints also contain the label SUBJ instead of NON-IND.

Interlinguistic differences arise in OT from the possible permutations of constraint-ranking, if we have only two constraints, there is only another option. Considering the other ranking:
*IND/–Assert » *NON-IND/+Decided, we get the tableaux below:

| Epistemics/assertives/fiction predicates | *IND/–Assert | *NON-IND/+Decided |
|---|---|---|
| ☞+Assert, +Decided: IND | | |
| + Ass, +Decided: NON-IND | | *! |

| Desideratives/Directives | *IND/–Assert | *NON-IND/+Decided |
|---|---|---|
| –Assert, –Decided: IND | *! | |
| ☞–Assert, –Decided: NON-IND | | |

So far the winning candidates are the same as in the case of Romanian. However, under factive predicates we find a crucial difference, the optimal candidate is now the non-indicative, as opposed to the indicative in Romanian. Hence, under the reverse ranking of the constraints the mood pattern of Spanish and French arises, thus, different rankings turn out to be language specific, as it is expected in OT. The constraints introduced above are motivated, since the factorial typology explains mood choice in different languages.

| Factive predicates | *IND/–Assert | *NON-IND/+Decided |
|---|---|---|
| –Assert, +Decided: IND | *! | |
| ☞–Assert, +Decided: NON-IND | | * |

Explaining the fact that (true) factive predicates in Spanish and French select the subjunctive has been extremely problematic for previous analyses, but is explained in an elegant way in the present framework.[107]

*3.5.6 An OT account for mood choice in Hungarian*

Let us now turn to mood choice in Hungarian complement clauses. The CCP properties of matrix predicates considered in Section 2 are represented in the table below:

[107] It must be noted here that some semifactives select the indicative in Spanish, for instance *darse cuenta* 'realise' and *ver* 'see'. This is left unexplained in the present framework, moreover, semifactives are predicted to select non-indicative moods, since they have the same CCP characteristics as true factives.

| | |
|---|---|
| 1. True factives | –Assert , +Decided |
| 2. Semifactives | –Assert , +Decided |
| 3. Epistemics | +Assert, +Decided |
| 4. Assertives | +Assert, +Decided |
| 5. Fiction verbs | +Assert, +Decided |
| 6. Directives | –Assert, –Decided |
| 7. Permissives | –Assert, –Decided |
| 8. Purposives | – Assert, – Decided |
| 9. Desideratives | – Assert, – Decided |

**Table 9 - CCP properties**

Note that the natural classes that emerged in Section 3 with respect to mood choice can again be motivated, which is an advantage of the analysis.

Mood choice in Hungarian can be predicted under the hypothesis that the constraints are ranked as follows:

(42) *NON-IND/+Decided » *IND/–Assert

Since this is the same ranking as the one for Romanian above, the relevant tableaux are also the same. These are repeated here for the sake of convenience:

| Factives/Semifactives | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| ☞–Assert, +Decided: IND | | * |
| –Assert, +Decided: NON-IND | *! | |

| Epistemics/Assertives/Fiction predicates | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| ☞+Assert, +Decided: IND | | |
| +Assert, +Decided: NON-IND | *! | |

| Directives/Permissives/ Purposives/ Desideratives | *NON-IND/+Decided | *IND/–Assert |
|---|---|---|
| –Assert, –Decided: IND | | *! |
| ☞–Assert, – Decided: NON-IND | | |

As it is shown by the tableaux, the assumed ranking captures mood choice in Hungarian non-negated complement clauses adequately.

To sum it up, we have seen that the analysis outlined by Farkas (2003) in an OT framework is easily extended and adopted to Hungarian, capturing mood selection in complement clauses in a straightforward manner. Moreover, mood choice in complement clauses in various languages can be captured via different constraints ordering. Hungarian and Romanian turn out to have the same ranking, while mood choice in Spanish and French can be explained assuming a different order.

## 4 Summary

In this chapter I have analysed the relation between mood and modality, trying to account for the data given in Tables **1** and **2**. In particular, I have examined two hypotheses to show that various semantic characteristics play a crucial role in mood choice in Hungarian complement clauses. First, it was shown that the veridicality properties of the matrix predicate indeed influence the mood of the embedded clause to a great extent in affirmative contexts. Moreover, as we have seen, natural classes of matrix predicates emerge with respect to mood choice on the basis of their veridicality properties. The existence of these classes was further motivated by the different behaviour of the predicates concerning discourse anaphora. Second, the effect of matrix negation upon mood choice was examined within Kratzer's framework of modality. We have seen that there seems to be a relation between the emptiness of the ordering source and the degree of reality of the modal base on the one hand and mood choice in complement clauses on the other hand, but the predictions are not sharp enough. Table **10** below shows how the two hypotheses cover the data examined: cells that have been accounted for are white, cells that have received only partial explanation are shaded.

| **Matrix predicates** | **Indicative** | | **Non-indicative** | |
|---|---|---|---|---|
| | **Affirmative** | **Non-affirmative** | **Affirmative** | **Non-affirmative** |
| **1. True factives** | + | + | - | + |
| **2. Semifactives** | + | + | - | +? |
| **3. Epistemics** | + | + | - | + |
| **4. Assertives** | + | + | - | + |
| **5. Fiction verbs** | + | + | - | + |
| **6. Directives** | - | - | + | + |
| **7. Permissives** | - | - | + | + |
| **8. Purposives** | - | - | + | + |
| **9. Desideratives** | - | - | + | + |

**Table 10 – Summary**

Finally, a novel account of mood choice under affirmative matrices was outlined in an OT framework. This approach to mood choice is extremely appealing, since crosslinguistic differences with respect to the distribution of moods can be captured straightforwardly, due to the different rankings of the constraints. Hence, through the examination of the various CCP characteristics of complement clauses mood distribution both in Romance languages and in Hungarian has been motivated. Exploring the effect of matrix negation on mood choice in optimality theory is left for future research. In a similar fashion, it must be mentioned that I have concentrated only on the indicative-nonindicative opposition in Hungarian complement clauses in this chapter. Exploring the semantic differences that may surface between the imperative, the subjunctive proper and the conditional is the task of future research.

## CHAPTER 5

## IS THERE A SUBJUNCTIVE PROPER IN HUNGARIAN?

### 1 The phenomenon

As it was mentioned in Chapter **1**, the imperative and the subjunctive proper are morphologically identical moods in Hungarian.[108] For that reason most descriptive grammars do not differentiate them, i.e. the status of the subjunctive proper mood is a controversial issue of present day Hungarian grammar. However, adopting the syntactic criteria given by Pataki (1984) one can assume that the subjunctive proper forms an individual grammatical mood in Hungarian. The aim of the present section is to examine those linguistic contexts where the subjunctive proper and/or the imperative mood may be used in Hungarian, including comparison of minimal pairs of contexts, where both moods are grammatical. I also wanted to characterise those contexts where the imperative and the subjunctive proper may appear, arguing that there are semantic motivations behind their distribution. In order to show this I carried out an empirical survey. I think that the results of the experiment to be discussed below provide further evidence in support of the need to differentiate the moods in question.

First we have to argue for the independent existence of the subjunctive proper (following Pataki 1984). The subjunctive proper mood seems to appear only in subordinate clauses in Hungarian, which is a striking similarity between Hungarian and several Indo-European languages, and as we will see later it seems to be reasonable to suppose that the matrix predicate governs its use.

Let us consider several examples:[109]

(1) Lehetséges, hogy ma befejezem a munká-t.
possible that today finish.IND the job-ACC
'It is possible that I finish the job today.'

(2) Lehetetlen, hogy ma befejezzem a munká-t.
impossible that today finish.SUBJ the job-ACC
'It is impossible that I finish the job today.'

The example sentences below are motivated by the ones to be found in Pataki (1984):

[108] Accordingly, these moods were subsumed under the label 'subjunctive' up to this point throughout the discussion.

[109] As the issue would become too many-fold to be treated in the present discussion, I make the following restriction on the predicate of the main clause: The predicate of the main clause always will appear in present tense and in the indicative mood, but it may undergo negation. It also has to be noted here that until the explicit introduction of the subjunctive proper the label 'subjunctive' refers both to the imperative and the subjunctive, as before.

(3) Olyan hideg van itt, hogy fűtsünk be.
so cold is here that heat.SUBJ PV
'It is so cold here. Let's heat up the room.'

(4) *Olyan hideg van itt, hogy be-fűtsünk.
so cold is here that PV-heat.SUBJ
'It is so cold here. Let's heat up the room.'

(5) Nincs itt olyan hideg, hogy be-fűtsünk.
NEG here so cold, that PV-heat.SUBJ
'It is not so cold here that we should heat up the room.'

(6) *Nincs itt olyan hideg, hogy fűtsünk be.
NEG here so cold, that heat.SUBJ PV
'It is not so cold here that we should heat up the room.'

The use of the imperative in (6) does not seem to be really motivated semantically, since negation in the matrix clause denies the necessity of heating up the room, but (5) is grammatical. Considering (3) and (4) just the opposite can be observed. The difference between (3) and (4) on the one hand and (5) and (6) on the other hand can be easily grasped if we assume that in (4) and (5) we find occurrences of the subjunctive proper, while in (3) and (4) that of the imperative.[110] In the following section I will discuss the syntactic criteria offered by Pataki (1984), which provide adequate tools to differentiate the imperative and the subjunctive proper.

**2 Predicates licensing the subjunctive proper and/or the imperative**

As we have seen, the main difficulty concerning the status of the subjunctive proper in Hungarian is that its forms cannot be distinguished morphologically from that of the imperative. However, using syntactic evidence at least three groups of predicates can be differentiated depending on which grammatical mood can be licensed in their subordinate clauses.

A. The predicates belonging to the first group require a subordinate clause with an imperative verb form, as in (7):

(7) Az-t javaslom, hogy olvasd el a könyv-et.
that-ACC suggest.IND that read.IMP PV the book-ACC
'I suggest you reading the book.'

[110] For the rest of the paper I make the following restriction: I will examine only matrix clauses that contain besides the subject only a lexically simple predicate and a referring word at most, thus, analysing matrix sentences with lexically composite predicates lies out of the scope of the present study (cf. (3)–(6)).

Inversion of the preverb and verb is obligatory in such sentences. If the preverb does not move, the sentence becomes ungrammatical:

(8) *Az-t javaslom, hogy el-olvasd a könyv-et.
that-ACC suggest.IND that PV-read.IMP the book-ACC
'I suggest you reading the book.'

Another characteristic feature of these predicates is that they allow omission of the complementiser. Thus, (9) is grammatical:

(9) Az-t javaslom, olvasd el a könyv-et.
that-ACC suggest.IND read.IMP PV the book-ACC
'I suggest you reading the book.'

Predicates licensing the imperative in their subordinate clause are:

**- assertives (with a directive meaning)**: *mond* 'tell', *megmond* 'tell', *figyelmeztet* 'warn', *üzen* 'send a message', *ír* 'write', *szól* 'say', *kiált* 'shout', *felhatalmaz* 'authorize', *felkér* 'request'

- **directives**: *parancsol* 'order', *megparancsol* 'give orders', *javasol* 'suggest', *utasít* 'instruct', *felszólít* 'summon', *kér* 'ask', *megkér* 'request', *kíván* 'demand', *elrendel* 'direct', *biztat* 'encourage', *buzdít* 'prompt', *követel* 'seek', *ajánl* 'suggest', *tanácsol* 'recommend', *könyörög* 'implore', *kényszerít* 'compel', *kötelez* 'oblige', *meghagy* 'bid', *rászorít* 'force', *rimánkodik* 'beseech'

B. In the case of predicates belonging to the second group, the preverb must remain in situ, and deletion of the complementiser results in an ungrammatical sentence. Consider the following sentences:

(10) Elkerülhetetlen, hogy el-utazz.
unavoidable that PV-leave.SUBJ
'It is unavoidable that you leave.'

(11) *Elkerülhetetlen, hogy utazz el.[111]
unavoidable that leave.SUBJ PV
'It is unavoidable that you leave.'

(12) *Elkerülhetetlen, el-utazz.
unavoidable PV-leave.SUBJ
'It is unavoidable that you leave.'

Now, it is obvious that there is syntactic evidence to make a distinction between the imperative and the subjunctive proper mood, even if the verb forms are identical. It seems to be the case that these two properties help us in identifying the mood of the embedded verb, therefore, in what follows the label SUBJ will refer to the subjunctive proper only, as in the examples above.

Predicates licensing the subjunctive are:

**- rational evaluation predicates:[112]**

- **qualitative:** *fontos* 'important', *hasztalan* 'useless', *felesleges* 'needless', *értelmetlen* 'senseless', *alkalmas* 'suitable', *alkalmatlan* 'unsuitable', *távol áll tőle* 'wouldn't dream of', *idegen tőle* 'be averse to', *tűrhetetlen* 'insupportable', *butaságnak tart* 'think it nonsense', *megérdemel* 'deserve'

- **deontic:** **positive**: *kell* 'must', *szükséges* 'necessary', *nélkülözhetetlen* 'essential', *elkerülhetetlen* 'inescapable', *elengedhetetlen* 'indispensable', *kötelesség* 'duty', *feladat* 'task'

**negative:** *szükségtelen* 'unnecessary', *megengedhetetlen* 'inadmissible', *szó sem lehet róla/szóba sem jöhet* 'it is out of the question'

**- purposives: positive:** *rászánja magát* 'make up one's mind', *törekszik* 'strive', *igyekszik* 'endeavour', *vállalkozik* 'undertake', *tesz róla* 'take care/see', *hajlandó* 'willing', *elszánja magát* 'make up one's mind', *az a célja* 'his aim is', *az a szándéka* 'his intention is', *azon van* 'be after'

---

[111] It has to be noted here that the inner structure of the subordinate clause may also influence the order of the verb and the preverb, i.e. if the focus position is filled in the subordinate clause, inversion of the verb and the preverb is also triggered. For example (capitals signal stress):

(i) Elkerülhetetlen, hogy a NAGYMAMA utazzon el.
Unavoidable that the grandmother leave.SUBJ PV
'It is unavoidable that the grandmother must leave.'

In (i), *grandmother* is in focus, since it receives stress, and the sentence could be continued as 'and not the grandfather'. The semantic function of the focus is identifying through exclusion.

However, if *grandmother* is not in focus position, inversion does not occur, it would make the sentence ungrammatical. Negation of the subordinate predicate has the same effect. In what follows I will deliberately use examples containing neutral affirmative subordinate clauses.

Here I disagree with Molnár (1995), since she argues that the above mentioned two criteria for identifying the subjunctive can be refuted by citing examples where the focus position is filled in the subordinate clause, resulting in the inversion of the preverb and verb.

[112] Rational evaluation predicates were included in the group of purposives in Chapter **2**.

**negative:** *fél* ‘be afraid’, *letesz* ‘give up’, *visszariad* ‘shrink from sg’, *irtózik* ‘dread’, *képtelen vmire* ‘not capable’, *letesz/lemond vmiről* ‘give up the idea’, *tartózkodik vmitől* ‘refrain’

**- epistemics expressing remote possibility**: *lehetetlen* ‘impossible’, *valószínűtlen* ‘not likely’, *nem tudja elhinni* ‘can’t believe’, *kizárt* ‘out of the question’, *elképzelhetetlen* ‘unimaginable’, *kétséges* ‘doubtful’, *hihetetlen* ‘unbelievable’

**- permissives: positive:** *megenged* ‘allow’, *hagy* ‘let’, *lehetővé tesz* ‘render sg possible’, *beleegyezik* ‘consent’, *lehetőség/alkalom van rá* ‘have an opportunity’, *alkalmat ad* ‘provide an opportunity’, *megbíz vmivel* ‘trust’, *elvár* ‘expect’, *joga van rá* ‘have the right to’, *nincs ellene kifogása* ‘have no objections against’

**negative:** *megtilt* ‘forbid’, *akadályoz* ‘inhibit’, *megakadályoz* ‘prevent’, *lehetetlenné tesz* ‘make sg impossible’, *gátol* ‘hinder’, *visszatart* ‘keep back’, *óv* ‘protect’, *megóv* ‘safeguard’, *lebeszél* ‘dissuade’, *óva int* ‘warn’, *int* ‘caution’, *kímél* ‘save’, *megkímél* ‘spare’, *véd* ‘protect’, *oltalmaz* ‘shield’, *tiltakozik ellene* ‘protest’, *mentesít* ‘exempt’, *ellenez* ‘object’

**- some desiderative predicates:**[113] *vágyik* ‘long for’, *vágyakozik* ‘yearn for’, *áhítozik* ‘desire’, *ácsingózik* ‘crave’, *szomjazik* ‘be eager for’

C. Predicates comprising the third group allow a subordinate clause both with an imperative or a subjunctive proper verb form. This is illustrated in (13a) and (13b):

(13) a. Ragaszkodom hozzá, *(hogy) meg-írd a lecké-t.
insist on that PV-write.SUBJ the homework-ACC
‘I insist on your doing the homework.’

(13) b. Ragaszkodom hozzá, (hogy) írd meg a lecké-t.
insist on that write.SUBJ PV the homework-ACC
‘I insist on your doing the homework.’

Here, the deletion of the complementiser is allowed only in the imperative clause, thus, in (13b).[114]

[113] As we will see below, there are desideratives that can license both the imperative and the subjunctive proper.
[114] Molnár (1995), citing Klemm (1931) suggests that there may be a difference in meaning if the mood of the embedded clause is changed, with respect to the actuality or generality of the act in question.

Predicates governing both the imperative and the subjunctive are:[115]

*akar* 'want', *kíván* 'wish', *óhajt* 'desire', *szeretné* 'long', *vár* 'look forward', *drukkol* 'keep fingers crossed', *ragaszkodik hozzá* 'insist', *gondoskodik róla* 'ensure', *meggyőz* 'convince', *szorgalmaz* 'urge', *rávesz* 'persuade', *rábeszél* 'exhort'

Now the following question arises: what kinds of factors determine the mood of the subordinate clause? In what follows I will argue that semantic factors are indispensable if we want to find a reasonable explanation for mood choice in subordinate clauses.[116]

## 3 The experiment

### 3.1 The hypothesis

The survey I am reporting on below has been aimed to explore various characteristics of the predicates licensing both the imperative and the subjunctive proper in their subordinate clauses in Hungarian. With the help of the experiment I wanted to show that the distribution of the imperative and the subjunctive proper in subordinate clauses is indeed determined by semantic features.

The starting point for the analysis was the assumption that grammatical contrasts and distributions are meaningful, since language is economic, there are no superfluous structures, thus, every grammatical difference signals at least a slight difference in meaning. Accordingly, when we examine two sentences that differ from each under only in the mood of the subordinate clause, then we can expect some kind of meaning difference between the given sentences. Consider the following pair of sentences:

(14) a. Mónika szül-e-i azon voltak, hogy lány-uk
Mónika parent-PL-POSS did their best that daughter-POSS
utazzon el néhány nap-ra pihenni.
travel.IMP PV several day-FOR rest.INF
'Mónika's parents did their best to convince their daughter to go on holiday.'

(14) b. Mónika szül-e-i azon voltak, hogy lány-uk
Mónika parent-PL-POSS did their best that daughter-POSS
el-utazzon néhány napra pihenni.
PV-travel.IMP several day-FOR rest.INF
'Mónika's parents did their best to convince their daughter to go on holiday.'

[115] Unfortunately, it is impossible to treat such predicates uniformly, since they come from different groups of predicates.

[116] There is no clear borderline between semantics and pragmatics; it is a matter of opinion what belongs to the areas in question. For that reason it is possible that other researchers would say that certain characteristics that I judged to be semantic are rather pragmatic in nature.

As Prileszky (1974) observes, (14a) would be used in a situation where the parents explicitly demanded that the person referred to by the embedded subject should carry out the act described by the embedded clause, i.e. the utterance expresses strong manipulation. As opposed to that, in (14b) the subjunctive proper signals that the parents tried to persuade their daughter in an indirect way, for instance via giving her a traveller's cheque. I will call this latter case weak manipulation.[117] (Prileszky (1974) used the terms 'imperative feature' and 'purpose feature', respectively, to distinguish the cases described above.)

The hypothesis can also be supported with data from other languages. Givón (1994) states the tendency that the subjunctive in various languages often surfaces in complements of predicates expressing weak, but intended manipulation, preference, or epistemic uncertainty. Givón also claims that for instance in Spanish in those cases where both the subjunctive and the infinitive are grammatical in the complement clause the subjunctive expresses weak manipulation, while the infinitive signals stronger manipulation. According to Givón (1994) this is an implicational universal.

Weak and strong manipulation can be characterised by the following properties:

| **strong manipulation** | **weak manipulation** |
|---|---|
| future oriented (posterior) | |
| non-implicative[118] | |
| strong deontic force | weak deontic force |
| directly manipulative | indirectly manipulative |
| the outcome is always possible | the outcome is not always possible |

**Table 1 – Weak and strong manipulation**

The groups of predicates mentioned in section 2 can be clearly placed on a scale based on different degrees of deontic force.[119] Predicates licensing only the imperative will appear at one end point of the scale, predicates allowing only the subjunctive proper at the other end, while those licensing both moods occupy an intermediate position between the two endpoints according to our hypothesis. Here mood alternation can be observed.

[117] Farkas (1992b) does not differentiate the imperative and the subjunctive proper, but she notes that the order of the preverb and the verb is sensitive to the imperative meaning contributed by the matrix predicate.
[118] This property means that the sentence does not imply that the event described by the embedded clause has happened (cf. Karttunen 1971a).
[119] 'deontic force' is meant to be related to the situation as a whole, and not only to the agent of the embedded clause.

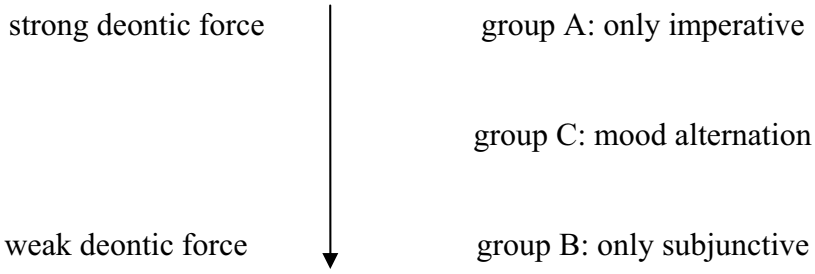



**Figure 1**

In matrix imperatives and in purpose clauses the same features are present, and the distribution of moods follows the same pattern. Hence, by verifying the hypothesis we would gain a unified treatment of the imperative and the subjunctive proper both in matrix and complement clauses.

The existence of the meaning difference pointed out above can be further supported by the fact that in the case of embedded predicates where the lexical meaning of the predicate is less compatible with strong manipulation (for instance *meggyógyul* 'recover'*, kiszabadul* 'be released'), the imperative is unacceptable in the complement clause, while the subjunctive proper is grammatical:

(15) a. Az-t akarta, hogy a férj-e
that-ACC wanted that the husband-POSS
ki-szabaduljon a börtön-ből.
PV-be released.SUB the prison-FROM
'She wanted her husband to be released from prison.'

(15) b. ??Az-t akarta, hogy a férj-e
that-ACC wanted that the husband-POSS
szabaduljon ki a börtön-ből.
be released.IMP PV the prison-FROM
'She wanted her husband to be released from prison.'

The acceptability of the imperative is again questionable when the matrix subject and the subject of the complement clause are co-referential:

(16) a. Peti azon van, hogy meg-nézze a film-et.
Peti does his best that PV-watch.SUBJ the movie-ACC
'Peti does his best to watch the movie.'

(16) b. *Peti azon van, hogy nézze meg a film-et.
Peti does his best that watch.IMP PV the movie-ACC
'Peti does his best to watch the movie.'

Matrix negation may also influence the distribution of moods:

(17) a. Nem akarta, hogy el-kísérjék a mozi-ba.
NEG wanted that PV-accompany.SUBJ the cinema-TO
'She did not want to be accompanied to the cinema.'

(17) b. *Nem akarta, hogy kísérjék el a mozi-ba.
NEG wantedthat accompany.IMP PV the cinema-TO
'She did not want to be accompanied to the cinema.'

The same phenomenon can be observed when the matrix predicate has an inherent negative meaning:

(18) a. Ellenezte, hogy meg-vegyem a könyv-et.
opposed that PV-buy.SUBJ the book-ACC
'He opposed my buying the book.'

(18) b. *Ellenezte, hogy vegyem meg a könyvet.
opposed that buy.IMP PV the book-ACC
'He opposed my buying the book.'

Taking as the starting point for the discussion the assumption that mood choice is meaningful I wanted to prove the following hypothesis:

**Hypothesis**

In the case of a given matrix predicate from group C the imperative is licensed in the complement clause when strong manipulation is present, while the subjunctive proper appears when weak manipulation is expressed by the clause.

In order to verify this hypothesis I carried out an experiment.

### 3.2 Materials and methods

There were 55 participants in the experiment, all young adults and native speakers of Hungarian; their average age was 21.5. The subjects were randomly selected, in a way to make sure that the possible dialectal differences were not statistically significant. Thus, the subjects represented different dialectal regions; they did not come from the same part of the country.

The subjects' task was to fill in a multiple choice test that was aimed to examine the supposed meaning difference between imperative and subjunctive proper clauses embedded under the same matrix predicate. To achieve that, subjects had to choose between sentences

that differed from each other only in the mood of the embedded clause depending on the context. The pairs of sentences were always presented in a given situation, and the task was to mark the sentence that fitted the situation described better in the opinion of the subject. However, it was allowed to select both sentences if the subjects did not find any remarkable difference between them. The sentences of the test contained verbs with preverbs, in that way relying on the more reliable syntactic criterion differentiating the imperative and the subjunctive proper.

For instance, the situations corresponding to example sentences (14a) and (14b) are the following:

(a) Seeing that their daughter, Mónika has been in such a stress for a long time her parents kept on pestering her with going on holiday. (cf. Appendix B, Question 4).

Here, the expected answer is the one containing a reported request, i.e. the one expressing strong manipulation: (14a).

(b) Mónika has been working too much lately, so her parents thought that she should go on holiday, and gave her a traveller's cheque. (cf. Appendix B, Question 15).

Here, the expected answer is the one expressing weak manipulation: (14b).

The test consisted of 6 similar pairs of situations,[120] i.e. there were 12 situations in total. Each situation was separated from its pair, and they were also ordered randomly with respect to the expected answers. Among the situations some distractors were hidden, too, in order to prevent the subjects from answering in a routine fashion.[121] The subjects had to fill in the test on the spot, they had only 10 minutes to do so. With the time limit I tried to ensure that the subjects could rely on their intuitions only, in that way they did not have time to search for certain patterns or regularities in the test.

### 3.3 Results

The method of evaluation was the following: relying on the frequency of the imperative and the subjunctive proper clauses in the case of each situation I got two probability variables, which can undergo statistical comparison.[122]

These variables are discrete and nominal in nature (ξ: subjunctive proper, η: imperative), since the frequencies of the moods cannot be measured in units, but are of a yes-no type (either subjunctive proper or imperative). Because of that we can compare the frequencies of the different moods using the chi-square test, which enables us to contrast the distribution of the variables. The variables are shown in Table **2**, rows 1-6 represent those

[120] The original test can be found in Appendix B.
[121] Cf. questions 3., 6., 9., 12. in Appendix B.
[122] On statistics in linguistics cf. Butler (1985), Vargha (2000).

situations where the subjunctive proper, while rows 7-12 those where the imperative was expected.

The homogeneity test carried out by the chi-square test compares the distribution of the variables. The null hypothesis is that there is no difference in distribution between the subjunctive proper and the imperative, i.e. the variables are homogeneous, their parameters (e.g. variance) are equal; in other words, the frequencies are almost the same in the case of a given question.

The result of the chi-square test is: $\chi^2(11) = 51.418$, so the calculated value is greater than the relevant critical value at 11 degrees of freedom, 0.001 significance level, i.e. the null hypothesis has to be rejected, the variables are not homogeneous, their distributions are different.

The same method was applied to the results gained by taking into consideration only those situations where the subjunctive proper or the imperative was expected (Table **2**: rows 1-6, 7-12, respectively).

In the case of the situations where the subjunctive proper was assumed to be preferred the calculated value is $\chi^2(5) = 24{,}616$, $p<<.05$, so the null hypothesis has to be rejected again, the distributions of the variables are significantly different.

The result of the chi-square test for the situations where the imperative was expected shows that there is no significant difference between the frequencies of the subjunctive proper and the imperative; the variables are homogeneous, the null hypothesis is accepted.

| | | **subjunctive proper: ξ** | **imperative: η** |
|---|---|---|---|
| **expected: subjunctive proper** | 1. | 22 | 37 |
| | 2. | 27 | 40 |
| | 3. | 40 | 13 |
| | 4. | 34 | 25 |
| | 5. | 25 | 34 |
| | 6. | 31 | 23 |
| **expected: imperative** | 7. | 16 | 40 |
| | 8. | 16 | 42 |
| | 9. | 26 | 29 |
| | 10. | 27 | 36 |
| | 11. | 17 | 37 |
| | 12. | 19 | 41 |

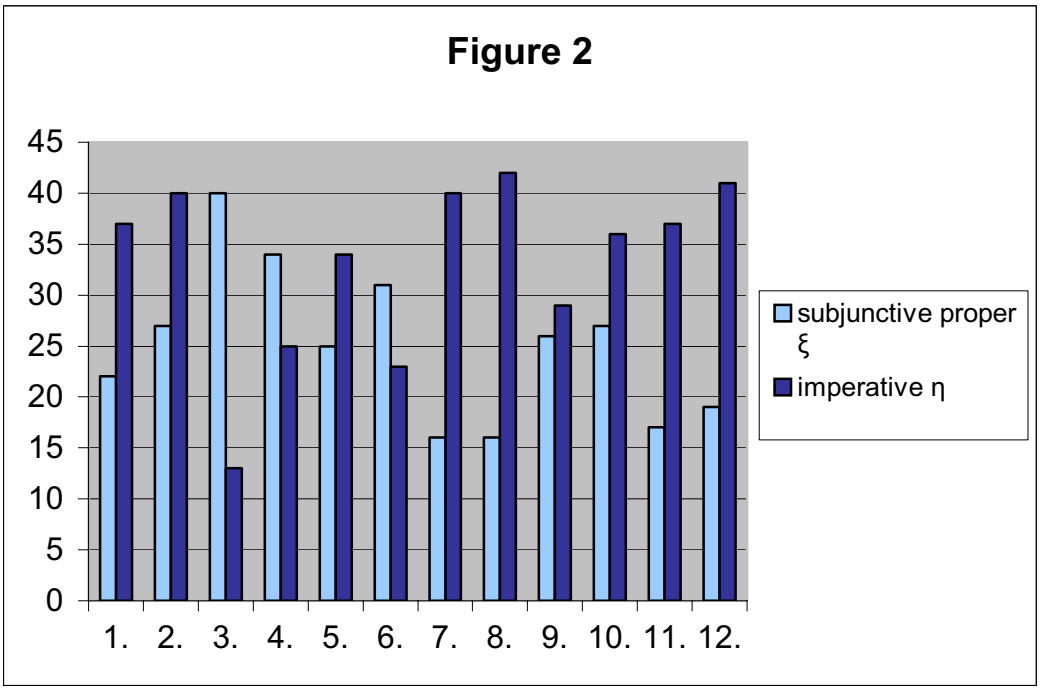
**Table 2 - Results**

Accordingly, there is a significant difference between the frequencies of the subjunctive proper and the imperative in the case of the complete set of data, i.e. considering all situations together, the ones expecting the subjunctive proper and the ones where the imperative is assumed to be preferred. The same observation holds for the situations where the subjunctive proper is expected, i.e. in the case of the situations where weak manipulation is involved. However, there is no such difference if we consider only the situations where strong manipulation is present, i.e. in the case of the situations where the imperative is expected. What does that mean exactly?

### 3.4 Evaluation

From the fact that the distributions are not homogeneous when we consider all the data we can conclude that the distribution of the subjunctive proper and the imperative is different to a remarkable extent, hence the moods in question fulfil different roles in subordinate clauses. This statement is further supported by the results of the tests relying only on the situations where a given mood is expected, since in the case of the subjunctive proper we get inhomogeneous distributions, while in the case of the imperative the distributions are homogeneous. This shows that the distribution of moods depends on the relevant situation; in other words, it is influenced by certain semantic features.

If we examine the data thoroughly we can see that in the case of the situations where, according to the hypothesis, the imperative was assumed to be preferred the results fulfil this expectation; in each of these situations (Table **2**, rows 7-12) the frequency of the imperative in the complement clauses was greater than that of the subjunctive proper.



If we consider the data about situations where the subjunctive proper was expected (Table **2**, rows 1-6) we find some problematic examples: it is clear that in three cases (1., 2., 5. situations) the frequency of the imperative is more prominent than that of the subjunctive proper, which contradicts the hypothesis (cf. Figure **2**). However, I suggest that the unfavourable imbalance between the frequencies is not enough in itself to refute the hypothesis. Let us have a closer look at the situations in question. In the problematic situations the following predicates are present (in the same order): *rávesz valamire* 'persuade', *azt akarja, hogy* 'want', and *azt kívánja, hogy* 'wish', while in the situations fulfilling the expectations *gondoskodik róla, hogy* 'ensure', *azt szeretné, hogy* 'long for', *azon van, hogy* 'do one's best' appear (again in the same order).

It would be worth testing the grammaticality of the sentences involved in the experiment. Obviously, if some speakers find certain sentences unacceptable, then this may influence the results. (There were 51 situations in total where both of the sentences were marked as acceptable; this is only 7.7 percent of the answers received.)

| | | **number of imperative sentences selected** | | | | | | | | | | | **Total:** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | |
| **number of subjunctive proper sentences selected** | **1** | | | | | | | | | | 3 | | 3 |
| | **3** | | | | | | | | 3 | | | | 3 |
| | **4** | | | | | | | 6 | 1 | 1 | | 1 | 9 |
| | **5** | | | | | | 5 | 3 | 1 | | | | 9 |
| | **6** | | | | | 4 | 3 | 5 | 1 | 1 | | | 14 |
| | **7** | | | | 5 | 2 | 1 | | | | | | 8 |
| | **8** | | | 2 | 1 | 1 | 2 | | | | | | 6 |
| | **9** | | | | | | | 1 | | | | | 1 |
| | **10** | 1 | 1 | | | | | | | | | | 2 |
| **Total:** | | 1 | 1 | 2 | 6 | 7 | 11 | 15 | 6 | 2 | 3 | 1 | 55 |

**Table 3 – Proportions**[123]

Table **3** represents the proportion of the imperative and the subjunctive proper as the individual subjects in the test selected them. For instance, there were five subjects who marked 7 imperative and 5 subjunctive proper sentences. On the basis of the data we can state that certain individual differences can be observed with respect to the choice of mood, since

[123] In Table **3** the row labelled as 'subjunctive proper 2' and the column of 'imperative 1' are missing, since that particular distributions have not appeared among the subjects.

12 subjects marked imperative sentences in more than 75 percent of the situations, whereas only 3 speakers selected subjunctive proper sentences in the same proportion. Accordingly, the number of speakers preferring the imperative to the subjunctive proper in their idiolect seems to be remarkably high. It is also possible that the three problematic situations are not composed in an unambiguous way; the imperfection of the test itself may also have had an effect upon the results. However, in order to prove that further experiments should be carried out. Hence, it would be interesting to repeat the experiment on a larger population and to compare the results with the ones achieved now.

**4 Summary**

To sum it up, we can conclude that the results of the experiment strengthened our hypothesis. It has been shown that there is a systematic difference in the distribution of the imperative and the subjunctive proper in complement clauses. Speakers clearly prefer the imperative in complement clauses expressing strong manipulation, whereas in the case of the subjunctive proper there is only a tendency, the subjunctive proper seems to be the preferred option in clauses with weak manipulation. However, this finding does not refute our starting hypothesis, we only need an auxiliary hypothesis.[124] Namely, we have to suppose that the distribution of the imperative is not so restricted as that of the subjunctive proper. This is a reasonable assumption, since the imperative appears not only in complement clauses, but in matrix sentences, too.

Overall, the analysis of the experimental data supported the starting hypothesis, thus it was proved that the distribution of the imperative and the subjunctive proper in Hungarian complement clauses is determined by semantic factors. The statistical analysis partly confirmed that the imperative is licensed in clauses expressing strong manipulation, while the subjunctive proper in clauses designating weak manipulation. The present discussion can be regarded as a pilot study to further research on the distribution of moods in Hungarian. Nevertheless, I think that the results of this analysis provide another argument in favour of the treatment of the subjunctive proper as an independent mood.

[124] This remark is due to an anonymous reviewer of my paper published in LingDok 4.

## CONCLUSION

In this dissertation various approaches to mood distribution and mood variation were investigated with special reference to Hungarian data. The primary aim was to show that semantic factors play a crucial role in mood choice in complement clauses. The analysis, due to time and space limitations, focussed on the indicative/non-indicative opposition, a detailed study of the individual moods is left for future research.

In Chapter 1 the concepts notional mood and grammatical mood were introduced, then a crosslinguistic overview of mood choice in complement clauses was presented to familiarize the reader with the observable tendencies. The distinction between polarity and intensional subjunctive in Romance (Quer 1998) was also discussed, and it was proposed that the conditional in Hungarian, which is always triggered by some negative feature in the matrix clause, is a manifestation of the operator licensed polarity subjunctive of Romance. Finally, an exhaustive list of complement taking predicates was provided that select indicative, conditional or subjunctive complements in Hungarian.

Chapters 2, 3 and 4 provided critical discussion, revision and elaboration of previous semantic approaches pertaining to mood choice in complement clauses, with particular emphasis on the applicability of the various analyses to mood phenomena in Hungarian.

Chapter 2 first argued in favour of an investigation that is semantic in nature, then we turned to the issue of classifying the matrix predicates given in Chapter 1, taking into account their semantic characteristics in order to be able to examine and account for the mood selection properties of the emerging classes. Several taxonomies of matrix predicates which have been worked out for Spanish were considered; each of these argued that certain characteristics of the matrix predicate are responsible for mood choice in Spanish. It was found that the analyses in question all suggest that the assertive, non-assertive distinction is crucial to explain mood distribution in Spanish. Namely, it can be claimed that in Spanish the indicative is licensed in asserted complements, and there are two kinds of non-assertiveness that trigger the subjunctive: on the one hand the subjunctive surfaces in presupposed complements, on the other hand subjunctive verb forms appear in the complements of directive and desiderative verbs where no such commitment to the truth of the complement proposition on the part of the speaker is present. Providing a more detailed analysis of the indicative and subjunctive opposition in Spanish would form a remarkably interesting topic for future research. At the end of Chapter 2, relying on the findings of Bolinger (1968), Terrell and Hooper (1974), Hooper (1975), Karttunen (1971b), Mejías-Bikandi (1994) and Haverkate (2002), a taxonomy of Hungarian matrix predicates was adapted that served as the starting point for the discussion in the following chapters.

In Chapter 3 two traditional theories about mood choice were reviewed, one concerned with the nature of complements with respect to the realis/irrealis parameter, the other with the direction of fit of the embedded clauses. It was shown that neither of these is entirely satisfactory in itself, the parameters claimed to be responsible for mood choice are not subtle enough to be able to predict mood distribution in complement clauses adequately.

Chapter 4 was concerned with more recent approaches related to mood and modality and proposed some novel hypotheses about mood choice in Hungarian complement clauses. More specifically, it was shown that the veridicality of the matrix predicate (Giannakidou 1998) influences mood selection to a remarkable extent, and accordingly, three natural classes of predicates can be distinguished with respect to mood choice. Moreover, independent evidence motivating the introduction of the classes in question was also found, since the classes show different behaviour when discourse anaphora is examined. However, veridicality properties of the predicates cannot explain the effect of matrix negation on mood selection. To capture related phenomena it was suggested that two other parameters, the emptiness of the ordering source and the degree of reality of the modal base also have to be taken into consideration (Kratzer 1981, 1991; Giorgi and Pianesi 1997). It was demonstrated that non-indicative moods are licensed when the ordering source is not empty, and accordingly, mood choice under predicates of Class 3 was accounted for both under affirmative and non-affirmative matrices. With respect to the elements of Class 1 and 2, when the ordering source is empty, it was argued that the notion 'compatibility with the actual world' plays a crucial role in mood selection. Mood choice under factives (Class 1) was captured adequately, however, the predictions made by the second hypothesis were not sharp enough, hence mood variation under relative veridical predicates (Class 2) needs further research.

At the end of Chapter 4, the findings of Chapter 2 were re-examined in a dynamic model and in an OT framework relying on Farkas (2003). The main advantage of this approach is that crosslinguistic differences related to mood choice could be captured in an elegant way. Out of these classes elements of Class 3 behave in a uniform way with respect to mood choice, the predicates always select non-indicative moods (even if we consider crosslinguistic data). Class 1 and Class 2 are more problematic, mood choice here is not predictable in all cases. However, we should not expect the few available moods to mirror exactly the great variety of possible speaker attitudes.

Chapter 5 presented a case study that examined one of the issues left for future research, more specifically it argued for a distinction between the subjunctive proper and the imperative, which comprise one morphological mood in Hungarian. On the basis of an

empirical study it was suggested that independent semantic factors also support the claim that the moods in question need to be handled separately.

In this dissertation I hope to have shown that a semantic approach to mood choice in complement clauses is on the right track, however I have only begun to explore the tip of the iceberg. It is left for future research to provide a detailed analysis of the individual moods, and to extend the observation to complement clauses that are not lexically selected. Research on mood is a particularly interesting topic, but one never should forget that the limited tools of mood selection are not fine grained enough to capture the subtlety of lexical expression.

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**APPENDICES**
APPENDIX A

| | | |
|---|---|---|
| **Szükségszerű, hogy Peti otthon legyen.**<br><br>**SZÜKSÉGSZERŰ** | | **Muszáj, hogy Peti otthon legyen.**<br><br>**MUSZÁJ** |
| | | |
| **Nincs kizárva, hogy Peti otthon legyen.**<br><br>**NINCS KIZÁRVA** | | **Lehet, hogy Peti otthon van.**<br><br>**LEHET** |
| | | |
| **Hihető, hogy Peti otthon van.**<br><br>**HIHETŐ** | | **Elképzelhető, hogy Peti otthon van.**<br><br>**ELKÉPZELHETŐ** |
| | | |
| **Valószínű, hogy Peti otthon van.**<br><br>**VALÓSZÍNŰ** | | **Azt hiszem/Úgy vélem/Úgy gondolom, hogy Peti otthon van.**<br><br>**AZT HISZEM/ÚGY VÉLEM/ÚGY GONDOLOM** |

| | | |
|---|---|---|
| **Nem kétlem, hogy Peti otthon van.**<br><br>**NEM KÉTLEM** | | **Nem kétséges, hogy Peti otthon van.**<br><br>**NEM KÉTSÉGES** |
| | | |
| **Biztos, hogy Peti otthon van.**<br><br>**BIZTOS** | | **Elvileg elképzelhető, hogy Peti otthon van.**<br><br>**ELVILEG ELKÉPZELHETŐ** |
| | | |
| **Tulajdonképpen lehetséges, hogy Peti otthon van.**<br><br>**TULAJDONKÉPPEN LEHETSÉGES** | | **Elvileg lehetséges lenne, hogy Peti otthon legyen.**<br><br>**ELVILEG LEHETSÉGES LENNE** |

APPENDIX B

**1. Karikázd be azt a mondatot, amelyik jól jellemzi az alábbi szituációt. Ha mind a kettő illik a szituációra, mindkettőt megjelölheted.**

1. Mariról megjelent egy kép az újságban, amire nagyon büszke volt, de nem akart vele dicsekedni, ezért családja tagjainak csak az újságot ajánlotta a figyelmébe.
a) Mari rávette családja tagjait, hogy megnézzék az újságot.
b) Mari rávette családja tagjait, hogy nézzék meg az újságot.

2. A cégvezető nagyon precíz, akkurátus ember, mindig időben tájékoztatja kívánságairól a titkárnőt. Most is előre jelezte azt az óhaját, hogy céges autó várja az állomáson.
a) A cégvezető gondoskodott róla, hogy megvárják az állomáson.
b) A cégvezető gondoskodott róla, hogy várják meg az állomáson.

3. János nem szereti a nagy tömeget, zsúfoltságot, felesége viszont szívesen költözne nagyvárosba.
a) János lebeszéli arról a feleségét, hogy elköltözzenek Budapestre.
b) János lebeszéli arról a feleségét, hogy költözzenek el Budapestre.

4. Látva, hogy lányuk mennyire túlhajszolja magát, Mónika szülei állandóan azért rágták a fülét, hogy szánja rá magát egy utazásra.
a) Mónika szülei azon voltak, hogy elutazzon néhány napra.
b) Mónika szülei azon voltak, hogy utazzon el néhány napra.

5. Bélának viszonya van egy nővel, aki mindent megtesz annak érdekében, hogy rávegye a válásra.
a) Azt akarja, hogy Béla elváljon a feleségétől.
b) Azt akarja, hogy Béla váljon el a feleségétől.

6. Peti szorgalmazta, hogy kövérkés öccse minden nap fusson.
a) Ennek érdekében szülinapjára edzőcipőt vett neki.
b) Azonban hiába mondta neki minden este, hogy tartson vele.

7. Pisti nagyon lusta kisdiák, minden mással szívesebben foglalkozik tanulás helyett. Szülei már nem tudtak mit kitalálni, így egy biciklit ígértek neki, hogy rábírják a tanulásra.
a) Pisti szülei szeretnék, hogy kisfiuk megírja a leckét.
b) Pisti szülei szeretnék, hogy kisfiuk írja meg a leckét.

8. A cégvezető nagyon előrelátó ember, legutóbb is, amikor Bécsbe utazott, előre rendelt egy taxit.
a) A cégvezető már előre gondoskodott róla, hogy megvárják az állomáson.
b) A cégvezető már előre gondoskodott róla, hogy várják meg az állomáson.

9. Az iskola udvarán focizó srácok véletlenül betörték a tornaterem ablakát. Az igazgató szigorú, de igazságos ember, ezért méltányos büntetést szabott ki.
a) Az igazgató elrendelte, hogy a fiúk megtérítsék a kárt.
b) Az igazgató elrendelte, hogy a fiúk térítsék meg a kárt.

10. Mariról megjelent egy kép az újságban, azt szerette volna, hogy minél többen lássák, ezért mindenki figyelmét felhívta rá.

a) Mari rávette családja tagjait, hogy megnézzék az újságot.
b) Mari rávette családja tagjait, hogy nézzék meg az újságot.

11. Az evezősök mindent megtettek annak érdekében, hogy a következő nagy világversenyre megfelelően felkészüljenek. Ez elképzelhetetlen lett volna edzőjük segítsége nélkül, aki ennek a célnak megfelelően állította össze a felkészülési tervet.
a) Az edző azt kívánta, hogy tanítványai megnyerjék a versenyt.
b) Az edző azt kívánta, hogy tanítványai nyerjék meg a versenyt.

12. Lacika ragaszkodik hozzá, hogy minden este meséljenek neki.
a) Így esténként mindig előveszi a meséskönyvet.
b) Az esti fürdés után mindig kérleli szüleit.

13. Pisti rosszcsont gyerek, nem akar leülni az asztal mellé, hiába kérlelik szülei este, hogy tanuljon.
a) Pisti szülei azt szeretnék, hogy kisfiuk megírja a leckét.
b) Pisti szülei azt szeretnék, hogy kisfiuk írja meg a leckét.

14. Bélának viszonya van egy nővel, aki állandóan azt mondogatja neki, hogy vessen véget ennek a tarthatatlan állapotnak, és legyen végre csak az övé.
a) Azt akarja, hogy elváljon a feleségétől.
b) Azt akarja, hogy váljon el a feleségétől.

15. Mónika túl sokat dolgozott az utóbbi időben, szülei úgy gondolták, jót tenne neki egy kis pihenés, ezért meglepték egy üdülési csekkel.
a) Mónika szülei azon voltak, hogy lányuk elutazzon néhány napra.
b) Mónika szülei azon voltak, hogy lányuk utazzon el néhány napra.

16. A tehetséges evezősök edzőjük segítségével készültek fel egy nagy versenyre. A verseny előtt az edző szóban is megfogalmazta közös kívánságukat.
a) Azt kívánta, hogy tanítványai megnyerjék a versenyt.
b) Azt kívánta, hogy tanítványai nyerjék meg a versenyt.